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ORIGINAL LECTURES.

LECTURES ON EXPERIMENTAL AND PRACTICAL MEDICINE.

By BENJAMIN W. RICHARDSON, M.D., F.R.S.

ON THE SCIENCE AND ART OF EMBALMING.(a)

LECTURE II.

In the first lecture of this short course, published in the *Medical Times and Gazette* on December 9 and 23 of the year 1871, I gave a full account of the various processes of embalming that had been followed up to the latter part of last century—up to the time, in fact, when Benjamin Gooch, of Norwich, published his first volume of "Chirurgical Essays," about the year 1767. To make the history more complete, I append now, before proceeding to more modern methods, the plan adopted and recommended by Benjamin Bell in his System of Surgery published in 1783. The reader will thus, by perusal of the above-named lecture, and with the aid of the present lectures, hold in a concise form all the information he may practically desire of this mode of preserving the dead, from the oldest to the newest development of the art.

The following, says Bell, is "the present method of embalming:—The brain and all the viscera of the thorax and abdomen being removed, they are all, excepting the heart, put into a leaden box with a considerable quantity of an aromatic antiseptic powder, prepared with myrrh, frankincense, cloves, the leaves of lavender, rosemary, mint, sage, and other similar articles, and to these are added a proportion of any odoriferous oils. The blood being removed from the different cavities, and the heart replaced, they are all filled with the same kind of powder, with a due proportion of odoriferous oils or spirits, and the parts afterwards sewed up. By some, too, the mouth and nostrils are stuffed with these powders and oils; and incisions are made into all the fleshy parts of the body, which are also stuffed with them, and afterwards sewed up. But there is no necessity for this, unless the body is to be kept for a great length of time, or to be carried to a considerable distance: in which case it is usual, after stuffing the incisions in the manner we have mentioned, to roll all the extremities, as well as the trunk of the body, firmly up with bandages, and to cover the whole with varnish.

"The body is now to be laid upon a cere-cloth of sufficient size, which must be applied with as much neatness as possible to the head and every part of the body, and must either be firmly secured by sewing or with tapes tied at proper distances. The cere-cloth is made of linen dipped in a composition of wax, oil, and rosin, which should be of such a consistence as to be sufficiently pliable, without being so soft as to stick to the fingers of those who apply it. It may be coloured with verdigris, red lead, or any other article, according to the fancy of the operator. When two cere-cloths are applied one above another they are usually made of different colours."

As a modification of this method of embalming, Dr. William Hunter introduced the basis of our most modern system, by injecting the bloodvessels with preservative fluid.

The process of injection opened up a new practice in the science and art of preserving the dead. It may perchance be argued that the method had an earlier origin than I have here given to it, for Mr. Madden affirms that he found in the cavities of the heart of an Egyptian mummy about three drachms of pure nitre, which he thinks must have been injected by the vessels; and Ruysch, the great injector of anatomical preparations, is said to have preserved bodies (by injection, as is supposed) so perfectly that they could not instantly be distinguished from living bodies. Respecting the first of these points it is possible that the saline substance may have found its way into the cavities of the heart by simple diffusion through a body immersed for a long series of weeks in a saline solution; and as to the second point, if Ruysch did positively inject the vessels of the entire body for the purpose of preserving it, he certainly left no record behind of the nature of the process. Whatever credit is due to the invention of injection ought, therefore, to be given to William Hunter, who first defined it, and who was accustomed to deliver each year a brief course of lectures upon it.

The particulars of his plan are rather minute. In the first place, he injected into the crural arteries a solution compounded of oil of turpentine, Venice turpentine, oil of lavender, oil of camomile, and vermilion. This solution was forced into the vessels until it had made its way over the whole of the body, and had produced a general redness of the skin. The body was now allowed to remain for several hours untouched, to permit of the diffusion of the injected fluid completely through its structures. When this part of the process was completed, the operator returned, and proceeded to lay open the body as if he were making a post-mortem examination. The viscera of the chest and abdomen were removed, the fluid in them was squeezed out, their vessels were injected with the preservative solution, and the organs were steeped in camphorated spirits of wine. Then through the aorta more of the preserving fluid was driven, and the cavities of the chest and abdomen were washed with camphorated spirit. The viscera were next replaced, and the intervening spaces were filled up with a powder of camphor, resin, and nitre. The same powder was put into the nostrils, mouth, and other external cavities, and finally the body was rubbed over with the essential oils of rosemary and lavender.

The body thus treated was placed in a coffin upon a bed of dry plaster of Paris, by which all moisture was to be extracted from it. The coffin was closed up for four years, then it was to be opened, and at the end of that time, if the desiccation were not complete, another bed of plaster of Paris was to be added. "This was the method," says Mr. Pettigrew—in whose book the details will be found at greater length,—"by which the wife of the eccentric Martin van Butchell was embalmed by William Hunter himself." "The specimen," Mr. Pettigrew adds (it is still preserved, by the way, in the Hunterian Museum), "resembles a Guanche or Peruvian rather than an Egyptian mummy; and is, properly speaking, a desiccated rather than an embalmed body."

The account of this embalming given by Van Butchell himself is still preserved, I believe, in MSS. at the Royal College of Surgeons. It was published by Pettigrew, and is at once a singular and interesting document. It begins, and is continued, after the manner of a diary, thus:—

"14th of January, 1775.—At half-past two this morning my wife died. At eight this morning the statuary took off her face in plaster. At half-past two this afternoon Mr. Cruikshanks injected at the crural arteries five pints of oil of turpentine mixed with —— of Venice turpentine and —— of vermilion."

Then he goes on to describe in a similar manner that on the 15th Dr. Hunter and Mr. Cruikshanks began to open and embalm the body. He adds an account of the morbid lesions that were found, and afterwards states that there were injected through the large arteries "oil of turpentine, mixed with camphored spirit—*i.e.*, 10 oz. camphor to a quart spirit—so as to make the whole vascular system turgid; put into the belly part 6 lbs. rosin powder, 3 lbs. camphor powder, and 3 lbs. nitre powder, mixed with rect. spts." On a following day he reopened the abdomen and put in the remainder of the powder with more spirits of wine; and on the 18th Dr. Hunter and Mr. Cruikshanks came at nine in the morning, and placed Mrs. Van Butchell into the box, on and in 130 pounds weight "of Paris plaster at 18d. a bag." Then Van Butchell closed up the joints of the box-lid and glasses with Paris plaster mixed with gum-water and spirits of wine.

From the 25th to the 11th of February many distinguished persons visited the embalmed body in company with Dr. Hunter. Sir Thomas Wynn and his lady came; one night at ten o'clock two ladies came with Dr. Hunter; on a third occasion Dr. Hunter brought Sir John Pringle, Dr. Heberden, Dr. Watson, and about twelve more Fellows of the Royal Society. On the 11th of February Drs. Hunter and Solander, Mr

(a) From course of "Lectures on Experimental and Practical Medicine" of 1871-72. I have to offer an apology to the readers of the *Medical Times and Gazette* for the delay that has occurred in the publication of this course of lectures on Embalming. The delay has been unavoidable, owing to simple pressure of other work, and will, I trust, be forgiven. —*B. W. R.*

Banks, and two other gentlemen paid a visit, and in the course of that same day Mr. Van Butchell unlocked the glasses and cleaned the face and legs of his wife with spirits of wine and oil of lavender. The next day Dr. Hunter came to look at the neck and shoulders. The last record of Van Butchell is, that he put into the box "4 oz. of oil of lavender, 4 oz. of oil of rosemary, and 4 oz. of oil of camomile flowers (the last cost 4 sh.), on sides of the face; and 3 oz. of very dry powder of camomile flowers on the breast, neck, and shoulders."

Taking it all in all, one cannot but admit that the embalming of Mrs. Van Butchell was a fair success. She remains now, after the lapse of nearly 100 years, to testify to it. The case containing the body, once a rather conspicuous object in the Hunterian Museum, is removed, I understand, at this time into the rooms below; but it and its contents are still in good preservation.

The formula for Hunter's preserving solution is—Venice turpentine one fluid pint, oil of lavender two fluid ounces, oil of rosemary two fluid ounces, oil of turpentine five pints.

Hunter's method was afterwards practised by Dr. Matthew Baillie, with this variation: that, instead of removing the intestines and other viscera, he (Baillie) injected the preserving fluid into the stomach and rectum, and into the lungs by the windpipe, after he had thrown the solution round the whole of the body by the arteries. A surgeon named Sheldon also carried out a similar method, except that he used for his preservative camphor dissolved in spirit, in the proportion of one ounce of camphor to six ounces of spirit.

According to Mr. Pettigrew, Mr. Madden succeeded in bringing home, by sea, the body of a youth, from Naples to London, preserved in tar. The voyage, which was long and perilous, lasted seventy-two days, but the success of the experiment was complete. In this case the viscera were removed from the cavities, and were coated with tar. The visceral cavities were also coated with the same. The external surface of the body was covered with a tarred sheet.

The plan originated by William Hunter held its place with very slight modifications for several years. Joshua Brookes, the last of the great English anatomists who had a distinctive school of anatomy of his own, practised this method.

The next change of the process was made in France by M. Boudet, who introduced the use of corrosive sublimate into practice as the preserving agent. This experimentalist followed very closely the method of the ancient Egyptians, only that he employed a different agent for preservation. He laid open the large cavities of the body, incised the viscera, and covered them as well as the walls of the cavities with an alcoholic solution containing bichloride of mercury. After this he added a layer of varnish, and then filled up the space remaining in the cavities with aromatic powder. He next sewed the incised parts very neatly together, and having varnished the whole of the skin, powdered it with aromatic substance, covered it with several bandages, and over the bandages spread another layer of varnish.

With Boudet the system of simply treating the inner and outer surfaces of the body with the preservative died out altogether. It was superseded by the process of Tranchina, who followed Hunter in injecting the arteries, but who employed a different fluid substance for injection.

Tranchina first made use of a substance that had to be heated to become fluid, and which became solid on cooling. After a time he gave up this plan, and simplified it by using a simple solution composed as follows:—Arsenic two pounds, cinnabar (for colouring) one ounce, spirits of wine twenty pounds, by weight. This solution was injected through an artery until all the tissues were charged with it.

After Tranchina, M. Gannal introduced a solution to be used in a similar manner. He held the composition of the solution as a secret, but it was soon discovered to contain arsenic. The practice of embalming with these arsenical solutions having become common in France, the Government of Louis Philippe issued an order, in 1846, declaring that the sale of arsenic and of all compositions containing it were prohibited for soaking grain, for the destruction of insects, and for the embalming of bodies. Later, the use of corrosive sublimate was, in like manner, interdicted.

In 1847, Gannal, maintaining that his preservative did not contain arsenic, but was a saturated solution of equal parts of sulphate of aluminum and the chloride of the same metal, a commission of the Academy of Medicine was appointed to inquire into the subject. A solution presented by the inventor was examined, and found to contain arsenic, whereupon it was excluded from public use.

The injection of sulphurous and carbonic acids into the arteries in the form of vapour—the acids being produced by the quick action of sulphuric acid on charcoal—was suggested by a chemist named Dupré, but the results were not favourable.

Another suggestion was by M. Robiere, who proposed to use rectified wood spirit in which camphor had been dissolved as the preserving solution. This was clearly a return to the plan that had already been carried out in England by Sheldon, and that it did not prove very satisfactory in Robiere's hands is indicated by the fact that he recommended it should be supplemented by the application over the body of a coat of varnish.

When I was making a visit to Paris in the year 1867, I was shown portions of a body which had been preserved, I was told, by some process which had never been revealed. In this subject the muscles of the arms and thighs had been dissected out with considerable care, as if for anatomical purposes, and they were in a state of remarkable preservation. They were also naturally supple, and yet sufficiently firm to admit of being handled. They felt to the hands greasy, but they left no stain on the skin nor unpleasant odour. The most objectionable part was that the whole of the structures thus preserved were as black as ebony, and refused, I understand, to receive any colouring principle that would give the idea of natural appearance. I was informed by the exhibitor that this process had been used for embalming, and that from the circumstance of its leaving the whole body supple as well as fresh it was exceedingly effectual; but that the objection made to the colour prevented its successful introduction into practice. From the general appearances, I came to the conclusion that the secret preservative used in this case was nothing more than sulphuric acid, and I afterwards made some experiments of injecting the vessels of a dead animal with sulphuric acid slightly diluted, which showed to me that the supposition was perfectly correct. The muscular structure in these instances seems as if it were partly charred, but it remains quite flexible, owing, I think, to an after-absorption of water, by the acid, from the atmosphere. For the purpose of embalming, this process, as it now stands, is inapplicable; but if by any means the muscles preserved by it could have a fleshy colour communicated to them, it would be an invaluable method to the demonstrator of anatomy, since by its means he could preserve careful dissections of the natural parts for many years, ready at any moment for demonstration.

In the year 1854 I made the observation that if liquid ammonia were brought in contact with dead animal structures it would hold them for a long time in a state of perfect preservation. In this way, in a closed box, I preserved for a great many months numerous finely dissected specimens, and used them, from session to session, for purposes of demonstration. I also injected ammonia into the vessels of dead parts, in order to make it applicable as a preservative; but I do not think it would answer as a fluid for embalming so well as some other fluids, although for temporary preservation it leaves little to be desired. The objections to it as a permanent preserver are twofold. In the first place, it is itself evanescent, and so it readily diffuses away from the tissue it is intended to preserve. In the next place, when it is long in contact with the tissues, it transforms them in so remarkable a degree that they cease to retain their original character. The fatty matter passes into the condition of a soap, and the muscular substance assumes a gelatinous appearance, loses its natural colour, and separates from other structures with which it is combined. At the same time there is no trace of putrefaction.

Simple wood vinegar has been used by some embalmers for injection of the vessels. This application came from an observation made in 1833 by the distinguished chemist Berzelius, who examined a body that had been kept by this means in perfect preservation for twenty years.

At the time when M. Gannal's process was before the Academy of Medicine, M. Sucquet presented a preservative solution for embalmment that was free of arsenic. It was a solution of chloride of zinc. Experiments were made by the Academy with this solution, and with M. Gannal's sulphate and chloride of aluminum solutions. Two bodies were embalmed, one by Sucquet's, the other by Gannal's process. The bodies were buried for one year and two months, when the one embalmed by M. Gannal had undergone putrefaction, while the one embalmed by M. Sucquet was in perfect preservation. Exposed to the air, the latter dried without the

least putrefaction, and acquired a degree of hardness comparable only to that of wood or stone.

Sucquet's method has been most extensively used, both on the continent of Europe and in America. I have used it several times, and although it admits of great improvement, it is on the whole the best preservative known for embalming purposes by the process of injection.

EMBALMING AT THE PRESENT DAY.

Embalming at the present day is, in England, an exceptional process, and when we are called upon to perform it here it is in ninety-nine cases out of the hundred for some one foreign to our country. I have embalmed many bodies, but only in two or three instances the bodies of English. In these exceptional instances the deceased, although they were born and died in England, had lived the greater part of their lives abroad, and were embalmed in order to be conveyed to friends at a distance who wished to bury them. In the United States of America the embalming process is carried out to a great extent, and I believe the number of persons embalmed in that country increases every year. Hence Americans who are resident here often ask to have friends or relations embalmed.

The reasons assigned for embalmment are numerous—some are valid, some perhaps fanciful. In most cases in which I have been consulted the object of the embalming has been to retain the dead body free of putrefactive change long enough for it to be conveyed from the place where it died to some distant place where it is finally to be entombed. This object is in every sense reasonable. In other examples the embalming has been sought after that the relatives may retain the dead body as long as they can with the face exposed to view. For such purpose coffins of a special kind have to be made, in the lids of which a pane of glass is placed. In England these receptacles for the dead are not often constructed, but in America they are specially constructed, and I learn that one body which I embalmed in England was, on its arrival in America, transferred to the particular receptacle described, in which (with the face perfectly preserved) it is retained. I offer no opinion as to the value of this object of embalming. The question involved in it is one entirely of feeling. I may only add that the process is harmless to everybody; it involves, I mean, no breach of sanitary rules if it be properly carried out.

Once I knew the embalming requested from the last direct wish of the deceased, who feared that unless this precaution were taken she might be buried alive. It was not necessary, of course, to embalm to insure against that terrible calamity, but the desire had to be carried out. The body was afterwards buried in the usual way.

Embalming is sometimes performed on distinguished persons as a supposed mark of distinction. For ages upon ages this intention has been acted upon, and has become, in a certain sense, a fashion. Probably if the distinguished personages who were embalmed with so much care in ancient Egypt could have foreseen to what base uses their preserved remains would in the course of time come—that they would stand, in fact, as the shows of another civilisation,—they would have been anxious to have been consigned at once to the earth after their deaths, or even to have been resolved on the pyre. Yet to this intention of embalming there are two sides. To the historian these remains of what once were mighty men possess an interest of no mean character, and he who would wish to trace the correct line of the Pharaohs, regrets, I doubt not sincerely, that the embalmers of those royal personages were not more successful in their art. It must be admitted, however, that this object of embalming has been abused. To embalm a distinguished man that he may lie for long periods in the embalmer's room to be stared at by multitudes of people as a pseudo-scientific sight, is a degradation of scientific labour.

Occasionally the art of embalming may prove of service for the benefit of the public—that is to say, for the promotion of public justice. It may be necessary to embalm a body in order that it may be afterwards identified; or it may even be necessary to preserve the whole or parts of a dead body in order that it or they may be submitted to analysis or other mode of investigation.

There is yet another object for the public good in which the skill of the embalmer is useful. There are circumstances when it is not possible to bury a body immediately, and where it is necessary to keep it in such a state that it will undergo no decomposition, nor be calculated to be injurious to the living who are near to it. Here it is of moment to know how temporarily to check the decomposition and prevent the diffusion of poisonous gases from that source.

I have dwelt for a few minutes on these objects of embalming, without minutely arguing any point that may be raised upon them, in order to show that the art is one that is demanded on various grounds, and is not likely to fall out of demand. As this is the undoubted fact, I think it is wise for us medical men to retain and even to cultivate the most perfect knowledge of the art. If we do not scientifically carry it out, other men, mere empirics, who know nothing either of chemistry or of anatomy, will attempt to do so, we and the public will be alike defrauded, and an art which really rests on the purest basis of science will be brought into unmerited disrepute.

There is nothing so difficult in the process but that any practitioner can perform it as easily as he can perform a post-mortem examination; and when he has before him the simple rules I shall lay down in this short course of lectures, he will find the task easy, and even of interest. One quality only does it call for, and that quality is patience. It is true that in these days we are rapid to a marvel when we compare ourselves with our old friends the Egyptian embalmers. We require hours where they required days; but still, to do the thing well, some considerable patience is actually demanded even now, with all our modern knowledge and modern appliance.

CONDITION OF THE BODY TO BE EMBALMED.

The condition in which the body exists before it is embalmed makes a material difference in the success of the process. To insure a perfect embalmment, it is best that the body should not be opened; but if it be really necessary that a post-mortem be made, then the operator who conducts the embalming should also make the post-mortem, because, as I shall show in the proper place, the mode of conducting the post-mortem must be modified somewhat in order to meet the requirements of the embalming. Where the two operations are carried on together, there is no difficulty in securing a success, but the proceeding is rather more complicated and difficult.

In some instances it is essential to open the cavities of the body, although a post-mortem may not be demanded. If in any of the cavities there be a large vascular tumour, or a cyst, or a great enlargement of some particular organ, it may be necessary to remove such diseased part, or to empty it. In a case of empyema or hydrothorax, or ascites, it is requisite to empty out the exuded fluid; in the case of a large cancerous tumour in the abdomen, or of an enlarged liver, it is necessary to remove the structure altogether. Such structure may be buried, or, if that is objected to, it may be preserved in portions and returned into the body.

The most difficult subjects to embalm are those who have died with general anasarca. In these cases it is exceedingly troublesome to force a free current of the preservative fluid along the bloodvessels, and the vessels themselves are sometimes softened in structure so that it is no easy task to tie an injecting-tube firmly into them. I had one experience of this nature in which it was necessary to inject from four distinct points before the fluid could be fairly distributed for any length of time over the whole of the body.

It is also difficult, where there is anasarca, to determine how much preserving fluid will be required in order to sustain the necessary preservation, for, even when the current from the injecting-tube seems to be making its way, there may be exudation of the fluid out of the vessels into the cavities, or, through a rupture of the vessels, into one of the vascular organs —such as the liver or the lungs.

Another impediment to perfect success in the embalming process is met with in subjects who have died from diseases of internal organs, where there has been extensive local disorganisation, for here the fluid injected, when it reaches the diseased structure, escapes, and, remaining in the disorganised part, is ineffective in preserving the body at large, if it be simply left there under the supposition that it has been fairly distributed. In persons who have died from phthisis pulmonalis this obstacle to success is specially present.

As a rule, the best period for embalmment is about twenty-four hours after death, unless there be circumstances present which are leading to a rapid decomposition. At the end of twenty-four hours the rigor mortis has passed away, and the process of injection is more readily carried out.

The fact of commencing decomposition is no actual obstacle to the process of embalming, though it is decidedly objectionable. The parts that have become discoloured by the putrefactive changes are restored in a remarkable manner to their

natural colour when the injecting solution has fully permeated them, and the arteries convey the injected fluids better than might be supposed. All the odours that arise from putrefaction are removed by the embalming, and all further change is effectively prevented.

(To be continued.)

ORIGINAL COMMUNICATIONS.

NOTES ON THE

PATHOLOGY OF PULMONARY PHTHISIS.

By T. HENRY GREEN, M.D., F.R.C.P.,
Physician to Charing-cross Hospital, and Lecturer on Pathological Anatomy in the Medical School.

V.—Pathology of Phthisis.

Nature of Morbid Processes which give rise to the Pulmonary Consolidation—Doctrines have varied according to Meaning which has been attached to the term "Tubercle"—Doctrines of Laennec, Lebert, Virchow, Niemeyer, Wilson Fox—Subdivision of Phthisis into Different Diseases—Comparison of Phthisical Changes with those occurring in other Morbid Conditions of Lung—With Croupous Pneumonia—Catarrhal Pneumonia, etc. —Chronic Pneumonias—Corrigan's Cirrhosis—Inflammatory Nature of the several Phthisical Lesions.

Thus far the consideration of phthisis has been strictly limited to a description of the several structural changes which are met with in the lungs. It is proposed now to consider, in the first place, the nature of the morbid processes upon which these changes depend, and subsequently to discuss the etiology of the disease.

The nature of the morbid processes which give rise to that disintegrative consolidation of the lungs which constitutes phthisis has long been one of the most vexed questions in pulmonary pathology, and yet the answer to this question must have a most important bearing upon the prevention and successful treatment of this disease. It would be beyond the scope of the present "Notes" to attempt to discuss the numerous doctrines which have been held from time to time by different pathologists respecting the nature of the pulmonary lesions in phthisis. These doctrines, however, it must be observed, have obviously varied according to the different meanings which have been attached to the term "tubercle." According to the older views, which were based upon the teachings of Bayle and Laennec, tubercle was regarded as a specific non-inflammatory growth which was characterised by the caseous degeneration which it invariably underwent; and this caseous metamorphosis was held to be such a distinguishing peculiarity of the growth that all caseous masses came to be regarded as tubercular; and phthisis, in which caseation plays such a prominent part, was consequently regarded as a tubercular disease. Somewhat later, Lebert and others endeavoured to support this then current doctrine by microscopical investigation. Lebert stated that tubercle possessed a definite structure—that it consisted of what he termed "tubercle-corpuscles"; and these corpuscles were thought to be in themselves quite characteristic.

This doctrine of the specificity of tubercle and phthisis was almost universally accepted up to the time of Virchow, by whose teaching it became very materially modified. Virchow showed that caseous matter was by no means necessarily tuberculous, but that it might originate from the fatty degeneration and inspissation of many morbid products. He consequently framed a new definition for "tubercle," and limited the application of the term to the grey granulation, which he still regarded as a non-inflammatory growth. With this limitation it became obvious that very much of the pulmonary consolidation met with in phthisis was not due to tubercle, and that although grey granulations were frequently found in phthisical lungs, the production of the large tracts of consolidation which had formerly been described as "infiltrated tubercle" must be accounted for in some other way. These tracts of consolidation, and, in short, nearly all the varieties of phthisical consolidation which did not assume the form of the grey granulation, were regarded by Virchow as inflammatory in their origin, and were described by him as scrofulous or caseous pneumonias.

This view of the origin of phthisical consolidation was subsequently advocated with great ability by the late Professor Niemeyer. Niemeyer not only regarded the consolidation as inflammatory in its origin—as the result of what he termed a catarrhal pneumonia,—but, accepting the doctrine of the infective nature of tubercle which had been promulgated by Buhl, he stated that tubercle was merely a secondary and *accidental* accompaniment of the disease.

In our own country, on the other hand, the older doctrine of the tubercular nature of phthisis has quite recently received strong support from Dr. Wilson Fox. Dr. Fox states, as the result of his prolonged and well-known researches in pulmonary pathology, that the disintegrative consolidation of the lungs in phthisis is almost invariably associated with the development of a small-celled growth in the alveolar walls, which he regards as tubercular.(a) This so-called tubercular growth he considers to occupy a different pathological position from any epithelial proliferation or exudation which may have taken place within the alveoli. The latter he regards as inflammatory products, whilst the tubercular growth he believes to be the principal cause of that obstruction to the capillary circulation, and consequent disintegration of the pulmonary consolidation, which is so characteristic of the disease.

There has been a very general tendency during recent years to subdivide phthisis into several different varieties—to attempt to show that it may be produced by different morbid processes. A "pneumonic" phthisis, a "tubercular" phthisis, and a "fibroid" phthisis are often described as representing distinct pathological varieties of the disease. Such is the teaching of Dr. Douglas Powell, as set forth in his well-known work on the varieties of pulmonary consumption.(b) Great diversity of opinion respecting the nature of phthisis thus exists amongst pathologists even in our own time; and whilst some regard tubercle as the most important element in all cases of the disease, and others maintain that it is only an accidental accompaniment, a third class of observers tell us that some cases of phthisis are tubercular, but that others are not. These diverse doctrines, as I have already stated, are in great measure to be accounted for by the want of agreement existing amongst pathologists as to what constitutes pulmonary tubercle. This question I have attempted to answer in the papers on pulmonary tuberculosis. I proceed now to consider the nature of the morbid processes met with in the lungs in phthisis, and to point out how far these processes resemble those which give rise to the disseminated lesions of the infective disease.

In order to determine the nature of the morbid processes which give rise to the various histological changes met with in the lungs in phthisis, it will be necessary to compare these changes, in the first place, with those occurring in morbid conditions of the lung which do not come within the category of this disease, and the pathology of which is comparatively well understood; and, secondly, with any apparently similar changes which may be met with in other organs.

If the histological changes of phthisis be considered separately, it will be found that they are, for the most part, precisely similar to those occurring in other well-known pulmonary diseases. The most important changes met with in phthisical lungs have been seen to be of four kinds:—1st. The presence of leucocytes and exudation matter within the alveoli; 2nd. An accumulation within the alveoli of large cellular elements, which are the offspring of the alveolar epithelium; 3rd. A thickening of the alveolar walls by a small-celled lymphoid growth; and 4th. An increase in the interlobular connective tissue. These four kinds of change, which may be associated in very different degrees, constitute the most important factors in the production of the phthisical consolidation.

Firstly, with regard to the presence of leucocytes and exudation matter within the pulmonary alveoli: that this is quite frequent I have already insisted upon; and in some of the most acute forms of phthisis it may constitute almost the only structural change. Between these exudation products and those which are met with in ordinary croupous pneumonia there is, in a large number of cases, no histological distinction; and although, in other cases, the leucocytes may be somewhat less and the epithelial products somewhat more numerous than is usual in simple pneumonia, the two changes so closely resemble one another that they must clearly both be regarded as the results of an acute inflammatory process. Why the

(a) Discussion on Anatomical Relations of Pulmonary Phthisis to Tubercle of the Lung (*Transactions of the Pathological Society of London*, 1873).

(b) "On the Principal Varieties of Pulmonary Consumption," by R. Douglas Powell M.D. 1872.

two processes should differ so widely in their ultimate results—the one usually terminating in complete resolution, whilst the other leads to the disintegration of the lung—I will attempt to explain subsequently. At present I am merely desirous to establish the position that, in certain cases of phthisis, the disintegrative consolidation of the lung is the result of an acute pneumonic process—a process which produces histological changes precisely similar to those met with in ordinary croupous pneumonia, which are unaccompanied by any small-celled development in the alveolar walls, or by any other lesion which might be regarded as being of a tuberculous nature.

A more important cause of phthisical consolidation of the lung than simply the presence of exudation products is the accumulation within the alveoli of large cellular elements derived from the alveolar epithelium. These two kinds of change, as already stated, are very frequently associated, although the epithelial growth is certainly in the majority of cases the predominant lesion, and in many forms of acute phthisis it may be almost the sole cause of the pulmonary consolidation. A similar epithelial proliferation occurs in other morbid conditions of the lungs, although rarely to such an extent as it is met with in phthisis. In what is generally known as broncho- or catarrhal pneumonia, there is often an extensive proliferation and accumulation of epithelium within the pulmonary alveoli. In making this statement, however, I must add that many of the disseminated patches of consolidation which are included under this head are merely partially collapsed groups of air-vesicles which have become filled with mucus inhaled from the bronchi, and that, although the alveolar epithelium may have become loosened, it exhibits no signs of active growth. A certain amount of epithelial proliferation frequently occurs also in ordinary croupous pneumonia, and especially in the secondary pneumonias which are so constantly met with as the acute process terminating a chronic disease. In these secondary pneumonias, in which the inflammatory process is usually of less intensity than in the primary forms, the epithelial elements are sometimes so abundant that they apparently play as prominent a part in the production of the consolidation as the leucocytes and exudation matter with which they are associated. Lastly, in many cases of pulmonary tuberculosis, epithelial growth is the principal structural change. This has been already described in the chapter devoted to this subject. It is thus evident that active changes in the alveolar epithelium constitute a part of the tissue-changes met with in pulmonary inflammation; and we are, I think, justified in concluding that similar changes occurring in phthisis, associated as they so frequently are with exudation products, are also the result of an inflammatory process.

In considering the small-celled adenoid growth which is developed in the alveolar walls, it is in the first place to be remembered that it is precisely similar to that which has been already described as occurring in pulmonary tuberculosis. In non-phthisical and non-tuberculous forms of pulmonary disease it is not so frequently met with as are the other changes occurring in phthisis. The development of this growth must certainly be regarded as the histological change which is the most distinctive of phthisis; but I would again venture to repeat that it is by no means invariably present.

There are, however, certain morbid conditions of the lung which do not come within the category either of tuberculosis or of phthisis, in which a similar kind of growth is developed in the alveolar walls. In certain cases of ordinary basic croupous pneumonia, in which the exudation products are not readily absorbed and the condition becomes more or less chronic, the walls of the alveoli will be found thickened by a small-celled growth. In such cases the lung is less friable, tougher, and more pigmented than in ordinary hepatisation. Then, again, in those conditions of the lung which more properly come within the category of what is usually known as chronic pneumonia, and of which Corrigan's cirrhosis may be taken as the type, there is invariably a development of small-celled tissue in the walls of the air-vesicles. Lastly, I must mention that a similar growth is developed around the smaller bronchi, from which it gradually extends to, and invades the walls of the alveoli in cases of long-continued bronchial catarrh. The new growth in all these cases is often quite indistinguishable from that met with in phthisis, although more frequently its adenoid characters are somewhat less marked, and it exhibits a greater tendency to become fibroid. I have already endeavoured to show that this small-celled tissue, when occurring in pulmonary tuberculosis, is the result of irritation, and that it therefore comes within the category of what we understand by an inflammatory growth; and inasmuch as a similar growth is met with in other morbid conditions of the lungs, the inflammatory nature of which is very generally admitted, we are, I think, justified in regarding the phthisical growth in the same way as the result of an inflammatory process.

Respecting the remaining structural change met with in phthisis—an increase in the interlobular connective tissue—it is only necessary to remark that a similar increase occurs, to a greater or less extent, in all conditions of long-continued pulmonary irritation. In the disease known as Corrigan's cirrhosis this kind of change reaches its maximum. When occurring in phthisis it is also to be regarded as the result of a chronic inflammatory process, and its extent bears, for the most part, a direct relation to the chronicity of the disease.

I have thus endeavoured to show, in the first place, that the several structural alterations met with in the lungs in phthisis are the results of morbid processes which must be regarded as being inflammatory in their nature; and, secondly, that these alterations are by no means peculiar to phthisis, but are precisely similar to those met with in other forms of pulmonary inflammation. In describing the morbid processes as inflammatory I merely mean to imply that they owe their origin to some kind of injurious irritation. It has already been stated that the several kinds of change are usually associated, although in such different degrees that, whilst in some cases of phthisis the pulmonary consolidation is due almost entirely to one kind of change, in others the predominant lesion is entirely different. Admitting, therefore, the inflammatory nature of the lesions, it remains to consider the causes of these differences in the mode of their association.

(To be continued.)

CASE OF

TYPHOID FEVER, AND THROMBOSIS OF THE LEFT INNOMINATE VEIN.

By THOMAS COLE, M.D. Lond., M.R.C.P.,
Physician to the Royal United Hospital, Bath.

Georgina C., aged fifteen, a pupil teacher, was admitted, under my care, into the Royal United Hospital on February 13, 1873. She was evidently suffering from a severe attack of typhoid fever, symptoms of which had appeared a few days before. During the first week (probably the second of the disease) the temperature varied between 102° Fahr. and 105° Fahr.; during the third week of the disease it varied between 100° Fahr. and 103·5° Fahr.; during the fourth week between 99·5° Fahr. and 103·5° Fahr.; on the thirty-second day in the morning it was 98° Fahr., and in the evening 101° Fahr. Between this and the thirty-sixth day it varied between 98·5° Fahr. and 101° Fahr., as if the fluctuation-period had commenced. On the thirty-sixth day the morning temperature was 97·5° Fahr., the evening temperature 99·7° Fahr. The next day in the morning it was 99·5° Fahr., but in the evening mounted to 103·7° Fahr.; on that day she was several times sick, and had much epigastric pain. The characteristic fluctuations did not decidedly begin till the forty-first day, between which and the fifty-fourth day the morning temperature was about 99° Fahr. or below it, and the evening temperature between 101° Fahr. and 102° Fahr. It got higher after this, and varied between 99° Fahr. and 103° Fahr. till the sixty-sixth day, when it became normal, and, with few exceptions, continued so until death. It is probable that the fluctuation-period began on the thirty-second day, but was interrupted by some cause on the thirty-seventh day, when the temperature mounted again. During the first ten weeks of the case the pulse was never under 100 but twice; it varied from 108 to 146. The respirations were nearly always hurried, and very variable; one day, for instance, being 42, the next 30, two days after only 18. During the last few days of life they were very rapid, being once 78. I may here state that the patient was very hysterical, which may account for this variation, among other things. The tongue was more or less dry and brown for a month, with sordes on the teeth and lips. It was afterwards clean for some time, and then became dry again. The appetite very seldom failed throughout, the diet being of course suited to a typhoid patient. There was more or less sickness all through the illness, especially after most of the medicines ordered, and sometimes after the cough. This I attribute to

irritation of the pneumogastric. On the thirty-seventh day, when the temperature rose to 103·5° Fahr., there was much abdominal pain, with meteorism, loss of appetite, and vomiting. The bowels were very loose the first three weeks, the motions being often passed in bed; afterwards there was not much trouble with them, except for a few days in the sixth week, and towards the end. There were no spots after the third week; the urine contained a little albumen for some weeks, and was often passed in bed, or had to be drawn off with the catheter. Towards the close it became very scanty, loaded with lithates, and with a good deal of albumen; on some days it was almost suppressed. The pulmonary physical signs were throughout of little importance. The nights were very variable, sometimes being good, but often very restless, delirious, and noisy. It was not until the patient had been some little time convalescent from the typhoid fever that the symptoms of obstruction of the innominate vein began to appear. These commenced on April 17; on that day the cough (which was present from the first) was very troublesome. The livid tinge in the cheeks, noticed on admission, was certainly more marked, and was increased by coughing. There was considerable distension of both external jugular veins.

April 18.—The right jugular remains distended; on the left side there is enlargement of one of the glands at the edge of the mastoid muscle, and some redness of the skin, with a good deal of pain.

21st.—Left neck still swollen and tender, with œdema of the whole of the left arm since yesterday mid-day. Cough still very bad, with a little sickness.

22nd.—The œdema continues. The veins of the right side of the neck are much distended, also those on the upper part of the chest, on the left side especially. The right neck is now swollen.

23rd.—Œdema of legs to-day on sitting up. Cough bad.

24th.—Œdema of legs gone. Cough a little easier.

26th.—Veins not so swollen on the right side; same on left. The upper and left part of the sternum is rather dull, fremitus is diminished, and the breath-sound is harsh. Still œdema of arm. Pulse 108; respirations 30.

27th.—Œdema of arm and venous distension less. Cough better. Evening temperature 98·4° Fahr.

28th.—Still slight dulness over left sternum; respiration not so harsh. Right scapular region a little dull. Veins much the same.

29th.—Feet somewhat œdematous after being up an hour. Temperature 98·4° Fahr.

30th.—Bad night. Cough harassing; bowels regular; face very blue. The right external jugular and veins of left chest very much distended. The legs are swollen; left the most. There is œdema of the skin of abdomen and back.

May 3.—Good night. Cough a little better. Legs, thighs, nd abdomen pit on pressure. The left arm is only œdematous bout the elbow.

4th.—Chest still rather dull at left side of sternum; not much difference in respiratory sounds on the two sides. Tubular breathing; slight crepitation and dulness at the angle of the right scapular; crepitation at the left base as well. There is a tympanitic note on the inner side of the angle of the right capula. Veins of neck much distended on coughing. Urine ourteen ounces in thirty hours; but little albumen; great eposit of urates.

7th.—Left arm and hand not swollen; feet and legs very so; right arm a little. Urine fourteen ounces in thirty-six hours. Patient generally lies on the right side.

8th.—Scarcely any urine; abdomen tympanitic and œdematous; some ascites; liver area somewhat increased.

9th.—Very bad night; abdomen very tympanitic; urine very scanty; pulse 144; respirations 78.

10th.—Fair sleep; bowels twice opened; urine almost *nil*; pulse 132; respirations 54.

11th.—Less noisy; not much sleep; cough better; bowels well opened; face livid; right arm not so swollen, nor the legs; left arm large above the elbow.

14th.—Fair night; cough not quite so frequent nor so hard; a little more urine; œdema much the same.

16th.—Fair sleep; urine more; bowels loose.

17th.—Bowels very loose.

21st.—She remained much the same till the 21st, when the pupils were a little dilated, and she was rather thirsty. She died rather quickly the same day.

Post-mortem on May 22.—Body very much swollen. Some pericardial fluid. Right cavities of heart much dilated and full of dark clots; no malformation of heart. Lungs much shrunken, and occupying the posterior parts of the chest. Right lung very much smaller than naturally; its lower third very hard, airless, sinking in water; not much air in the upper part. Upper part of left lung emphysematous. Liver in a nutmeg state; somewhat enlarged. A great deal of peritoneal fluid. Kidneys of normal size; capsules easily torn off; cortices very pale; much-distended veins coursed through the pyramids and cortices. In each kidney were several small yellow wedge-shaped and rounded masses on the surface; one or two were shrunk and puckered. The typhoid ulcers were quite healed. The left innominate vein was surrounded by what seemed to be the remains of the thymus gland. All the parts seemed unnaturally matted together. There was no point of constriction in the vessel itself, and no pressure appeared to be exerted on it by the thymus or other glands. But the vein was filled from its termination in the superior vena cava to its commencement with a thrombus, branches of which extended into the internal jugular and subclavian veins, and even into the tributaries of the subclavian. The clot, which was firm and yellow, completely filled the vein, and was closely attached to its inner coat for a considerable distance. A probe could be passed with great difficulty between the lower part of the clot and the vein. By dint of forcible tearing it could be detached, however, from the vein-wall, which in places was somewhat discoloured. But there was a portion of the clot firmer and more closely attached to the vein-wall than the rest, and it seemed to have been formed some time before. It was with a little trouble separated from the main thrombus. It was pyramidal in shape, and the apex of the pyramid projected into what, I believe, was the inferior thyroid vein. A very little way from the ending of this vein in the innominate there were two or three imperfect valve-like projections, and from these the pyramidal clot sprang; it could not be separated from them. I am convinced that all the mischief commenced here. I have not since been able to get a healthy innominate vein, so that I am unable to say whether there be any valve at the ending of the inferior thyroid vein or not; but I am quite sure that the thrombus began at these valvular projections and spread into the pyramidal shape mentioned, the base of the pyramid projecting into the lumen of the innominate. How long it remained in this condition it is impossible to say, but it is most probable it existed when the patient first came under notice, and that the lividity then observed was due to a partial obstruction of the vein. Then, as the thrombus was added to and spread backwards, filling up the veins as before explained, the serious interference with the circulation began, which ended in death. The clot was made up of layers, and the only part where I could pass a probe along was the under part. The eddying of the blood as it passed the end of the left innominate on its way from the right innominate to the superior vena cava would account for the extension of the clot forwards to the ending of the vein. Might not the detachment of very fine particles from the proximal end of the clot account for the embolic masses in the kidneys? As a rule, emboli from the systemic veins and right side of the heart are arrested in the lungs; but there are many exceptions to this rule, especially if the emboli be very small. Of course, the total obstruction of the vein would quite account for all the pathological conditions—as enlarged liver, albuminuria, ascites, anasarca, etc.—observed before death. My own opinion was decided from the first, that there was serious obstruction of the left innominate vein. I must confess that I thought for some time that the obstruction was due to pressure from the outside; and this theory was countenanced by the slight dulness over the upper left part of the sternum, and the other physical signs connected with it, and also by the enlargement of the gland above the clavicle. I imagined that some enlargement of the bronchial or mediastinal glands had existed before the typhoid fever, but not sufficient to induce any serious interference with the circulation. Then the fever set up further diseased action in the glands, bringing about the obstructive symptoms I have detailed. I have no doubt now that the remains of the thymus caused the slight dulness which pointed to enlarged glands. I cannot understand why the vein passed as it were through the thymus, and the parts were so unnaturally matted together; but it is certain that the vein was not contracted by this state of things. Not only did the lividity of the face strike my attention, but also the hard barking cough which was present during the first few days; and then, towards the end, there was a decided whoop with it, and

the face would become perfectly blue. It was very difficult to tell whether the distended vein pressed upon the phrenic and pneumogastric nerves as they passed behind it; but this seems to me to be the only satisfactory way of accounting for the spasmodic cough, and afterwards the literal whooping-cough, and probably also for the sickness which was so constant. The poor patient's aunt (a lady of intelligence) told me that for some long time a slight blueness had been occasionally observed in the face, and that she used rather frequently to complain of pain about the left clavicle, and, at the same time, of a curious feeling about the left parietal bone. I feel there are difficulties in the way of my interpretation of the case, and should be glad of a more probable explanation. It must be obvious that the little valvular projections in the thyroid vein had always existed, and would not in themselves account for the formation of the thrombus; but they certainly would offer a good starting-point for the production of a clot if the state of the blood or of the vein itself were favourable. I am sure the calibre of the innominate vein was in no degree narrowed, although it was so closely and abnormally surrounded. It is possible that at one time there may have been some inflammatory action going on outside the vein, which spread through its coats and rendered the vessel susceptible to thrombosis from alteration of its inner coat. But thrombosis is more likely to cause phlebitis than phlebitis to cause thrombosis; and I did not perceive any traces of inflammation except perhaps the matted-together state of the parts. And I can hardly think that any thrombus caused by inflammation would have the appearance which the nipple-like mass had in the thyroid vein. It was inseparable, as I before mentioned, from the little valves, and dangled from them like a polypoid vegetation would from a cardiac valve; whereas all the rest of the coagulum was detachable from the rest of the vessels, though not with ease in some parts.

REPORTS OF HOSPITAL PRACTICE
IN
MEDICINE AND SURGERY.

LONDON HOSPITAL.

[For the following notes we are indebted to Mr. Charles Mercier.]

CASE OF FRACTURED SPINE—PARTIAL PARALYSIS—EXTENSIVE ANÆSTHESIA—DEATH ON THE SIXTH DAY—AUTOPSY—REMARKS.

(Under the care of Mr. COUPER.)

R. W., aged thirty-six, was admitted to the accident ward on October 12, 1873, under the care of Mr. Couper, for injury to the spine. Patient stated that he was clambering over a gate about five feet high, when he fell backwards and "struck the bone at the back of his neck." He was unable to move, and lay on the ground several hours before assistance came, after which he was taken to the hospital.

State on Admission.—Patient is a coarse, heavily-made man, in good general health, but has been a hard drinker. Is much depressed; complains of cold and shivering attacks, and has a slow full pulse. Is quite conscious, and answers questions intelligently, but slowly and unreadily. Pupils equal and normal in size and mobility. Flexion and extension perfect in the arms, but he is unable to grasp. Legs powerless. Breathing diaphragmatic. Sensation perfect over the head and upper extremities; very imperfect over abdomen, and quite lost over the legs. Has well-marked priapism. Pain between the shoulders. Temperature normal, but says that he feels very cold.

October 13.—No alteration in motor power. Sensation returned in the legs and partially over abdomen. Urine tinged with blood; no sugar. Has a slight irregularity at the region of the seventh cervical or first dorsal vertebra. No crepitus.

14th.—The patient lies on his back with his legs extended, and his arms at right angles to his sides, the elbows being flexed and in the position of greatest relaxation. Face flushed and mottled. Heart-sounds normal. Pulse 72, with no appreciable difference between radial and posterior tibial. Well-marked, but not excessive, priapism. Breathing entirely diaphragmatic. Coarse râles heard all over the chest. Mucus accumulates in the throat, and as the chest does not co-operate in the effort to expel it, it causes him a good deal of trouble. Cough has a peculiar muffled sound, as if far distant. Power of motion normal in the ocular, masticatory, facial, lingual, and cervical muscles. Deltoid and pectoral muscles apparently not weakened, and he is able to flex the elbow with great force. Scarcely any power of extension of the elbow. Motion of fingers almost entirely lost; can pronate the hand readily, but has very slight power of supination. No difference in the condition of the two arms. Is quite unable to move the legs voluntarily; but if the soles of the feet are pricked or tickled, movement of the toes takes place, and the muscles of the legs move slightly. Sensation remains perfect in the head, face, neck, and arms. On the front of the trunk he can feel over the surface limited by a line drawn from the right shoulder to the left loin, below which he has not the slightest sense of feeling. Imperfect sensation remains in the legs as high as the knees; in the lower parts of the thigh the anæsthesia is doubtful; but from the middle of the thigh to the line on the trunk loss of sensation is complete, except on the penis. Sensation is perfect in the parts supplied by the intercosto-humeral nerve. Conduction of impressions from the feet is much slower than normal, and is wanting in definition. If the foot is touched, he does not feel it at first; if it is continued for a short time, he gradually becomes conscious of being touched, and ultimately is able to state correctly which foot and the exact part that is being touched. If touched in the region of Scarpa's triangle of either leg he persistently refers the contact to the opposite side. He has also lost the power of distinguishing heat from cold in his feet. When touched alternately with a piece of ice and a hot spoon he feels the contact, but has no idea that the one is hot and the other cold. Has no pain unless moved, when he says that he has "pain in the leaders at the back of his neck." Later in the day he complained that pressure on the cervical spine caused pain all over him, extending to the soles of the feet. Temperature in axilla 100·6°, of foot 99·5°.

15th.—Breathing more laboured, and cough (futile) more frequent. Priapism diminishing. Power of motion unaltered. From this date his breathing became more and more laboured, and cough more troublesome; his abdomen became excessively distended and tympanitic. Power of motion remained unaltered, but the limit of anæsthesia varied greatly, and finally became altogether obscure and indefinable. Profuse sweating supervened, and his temperature gradually rose until his death, which took place on the morning of the sixth day from admission. He had no bedsore. Death was preceded by general contraction of all the peripheral arteries. The first noticeable sign of this phenomenon was that the urethra became so contracted that it was impossible to introduce the catheter that had been formerly used. The skin then became pallid; the surface of the body, especially that of the extremities, cold; pulse small, 36 per minute; pupils widely dilated. The penis rapidly contracted until it was only an inch and a half long, and as hard as cartilage, almost as hard as bone. His testis (he had but one) was retracted into the inguinal canal. Retinal arteries so contracted as to be scarcely visible; but the veins were of moderate size.

Autopsy.—On cutting down on the cervical spine from behind it was found that several ounces of fluid blood were extravasated in the cellular planes, and that the neural spines and arches of the fifth and sixth vertebræ were so separated as to allow the finger to be passed into the spinal canal. The bodies of the same vertebræ were completely separated from each other by the laceration of the inter-vertebral substance, and were held together only by the ligaments and muscles. There was a little blood between the dura mater and the bone. On slitting up the sheath, the cord presented a decided enlargement opposite the whole of the sixth and the lower part of the body of the fifth vertebræ. The enlargement was an inch and a quarter in length, and this portion of the cord was softer than any other part. On making a vertical section in the middle line, the enlarged portion of the cord was found to be occupied by three blood-clots. The uppermost was large, soft, and of a smeary, salmon-tinted appearance; the others, half an inch lower down, were smaller, darker, and quite recent. The viscera generally were gorged with blood.

Remarks.—In this case diagnosis of the position of the injury was comparatively easy. The breathing being diaphragmatic, it was evident that the injury could not be above the fifth cervical nerve nor below the upper dorsal region. The muscles

of the hand supplied by the ulnar nerve being paralysed, the injury was consequently above the eighth cervical, the highest nerve from which the ulnar rises. The nerve to the serratus magnus and the musculo-cutaneous were unaffected; the former arises from the fifth and sixth, the latter from the fifth, sixth, and seventh: hence we may infer that there was no injury above the sixth. Lastly, two nerves (the circumflex and the musculo-spiral) arise from four trunks—the fifth, sixth, seventh, and eighth cervical nerves; of these two, one (the circumflex) was apparently intact, while the other was greatly injured. Hence, as it is evident that the upper fibres of the nerve could not be involved, the lower must be: which is in accordance with the fact that the ulnar was injured. The injury, therefore, was clearly between the sixth and eighth cervical nerves, or opposite the sixth cervical vertebra.

GREAT NORTHERN HOSPITAL.

LARGE SERPIGINOUS LUPOID ULCER OF THIGH, HEALED IN FIVE MONTHS UNDER A COURSE OF ALTERATIVE TONICS AND THE LOCAL APPLICATION OF CHLORIDE OF ZINC, ETC.

(Under the care of Mr. SPENCER WATSON.)

C. W., AGED fourteen years, was brought to the hospital on August 14, 1872. She was then a weakly, peevish, irritable, and ill-nourished child, of stunted growth and unhealthy aspect. Her left knee was firmly contracted, and she resisted all efforts to extend the leg. Occupying the inner and front aspects of the lower two-thirds of the left thigh was an ulcerated surface surrounded by irregular curved edges, with a tendency to the crescentic form, the convexity of the curve being outwards. Some of these edges towards the knee had the appearance of being recently cicatrised, but in most of the other parts of the sore the edges were extending by ulceration. The ulcerated surface had a dusky grey, unhealthy aspect, with no true granulations. Every movement of the limb, and of the body when affecting the limb, was exquisitely painful, and caused the child to make loud cries and to resist the slightest effort to extend the leg on the knee. She had suffered from this ulcer for three years. It had been treated elsewhere by the application of caustics, but there had been a constant extension of the mischief in spite of all treatment. Cod-liver oil and a combination of quinine, iron, and arsenic were prescribed, and the grey oxide of mercury ointment applied to the sore, the whole limb being wrapped up in a covering of cotton-wool. Poultices were applied occasionally at night, and a solution of chloride of zinc (five grains to one fluid ounce) was applied to the sore at times when the appearance of the surface seemed to indicate a necessity for stimulation. In a very short time the surface began to assume a more healthy aspect, and the dose of the arsenic, which was given in the form of liq. pot. ars., was increased from three minims to five minims, and subsequently to eight minims, three times daily, while the quinine and iron were also increased. Under this plan the ulcer gradually diminished in extent, and on January 15, 1873—*i.e.*, about five months after the commencement of treatment—it had completely healed; the knee, however, remaining contracted.

In August of the same year the mother of the child again brought her. Not only had the ulcer shown no disposition to break out again, but the cicatrix tissue had become soft and pliable, and the skin moved freely over the subjacent parts. The knee also had become quite free from contraction, and could be flexed or extended as desired. This latter result was attributed by the mother to the use of friction of the thigh with some kind of liniment. It was no doubt due to the cessation of pain and irritation of the limb, and the possibility of extending the leg without causing increased pain by the consequent movement. Perhaps, too, the shrinking of the cicatrix may have contributed towards a gradual extension of the knee in the first instance, the movement thus originated having been subsequently continued by the sense of ease it afforded to the patient.

Large serpiginous ulcers in this region of the body are extremely rare, and hence one point of interest in the case. The treatment was chiefly directed towards sustaining the nerve-tone of the patient and the avoidance of irritant causes of all kinds. Hence the application of caustics, which in smaller lupoid ulcers is often so beneficial, was in this case altogether dispensed with, and the whole surface was protected from the irritation of cold by carefully covering it with cotton-wool and by poulticing it at night. The grey oxide of mercury ointment may have had some specific influence in bringing about the healing action; it certainly did not retard it. The contrast between the results of treatment by the application of caustics during the three years before the patient was brought to the Great Northern, and that by soothing and slightly stimulating applications alternately during the five months she was under Mr. Spencer Watson's care at that hospital, was very marked. The case is also very instructive as demonstrating that a clear distinction ought to be laid down between the true lupus—in which caustics or some similar treatment are so frequently necessary and beneficial—and the serpiginous lupoid ulcer, in which constitutional treatment is the most important point to be attended to. In this child there was no syphilitic taint that could be discovered; but in some cases in which the ulcers presented very similar appearance, occurring in adults, Mr. Watson has been able to trace them to constitutional syphilis, and has treated them successfully with large doses of iodide of potassium, opium at night, and the topical use of mercurial ointments or lotions.

UNIVERSITY COLLEGE HOSPITAL.

[FOR notes of this case we are indebted to Mr. Godlee, M.S., Surgical Registrar.]

BULBOUS NERVES IN ARM-STUMP — REMOVAL OF END OF STUMP—SLIGHTLY RELIEVED.

(Under the care of Mr. BECK.)

The patient, Emily D., aged twenty-six, of no occupation, who was admitted on November 21, 1873, had always had very good health; father and mother both dead; mother died of consumption. Has two brothers and two sisters; one sister is consumptive. She states that six years and a half ago she had her right elbow-joint excised in St. George's Hospital. An abscess in connexion with the joint had resulted in anchylosis; forcible straightening of the joint excited fresh suppuration in it, and it was to remove the disease thus set up that excision was performed. The limb went on very well for three weeks, but after that time it became worse, and the arm was amputated at the shoulder-joint. Twelve months after the amputation a small lump, very painful indeed, came in the axilla; this was removed. During the next twelve months two similar lumps appeared and were removed. Four years ago she had some dead bone removed from the stump. Since the last operation her shoulder has been growing up very much above the level of the other, and it has been getting much worse the past few months. For some time she has suffered very great pain in it.

On admission the stump was about three inches long, and fleshy; there was a cicatrix running down its centre, about six inches long; on the under side there were several smaller cicatrices. The acromion process of the scapula and the acromial end of the clavicle were raised about three inches above the level of the other shoulder. The head was drawn over to the left side, and the muscles on the left side of the neck were very tense indeed. When the stump was touched it began twitching very violently indeed, but the twitching ceased if the patient presses it. The patient had a bright florid complexion and seemed in very good health. There was a hard nodule to be felt along one of the nerve trunks; it was very painful indeed.

November 29.—The stump was galvanised yesterday, but it has not relieved her at all; the pain is still very bad.

30th.—Had a hypodermic injection of morphia last night; has felt much easier since.

December 3.—Yesterday afternoon, the patient being under chloroform, Mr. Beck proceeded to remove the fleshy stump by an oval incision below the shoulder-joint. During this there was pretty free hæmorrhage, not only from the brachial, but from the very vascular flaps, which, as the operation was performed by candle-light, was very difficult to arrest. A mass involving about an inch and a half of the brachial artery and a corresponding part of the brachial plexus was then removed, so that the hard nodule which was felt before the operation on one of the large trunks was taken away. The operation was performed antiseptically. An examination of the stump after removal showed that each branch of the brachial plexus terminated in a small ovoidal tumour of hard consistence and white glistening section. These small tumours

were embedded in dense fibrous tissue; one or two similar ones existed in the continuity of one or more of the nerve-trunks. They have not yet been examined microscopically.

4th.—The patient having been put under chloroform, the dressings were removed. The limb was quite saturated with blood, but there was no more hæmorrhage after removal of the dressings. The wound was washed out with iced carbolic lotion, and the flaps brought together by four wire sutures. The wound was dressed with lint and carbolic oil, and the stump wrapped in cotton-wool. A drainage-tube was put in the wound. At 10 p.m. last night there was noticed blood coming through the dressings, so they were removed, and the flaps were cauterised with the actual cautery at several points, the wound was plugged with wet lint, and the stump was surrounded with strips of wet lint. She was fed with beef-tea and brandy every half-hour, but she could not keep them down. Brandy and thin arrowroot were then tried, and she kept them down better. She fainted once, but was brought to with brandy and spt. ammon. co. Her pulse sometimes was scarcely perceptible. Temperature 99°; pulse 144.

5th.—Wound looks very healthy; there is no redness or suppuration. Has been sick several times during the night. Temperature 11 a.m. and 7.30 p.m., 99·8°; pulse, 11 a.m. 184, 7.30 p.m. 176.

10th.—There is a very slight purulent discharge. The edges of the flaps are granulating up. Felt some of the old twitching pain last night. Looks more cheerful and feels considerably stronger.

11th.—The twitching movements came on again this morning whilst the stump was being dressed. Appetite not very good. Tongue covered with a whitish fur.

12th.—There is a round pustule about half an inch in diameter on the thorax, one inch and a half below the stump. The two lower and the top stitches were removed. There is slight suppuration in the marks of the sutures. The edges of the wound are rather red. Temperature 98·8°; pulse 120.

13th.—The flaps are rather wide apart at the lower part of the wound. Very little discharge. Appetite is very bad. Complains of a great deal of pain in the stump. Temperature 98°; pulse 112.

14th.—The pustule below the stump was opened the day before yesterday, and a small quantity of serous fluid was let out; it has quite healed up now. The wound is in much the same condition to-day. Temperature 99°; pulse 110.

17th.—Patient still complains of a good deal of pain. There have been some more twitchings during the night, and the stump is convulsed whenever it is touched. Had a hypodermic injection of morphia this morning. Appetite is very bad. Skin moist; tongue moist and covered with a dirty fur; temperature 99·2°; pulse 118.

19th.—The last suture has been removed; the flaps are gaping rather widely, and the edges of the wound are florid and bathed in healthy pus. The twitching movements are still very bad. Temperature 98·4°; pulse 120.

26th.—The wound has healed at the upper part for the extent of about an inch. The twitching is very bad again. Temperature 99·6°; pulse 100.

January 6.—The wound has quite healed up. The twitchings are still very bad, and the pain is very great.

20th.—The stump is now no better than before the operation. The pain and twitchings are very bad indeed. Patient was discharged yesterday and sent down to Eastbourne.

The Parsonstown Board of Guardians, at a special meeting, the Earl of Rosse in the chair, have refused to reconsider the salaries of the sanitary officers, as requested by the Local Government Board; and the Listowel Board of Guardians have also refused to accede to a similar request, and deny the right of the Local Government Board to interfere.

A prize of twenty-five guineas is offered for open competition for the best essay "On the Application of Sanitary Science to Rural Districts, with the view to insure the Highest Condition of Health and the Prevention of Disease." Mr. J. Bailey Denton, Mr. James Howard, and Dr. Abbotts Smith have consented to act as adjudicators. All essays are to be forwarded, not later than June 30 next, to Dr. Lory Marsh, 10, Adelphi-terrace, Strand, to whom the copyright of the successful essay shall belong.

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Medical Times and Gazette.

SATURDAY, JANUARY 2, 1875.

TO OUR READERS.

Our readers have, we think, a right to look for, from us, at the opening of this year, some words more than the usual short, though hearty, new-year's greeting and good wishes. Some three years ago, when long-continued and severe illness compelled the physician who for a long time had conducted this journal with such marked ability, judgment, and literary skill, to retire—we still hope temporarily only—from all active professional and literary work, he resigned its management into the hands of one who had long been his highly valued and trusted friend and colleague—one who was especially well fitted by his learning, judiciousness, and good taste to take upon him the full responsibilities of editor; but he, alas! as is well known, was suddenly summoned to rest from that and all other labours a year ago; and so it came to pass that the editorial management of the journal was entrusted to our comparatively new and inexperienced hands. It seems to us well and fitting, therefore, that we should take this opportunity of assuring our readers that it is our desire and intention to be actuated in our editorial work by those high principles that have always characterised the *Medical Times and Gazette;* and we trust that we may without presumption appeal to the volumes of the year just closed as proofs that our hope of, in some measure, succeeding in our ambition is not altogether unwarrantable. One of our Transatlantic contemporaries lately spoke of the *Medical Times and Gazette* as "a journal of very lofty tone, and representative of the more conservative elements in English medical politics": we are well content to accept the description, and no effort shall be wanting on our part to maintain the high character the journal has always borne. It is our determination to be guided by the same principles of independence, impartiality, even-handed justice, and appreciation of all that is good and useful in medical science, and by the same loyalty to the interests, social as well as scientific, of

the profession, as have always hitherto animated the management of the *Medical Times and Gazette*. We hope to continue to present to our readers a faithful record of all that is being attained or sought after in our ever-progressive and ever-widening science and art; and we shall gladly recognise merit and good work, wherever it may be found, and shall welcome communications from all medical practitioners who have anything to say worth hearing, whether they be leaders and teachers in the profession, or of the busy rank and file. Our endeavour will be to make the journal a valuable help to the practitioner in his daily work; and we shall seek to give, from abroad as well as from home sources, information of whatever has been found useful in the practice of the art, as well as whatever bears on the advancement of the science of the profession. Nor shall we fail to take notice of everything social that can interest the profession at large, though we do not mean to burden our columns with social, or even scientific gossip, that may be interesting or amusing to our metropolitan brethren, but cannot have much attraction, or, often, much meaning even, for distant readers; while at the same time we shall, we confess, be so far truly "conservative" that we shall be in no hurry to run after every new thing, to hastily give up old doctrines and practices, or to believe that whatever is new must be true and good.

We have not given to our readers any list of promised contributions for the new year, for it has appeared to us that when, as not rarely happens, unforeseen and unavoidable, and it may be unexplainable, circumstances—sickness, new engagements, increased occupation, and the like—make the fulfilment of any published promises impossible, not only are our readers disappointed, but apparent injustice may be done to them, to the journal, and to him who has failed to carry out his intentions. But we may assure our readers that we have secured a succession of contributions from some of the most able and distinguished physicians and surgeons in the metropolis and the provinces; and with the help of our tried and trusty editorial staff, and of the old and valued friends and contributors who have so ably supported the journal, we look with confidence to deserve the trust reposed in us, to gain new allies and contributors, and to present our readers week after week with acceptable and richly stored pages.

THE NEW YEAR.

It is withal a good old English custom to welcome the coming and to speed the parting guest. We devote the last days of the old year to feasting and gladness, whilst the new year is at least as vociferously welcomed as its more sacred forerunner. It is the period of the new year, however, to which men are more prone to devote those thoughts and reflections which the lapse of time and the changes they see around them naturally suggest, and to compare the things they have seen or heard of in their day to those which may happen hereafter. It is in a certain respect a peculiarity of the speculations of medical men, as far as their profession is concerned, that these almost invariably assume a practical character. The formation of a new hypothesis as to the cause and character of a given disease is promptly followed by the thought of what bearing this will have on the treatment of the malady.

At the present moment we are surrounded by circumstances demanding the most careful consideration—not only how they are to be prevented in future, but also how we are to deal with their results in the meantime. We almost daily hear of railway accidents, growing more and more formidable; of death-rates everywhere rising from the bitterly cold weather; of great districts of London supplied with poisonous water; of epidemics tending more and more to become endemic, making certain cities hotbeds of disease; but with all this before us, we are also continually being told that the death-rate is far lower, and the value of life greater (the manufacturing districts excepted), than in former days; and of the advances science has made in the prevention and treatment of disease. Our profession has nothing to do in railway accidents save sometimes to suffer, and to work their best for the unfortunate wounded. For an increased death-rate during cold weather we, as a body, can hardly be held responsible, as a proper supply of food and clothing is not always at our beck and call. It is, however, fortunate that the true character of what used to be called "fine bracing weather" has been properly exposed; for what may be bracing to strong, active, well-fed men, is death to the weakly, especially the very young and the very old. Fortunately, in many instances a foreknowledge of these things is quite sufficient to insure their obviation. The condition of the water-supply to many large towns is still most unsatisfactory. Few things could be more revolting than the account given of the water supplied by the Chelsea Water Company during some portions of the last month. Such things as the following were included in its component foulnesses: living organisms, particles of clothing, mycelium of growing fungi, and even decomposing animal matters, to such an extent as to render the whole like a mixture of chalk and water, hardly, if at all, transparent. The effects of drinking such water must be injurious. What they all are we do not yet know, but we know quite enough of them to look upon the compulsory drinking of such poisonous stuff.

As regards diseases propagated by drinking-water, and, again, those spread in epidemic fashion, independent of water, we must, we fear, look for amelioration rather to what is commonly called preventive medicine than to curative medicine; and it is undoubtedly to the former rather than to the latter that we must refer our relatively diminished bills of mortality. Far be it from us to say that great and important advances in therapeutic knowledge have not been made in recent days; but we are also inclined to believe that during the same period we have lost or forgotten much that was well worthy of a different fate: but to this we must recur another time.

ASPIRATION IN PLEURISY.

In the opinion of many physicians, the most valuable instrument in their possession at the present time, whether for remedy or relief, is the pneumatic aspirator. Held to be simple, certain, and safe, it has already worked many marvellous cures since its introduction only a few years ago. In the treatment of pleurisy especially the aspirator has been most extensively used, and with the most encouraging results. Yet, notwithstanding the amount of success which has attended the aspiration of pleuritic effusions, those who have employed the method most frequently and most intelligently will be the first to confess that the operation is not without its serious objections: that there are certain difficulties and dangers, and some possible unfortunate results, which must be seriously considered before aspiration is undertaken. It is perhaps not so common now as it seems to have been twelve months ago to hear of the needle being used as a simple means of completing a diagnosis in some complex condition of lungs and pleura, or of aspiration being performed in an almost routine fashion whenever the signs of fluid in the chest were discovered; for results very unsatisfactory, or as unfortunate as possible, and by no means of unfrequent occurrence, have served to check the somewhat unreasonable rush after this, as after many another novelty. In some quarters, indeed, there has grown up a very serious opposition to the popular practice, and strong reasons have been urged why it should be considerably modified. Quite recently the operation of aspiration in pleurisy with serofibrinous effusion has been assailed by a German physician —Dr. Becker, of Munich (*Berliner Klinische Wochenschrift*,

Nos. 41 and 42, 1874), who brings forward a number of serious objections to the removal of the fluid under other circumstances than those of immediate peril to life. These objections are both interesting and important, and, whatever their fate, deserve the serious attention of the profession. We shall state them briefly, and without further comment.

Dr. Becker discusses the advisability of paracentesis in pleurisy with sero-fibrinous effusion, from two points of view. Approaching the subject in the rational direction—from the side of the anatomy of the condition,—he asks what effect the removal of a quantity of effusion can have on the remainder, and on the parts within the chest generally. And, secondly, he very correctly reserves for separate discussion the condition in which neither such a question nor any other is to be asked—where the matter is one of life or death; where the operation of paracentesis is one of necessity. There can be no hesitation under the latter circumstances: from the very amount of the effusion, or from the presence of other cause of circulatory interference, or because of various possible complications, life can be preserved only by the prompt removal of the fluid. With this exception, however, and looking at the question, as we have said, from a rational point of view, Dr. Becker gives a decided answer against aspiration of a sero-fibrinous pleuritic effusion. Even when the pleural cavity is so full that the heart is much displaced—as long as the respiration and circulation are not disturbed,—he would leave the cure to nature. He contends that when the fluid has reached a certain amount effusion ceases, and the current setting in in the opposite direction towards the vessels, the cavity is gradually emptied, and the familiar changes of contraction and adhesion occur in due order. He points out that nature spontaneously limits the amount of effusion by compressing the root of the collapsed lung, and thus so far arresting the circulation in the vessels of supply. Such is the normal course; and if the physician should interfere and remove the fluid before the pressure in the pleural cavity has reached a certain height, he will simply restore the circulation in the pulmonary vessels, re-establish the conditions of effusion, bring the rough surfaces of the pleura into frictional contact, and have robbed the system of so much precious fluid.

The circumstances are even more serious, according to Dr. Becker, when the collapsed lung is adherent. Should aspiration then be performed, the fluid speedily refuses to flow, the tube collapses, and air forces its way around the needle into the chest. The last-named accident is a matter of unhappy experience, and demonstrable by experiment. Nor is this the worst: the lung expanding unequally, may undergo alveolar dilatation; it becomes hyperæmic; hæmoptysis may occur at once, and bronchitis and pneumonia supervene. Dr. Becker relates a case under his own observation where this unfortunate sequence was observed. Less serious reasons for letting nature alone in sero-fibrinous pleurisy without urgent symptoms are, according to our author—the fact that the risk of sudden death from fatty heart, which is present in such cases, is not removed by operation; that marasmus is not relieved by it, for fresh pleurisy often comes on; and that the chances of empyæma increase with every tapping.

It is not our intention in this place to discuss the several points raised by Dr. Becker, or to criticise the conclusions at which he has arrived. We have stated his objections to the free and frequent use of the aspirator in pleurisy, in order to present to the profession in this country certain views which, if they are not correct, are at least worthy of serious consideration. It was not to be expected that these opinions would go unchallenged in Germany, and accordingly we find that within a few weeks a reply to Becker was made by Ewald, of Berlin (*Berliner Klinische Wochenschrift*, November 23, 1874). Ewald takes up the position which would most naturally be occupied under the circumstances, and defends the operation of thoracocentesis, both by the remarkable results which have rewarded the practice of it, and by more than one theoretical argument. Meanwhile, facts are being rapidly accumulated by careful observers throughout Europe; and it would probably be premature to pronounce decidedly at present on the value of aspiration in pleurisy, or to attempt to define the circumstances under which it is to be used.

THE WEEK.

TOPICS OF THE DAY.

The suggestions of the Society of Medical Officers of Health in reference to making the regulations for the slaughtering of cattle more effective were discussed at the last meeting of the Metropolitan Board of Works, and a report to the Local Government Board on the subject was adopted. It was also decided that catgut factories are to be included in the list of noxious businesses, and to which the Board's regulations are to be applicable.

The extraordinary increase of lunacy in the metropolis was brought before the Hackney Board of Guardians last week by Mr. Bennett. He said they have 307 lunatics in different asylums, as against 277 in the corresponding period of last year. In view of this alarming increase, the Local Government Board had suggested—and the suggestion would shortly take the shape of an official circular to the metropolitan unions—that the respective boards of guardians should keep in their own establishments all their imbeciles above sixty-five years of age. Mr. Bennett desired that the Hackney Union should take the initiative in the matter, and decide to retain the aged imbeciles in the workhouse, and accordingly gave notice of a motion to that effect. The suggestion was favourably received by the guardians.

Major Frank Bolton's interim report on the water supplied by the Chelsea Water Company fully bears out the truth of the recent complaints as to the quality of the water delivered during the late floods. He agrees with Dr. Frankland, that it "was quite unfit for dietetic purposes." Chalk and clay were brought down by the floods; hence arose the turbidity of the water. The floods are over, and "the Company will therefore," says the Major, "most probably supply clear and good water till the next flood, when the same condition of things will obtain"; and then the use of household filters is recommended. In about eighteen months from May last the new filter-beds then opened will have become efficient. In the interim the Company are going to Parliament for power to remove their intake higher up the river, and to construct "impounding reservoirs" on thirty acres of land already bought at Molesey. There has been obvious neglect on the part of the Board of Trade, or such defective means for the supply of pure water by the Company could not have existed.

The important duties of medical officers of health are becoming more clearly understood and appreciated. In consequence, the medical examining boards are, very properly, instituting examinations on public health. The Society of Apothecaries is, we believe, the first of the English medical boards to take the initiative in this respect. They propose to institute such an examination: the object is, to raise the qualification for the office of medical officer of health, in order to insure fitness for such responsible appointments.

The epidemic of diphtheria at the soldiers' huts on Woolwich Common is assuming a milder type. Three more children and one woman were attacked last week, but all were of the milder form. There have been no more deaths.

More than ample details have been published in the daily newspapers of the injuries inflicted on the unfortunate sufferers by the fatal Shipton Bridge accident. We shall content

ourselves with noting that three deaths have taken place in the Infirmary since the accident, and that three other cases are still expected to terminate fatally. This is hardly to be wondered at when among those still in the Hospital are to be found cases of fractures of the skull, pelvis, and femur, and other injuries equally severe. Fortunately, no erysipelas or other result of blood-poisoning had appeared either in the Infirmary or the city up to the moment of our going to press.

The Medical Department of the Admiralty has given notice of a competitive examination of candidates for admission into the Medical Service of the Royal Navy at the University of London, Burlington-gardens, on Monday, February 15, and following days.

ROYAL COLLEGE OF SURGEONS.

The time having expired for sending in essays for the Jacksonian Prize, offered by the Council of the College for competition amongst its members, it is curious to observe how little of that laudable ambition which should stimulate the younger members is observed by them in reference to these prizes, as, on searching the Calendar of the College, it will be seen that—with the exception of last year, when it was carried off by Mr. H. T. Butlin, of St. Bartholomew's Hospital—there had been no award since 1867, when the prizes were awarded to Messrs. Christopher Heath (of University College) and W. Johnson Smith (of the Seamen's Hospital) respectively. For the Collegial-Triennial Prize it is still more remarkable, as no award has been made since 1858, when Mr. George Harley carried it off. On the present occasion, for such an important subject as "Tracheotomy; with particular reference to the Causes of Death after the Operation, and the Rules for rendering the Operation more generally Successful," only one essay has been sent in; it is true another has been delivered, but too late for competition, as it was not delivered until midnight of Christmas-day, instead of before that day, as indicated in the regulations. The subject for the Collegial-Triennial Prize is—"The Radicals of the Lymphatic System in relation to the External and Internal Surfaces of the Body," essays for which must be delivered before Christmas-day, 1876. The prize consists of the John Hunter Medal, executed in gold, to the value of fifty guineas, or, at the option of the successful author of the dissertation, of the said medal executed in bronze, with an honorarium of fifty pounds. The subject for the next Jacksonian Prize is "The Use of the Galvano-Caustic in the Removal of Morbid Growths." Essays to be delivered before next Christmas-day.

MEMORIAL ON HOSPITALS AND FREE DISPENSARIES.

The following memorial, addressed to the President and Committee of Council of the British Medical Association, is in course of signature:—

"We, the undersigned, members of the British Medical Association and others, beg most respectfully to request the Committee of Council to take into its consideration the relation of the medical profession to the hospitals and free dispensaries throughout the kingdom. Your memorialists are convinced that the manner in which these institutions (with some few exceptions) are at present conducted inflicts a serious injury upon many most deserving members of our profession, while the indiscriminate (or almost indiscriminate) bestowal of gratuitous medical relief upon all applicants lowers the whole scale of our professional remuneration, is far from being a real boon to the working classes themselves, and cannot fail, in the long run, to have a prejudicial influence upon the nation at large. The question to which we venture to draw the attention of the Committee of Council has been much discussed of late years both in the medical press and in the lay periodicals. It is not necessary, therefore, that we should enter into any details respecting it. We may, however, mention that there are three facts which have a very important bearing upon it, and which make the present time particularly opportune for entertaining it. These are—(1) the improvement which is now rapidly taking place in the social and political condition of the industrial classes; (2) the amendments which have lately been made in the administration of parochial medical relief; and (3) the increase within the last few years in the length and expense of medical education. These facts are admitted by all, and their concurrence has led, we believe, to a very general opinion, among those who are conversant with the working of the free dispensaries and hospitals, that some changes are necessary in order to bring these institutions into harmony with the altered conditions of the present day. As it is desirable that any changes which may be necessary should be duly weighed by a body which fairly represents the medical profession, and should be recommended by high authority, so as to carry along with them the assent of the lay governors of the 'medical charities,' your memorialists pray you to take this important subject into your consideration."

This memorial has been already signed by Sir William Jenner, Sir William W. Gull, Sir William Fergusson, Sir Rutherford Alcock, Mr. Prescott Hewett, Mr. Erichsen, Dr. George Johnson, Dr. Hawksley, Dr. John W. Ogle, Dr. A. P. Stewart, Mr. John Wood, Dr. Arlidge (Stoke-upon-Trent), Dr. John Harley, Dr. Meadows, Dr. Joseph Rogers, Dr. Cayley, Dr. Wiltshire, Dr. Robert J. Lee, Mr. Richard Davy, Mr. Fairlie Clarke, Mr. Nelson Hardy, Dr. Ford Anderson, Dr. Cooper Rose, Mr. J. B. Curgenven, Mr. R. H. S. Carpenter, Dr. Morton (Kilburn), and about fifty other practitioners. Medical men who approve of the memorial, and wish their names to be added to it, are requested to communicate with Dr. Alfred Meadows, 27, George-street, Hanover-square, or with Mr. Fairlie Clarke, 12, Mansfield-street, Cavendish-square, W.

HEALTH OF MARYLEBONE.

Dr. Whitmore, in his last monthly report for Marylebone, states:—"In the four weeks that terminated on November 28 the number of births registered in the parish was 367—males 183, females 184; in the same period 361 deaths were registered—males 170, females 191. The consecutive weekly numbers were 76, 83, 99, 103, which in the aggregate were equivalent to an annual death-rate of 29·46 per 1000 of the population of St. Marylebone. As compared with the death-rates of 1872 and 1873, the present return is excessive; it exceeded the death-rate of the former year by 7·29 per 1000, and of the latter by 4·01 per 1000. So great a mortality as this in November is very unusual, but it has unquestionably been produced by the low and variable temperature, accompanied by frequent fogs and heavy rains which prevailed during the greater part of the month. On several occasions the range of temperature in twenty-four hours was extraordinary; not unfrequently between the maximum day temperature in the sun and the preceding or succeeding night temperature there was a difference of upwards of 50°. The mean temperature of the month as registered at 9 a.m. was 41·3°. On one occasion the maximum temperature in the sun reached to 90°; on another it fell at night to 19·5°. As might reasonably be expected from such weather as this, diseases of the breathing organs and others also prejudicially affected by low and variable temperatures were unusually fatal. Bronchitis destroyed the lives of 74 persons, 31 of whom were young children and 26 over the age of sixty years. Phthisis was fatal in 37 cases, inflammation of the lungs in 24, and heart diseases in 15. Amongst diseases of the zymotic class, scarlet fever still continues the most prevalent and fatal. I am of opinion that it has not materially extended in the parish during the past month, and I perceive that during the last week or ten days there is a decided decrease both in the number of deaths as well as in fresh cases of sickness from this disease. Schoolmasters and others entrusted with the management of our parochial and other public schools are, I am happy to say, exercising great care and vigilance in preventing infected children returning to school, or in receiving others that come from infected

houses. If they will persevere in doing this there can be no question that it will be attended with the best results."

WHOOPING-COUGH AS A CAUSE OF SPINAL CARIES.

Dr. Benjamin Lee, of Philadelphia, calls attention to "the fact that whooping-cough is occasionally a direct cause of inflammatory and subsequent ulcerative action in the spinal column." He gives the details of five cases, all of which present the history of a previously healthy child (or one at least presenting no indications of strumous diathesis, and whose parents were in good health) being attacked with symptoms of spinal inflammation shortly after an attack (unusually severe) of whooping-cough. The resulting deformity, it is interesting to observe, had in every case a strong tendency to assume a lateral direction, while evidently dependent on ulceration and loss of substance. Dr. Lee believes that in these cases there was more than a coincidence: that inflammation was produced by the violent succussion of the intervertebral discs from muscular contraction in the terrible spasmodic cough of pertussis. Perhaps this factor may have been aided by a dyscrasia resulting from the combined action of the poison of the disease upon the blood, and the deterioration of that fluid consequent on the impairment of nutrition by the constant rejection of food during the pertussis. The author adds that two practical lessons attach themselves to this view:—First, the importance of carefully watching the convalescence of every case of whooping-cough, and taking warning on the approach of any symptom indicating an implication of the spine; secondly, that something might perhaps be done during the progress of severe whooping-cough to protect the spine from shock by some simple form of support.

TINNITUS AURIUM.

A concise and very useful account of the causes, diagnosis, and treatment of noises in the ears is given by Dr. Laurence Turnbull, of Philadelphia, in the *Philadelphia Medical Times* for June, 1874. After discussing the mutual relations of tinnitus aurium and insanity, which he considers to be by no means so intimate as some believe, Dr. Turnbull enumerates as the most common causes of the symptom—pressure of cerumen on the membrana tympani; elongation of hairs in the auditory canal, and their interlacement with cerumen, etc., producing a sound like an Æolian harp; mucus in the region of the middle ear; foreign body in the Eustachian tube; hæmic or organic changes affecting the neighbouring vessels; "nervous tinnitus"—obscure, and diagnosed by exclusion; immoderate contraction of the tensor tympani musele, connected occasionally with affection of the tensor veli palati, which is due in its turn to disease of the pharynx or tensils; the development of the fungus *Aspergillus* in the external passages, and consequent inflammation; and lastly, organic disease of the internal ear. The rational treatment of tinnitus will, in general, be sufficiently obvious when the cause of the symptoms has been discovered. In the case of contraction of the tensor tympani, tenotomy of the affected structure, according to the method of Weber-Liel, of Berlin, is recommended. Tinnitus due to aspergillus may be cured by removal of the fungus by forceps and an injection of sulphite of soda.

BODILY DEPORTMENT.

Doctor Ulrich, of Bremen, raises a voice of warning and counsel to the mothers of that town on the subject of curvature of the spine, stooping, high shoulders, etc., and the means to be adopted for their prevention and remedy (*Warnungsrufe* —von Prof. Ulrich—Bremen, 1874). He protests against the knapsack which is strapped on the back of schoolboys, and the corset which is worn by girls; instead of these he advises that school children should be provided with an ordinary bag which they may carry over the left shoulder, and that the use of the corset should be absolutely prohibited until the girl is twenty years old. The author further urges every mother to adopt the rule of examining once a month regularly the spine of her children, from the age of twelve months until bodily development is complete. Children should not be carried constantly in the same posture; they should sleep on a mattress and not on a feather-bed; and certain games should be interdicted which appear to affect perniciously the proper development of the figure. Lastly, Dr. Ulrich gives numerous directions as to the clothing of children. The clothes must not be narrow across the chest and shoulders, nor too wide over the back; the arm-holes should be exactly at the sides, and not, as they too often are, far forward; the top button of a boy's jacket is frequently much too tight, and drags down the head and neck, while it raises the back and flattens the chest. It is of the last importance, when measuring a child for clothes, to see that the head is high and the chest full.

SINGULAR DEATH IN STAFFORDSHIRE.

A horrible circumstance is reported to have taken place recently at Hanley, in Staffordshire, the details of which are not without interest from a medical point of view. A man named Lloyd went home to his lodgings last Saturday night in a state of drunkenness, and laid himself down before the fire in his room, where he was found the next morning with the front part of his body literally roasted. He only lived a few hours after being found in this frightful condition. The point which strikes one as most singular in this case is that of a man sufficiently sober to walk to his own home and place himself before the fire, who is nevertheless so overcome by liquor as to be unable to move when the heat of the fire began to burn him. It is not suggested that the man had had a fit; but, without supposing such to have been the case, it is exceedingly difficult to account for any other reasons which should have deprived him of the power of removing himself from the neighbourhood of the fire as soon as it began to be uncomfortably hot.

MEDICO-PSYCHOLOGICAL ASSOCIATION: THE W. AND S. TUKE PRIZE ESSAY.

Some of the descendants of William and Samuel Tuke (the former of whom proposed the establishment of the York Retreat in 1792, and the latter wrote the "Description" of the humane system of treatment commenced there) having placed at the disposal of the Medico-Psychological Association the sum of one hundred guineas, the Association offers a prize of this amount for "The best series of original Cases and Commentary, illustrative of the Somatic Ætiology of various forms of Insanity, accompanied, when possible, in fatal cases, by reports of post-mortem examinations and microscopical preparations—their bearing on the symptoms being pointed out." Cases not seen by the writer may be cited, but must be distinguished from those actually witnessed by himself. The W. and S. Tuke Prize is open to all without restriction as to country, profession, etc., but the right is reserved to withhold it should there be no essay of sufficient merit. Essays, to be written in English, and not in the author's handwriting, to be sent, with a sealed envelope bearing the motto of the essay and containing the name of the writer, to Dr. W. Rhys Williams, Bethlem Royal Hospital, London, not later than June 30, 1876. The microscopical preparations, but not the essay, to belong to the Association.

HEALTH OF SCOTLAND.

In the eight principal towns of Scotland, in the week ending the 26th ult., 888 deaths were registered, showing an increase of 340 on the corresponding week in 1873, when the number was 548. Of this increase, 217 occurred in Glasgow alone, and 44 in Edinburgh.

PROFESSIONAL FEES.

Our readers will be interested to learn that the Council of the Shropshire Ethical Branch of the British Medical Association have lately taken a very important step, with the object of obtaining an authoritative declaration on the subject of professional fees. They have forwarded copies of "The Medico-Chirurgical Tariffs" issued by the Branch to the Presidents of the Royal Colleges in the three divisions of the kingdom, with the request that they will, in the interests of the profession at large, submit the tariffs to the consideration of the councils of their respective Colleges; and we believe that the request has been favourably received. We understand that the Presidents of the Royal Colleges of Physicians of London and Dublin have promised to bring the tariffs before their respective Colleges, and that the subject will come before the Council of the Royal College of Surgeons of England at their next meeting. We have heard also that the Scotch Colleges have consented to take the matter into consideration.

MORTALITY OF LONDON.

The deaths registered in London last week numbered 1646, showing 113 below the average. The annual death-rate which in the previous week had been equal to 30 per 1000, declined last week to 25. The rate was 22 per 1000 in the West, 25 in the North, 23 in the Central, 25 in the East, and 27 in the South groups of districts. From the seven principal diseases of the zymotic class 165 deaths occurred, against 205 in the preceding week. These 165 deaths were 131 below the corrected average number from the same diseases in the corresponding week of the last ten years. The fatal cases of scarlet fever and diphtheria were excessive, but those of the other diseases were below the average. The deaths from diseases of the respiratory organs and phthisis, which were 814 in the previous week, declined last week to 685, which exceeded the average by 57.

A MEDICO-LEGAL ARGUMENT AGAINST CREMATION.

It is stated in the Allahabad *Pioneer* of November 23 last that the results of the inquiry into the attempt at poisoning Colonel Phayre, the Political Resident at Baroda, have been communicated to the Government of Bombay. It is said that the man who gave the poison to the Resident's servant or servants died suddenly in the city on Tuesday last, and that his body was burned almost immediately afterwards. It is suspected that the man has been poisoned. However great may be the sanitary advantages of cremation over burial, there can be no doubt that the former system of disposal of the dead opens a ready way for getting rid of the traces of poison; and until the obvious objection to cremation for this reason be removed by stringent precautionary measures, it is hardly likely or desirable that it should be generally adopted.

LIME-JUICE AND SCURVY.

We are glad to find that the Board of Trade are determined to prosecute captains of vessels for neglecting to supply their crews with lime-juice in quantities required by the law. Mr. Cumberland, from the Board of Trade, conducted a prosecution at the Thames Police-court, on Tuesday, against William Henry Townshend, the captain of the ship *Stirlingshire*, lying in the London Docks, for neglecting to supply a sufficient quantity of lime-juice and sugar to the crew. In consequence, four of the crew suffered severely from scurvy. The defendant was amerced in a penalty of £5 on the first summons and £2 10s. on each of the three other summonses.

WOMEN-DOCTORS IN RUSSIA.

Fourteen women have this month completed their medical studies at St. Petersburg, and are fully qualified to practise. The Society for Aiding Sick and Wounded Soldiers has energetically supported the women-doctor movement in Russia.

THE LATE DR. CHARLTON.

A public meeting has been held at the Wood Memorial Hall, Newcastle-on-Tyne, Mr. A. Potter, the Mayor, in the chair, at which it was resolved "That with a view to perpetuating the memory and the remembrance of the late Edward Charlton, M.D., D.C.L., it is desirable to found a scholarship in medicine at the University of Durham College of Medicine, Newcastle-on-Tyne, of which body he was President and joint-lecturer on medicine; and also to place a bust in marble, or a portrait in oil, in the library of the Newcastle-on-Tyne Infirmary, of which institution he was Senior Physician and Chairman of the Medical Board." A committee, a treasurer, and two hon. secretaries were then appointed, and a subscription-list opened.

THE ANONYMOUS £1000 CHEQUES.

The *John Bull* says that a rural dean in the diocese of Rochester vouches for the substantial accuracy of the following statement:—An old Mr. Attwood died recently near Cheshunt. He was about eighty years old and a bachelor; rich, but living very quietly. He is discovered to have been the giver of all the anonymous £1000 cheques. His books show that he gave away £350,000 in this way; £45,000 within the last year. He has left more than a million sterling and no will. Mr. Attwood is said to have been connected with the Birmingham Attwoods, and to have made his money principally by glass. A thousand-pound note was found lying about the room, as if it had been waste paper.

DISEASE AT DARWEN.

The reported outbreak of small-pox at Darwen turns out to be, we are glad to find, three cases of chicken-pox. The patients are now nearly convalescent. They were at once isolated, to prevent the spread of the disease; and Dr. Hurdle, the medical officer of health, thinks there will be no fresh cases.

FROM ABROAD.

LUXATION OF THE PENIS.

Under this title, Dr. Moldenhauer, of Solingen, publishes an account of a case (*Berlin Klin. Woch.*, November 9), which he regards almost as unique, having been able to find only one at all resembling it, reported as occurring in Nélaton's practice, and quoted by Hyrtl in his "Topographical Anatomy." In that case the penis of a boy was dislocated under the skin of the scrotum, and Nélaton reduced it by means of a forceps. The present case was a more complicated one, and occurred in the person of a robust husbandman, fifty-seven years of age, who, while driving a cart, when in a state of drunkenness, on October 25, 1867, fell out of it, and, as he got up, came in contact with the wheel, receiving considerable injury in the pubic region. Examined soon after, the scrotum was found to be greatly distended with blood, but the organs of the abdomen had not undergone injury. The glans penis could not be recognised; a soft bloody mass occupying its place. There was but little pain. All attempts to pass a catheter were in vain, the instrument never getting beyond the symphysis. On the 26th the patient was found to have slept well, and to be in little pain. No urine had been passed, but a good deal had been effused under the scrotum, greatly distending it. Renewed attempts at catheterism were as fruitless as before, and a button-hole operation was resolved on, in order to discover the uninjured portion of the urethra. For this purpose, a large and deep incision was practised in the perineum, which gave rise to much parenchymatous bleeding, and proved unavailing, as the urethra could not be found. Urine continued to be discharged into the wound, producing a burning sensation, which was the only suffering the patient complained of.

We need not pursue the details of the history of the case given by the narrator, only observing that another attempt made to discover the urethra was as fruitless as the first, and that a considerable quantity of clear, unchanged urine

continued to be discharged at long intervals from the wound, the exploratory wounds suppurating and granulating kindly without any bad local or general symptom. On November 6, however, an abscess formed opposite the spine of the ilium; and on this being opened next day, much pus was discharged. The opening was gradually enlarged, and great was the surprise caused at finding that much more urine was discharged from this inguinal aperture than from the wound at the root of the penis. On the 10th a third unavailing search was made for the urethra by enlargement of the scrotal wound, and then the idea first occurred of searching for the urethra in the upper inguinal region. A thick gum-elastic catheter was introduced into the opening beneath the spine, and after some trouble its end was brought out at the wound below the root of the penis. It was left *in situ*, and on the 12th the skin and cellular tissue covering the catheter were cut down upon so as to expose it in its whole course. On removing it, there was found at the bottom of the rather deep wound, not the remainder of the injured urethra, which had been expected, but the completely uninjured penis, with its glans and inner preputial fold neatly embedded in the fat and cellular tissue covering the abdominal muscles. Thus the entire penis to its corona glandis became separated from its integument, and had been carried high up into the inguinal region. A catheter introduced into the urethra proved this to be quite uninjured, but would not penetrate beyond the symphysis. The glans and prepuce were free, but the remainder of the organ had acquired such close adhesions to the abdominal muscles that, at the request of the patient, attempts at separating them were abstained from. As much of the abundant fat was removed, however, as was necessary to maintain the freedom of the urethra, and the somewhat large wound was left to heal by granulation. The urine flowed very freely, so that there was no reason for a plastic operation, the patient being quite willing to renounce any other of the functions of the penis.

It is, therefore, evident that what was at first taken for the crushed penis was really only its outer integument, whence the penis had escaped in a manner at once surprising and difficult of explanation. The man was seen again at the end of a year. The penis was nearly up to the glans united with the abdominal wall, and covered by skin, but was movable with tolerable ease. The glans was uncovered, very movable, and capable of being turned in any direction while the urine was passed. From time to time distinct but painless erections occurred, but these did not induce the patient to wish for the performance of any plastic operation in order to set the organ more at liberty—he being, indeed, wisely well content with his present condition.

Popliteal Aneurism in a Woman.

In the December number of the *Canada Medical and Surgical Journal* Dr. Reddy relates an interesting "Case of Popliteal Aneurism in a Woman cured by Digital Compression in twelve hours, after failure with Carte's Compressor." A strong, well-built woman, aged fifty-nine, was admitted into the Montreal General Hospital, April 6, with a large sacculated aneurism filling up most of the popliteal space. She had always enjoyed good health, working hard as a general servant, until about five weeks ago, when she was seized with pains in the right leg and foot, which, accompanied by swelling, continued to increase, and after abating for awhile again recurred. About three weeks since she felt a sensation of snapping, and was nearly falling. The pain becoming very intense, destroying her rest, and being accompanied by inability to walk, she was brought to the hospital. On the 8th, two of Carte's compressors were applied—one at the apex of Scarpa's triangle, and the other two inches below Poupart's ligament, the leg being carefully bandaged with flannel from the toes to the knee. During the first few hours the compression produced intense pain, for which chloral was administered with partial success. The pressure was kept up steadily and alternately by means of the two tourniquets, which were kept on till May 28—a period of seven weeks. The patient had often suffered much pain, requiring chloral or morphia, but she slept well, and her appetite continued good. Owing to the restlessness of the patient the compressors were now removed, although, from the diminution of the pulsations and the increased solidity of the tumour, compression for a few more days would probably have secured consolidation. By June 10 the patient had made little or no improvement, the pulsation being sometimes strong and at others almost imperceptible. Very little pain was complained of, and she was able to eat and sleep well. The leg continued to be greatly swollen. The compressors were now reapplied, but were left chiefly under the patient's own control.

By August 5 matters had become much worse, the aneurismal tumour having within forty-eight hours become suddenly enlarged, and softened to the touch, the pulsation being nearly as strong as on admission. The measurement across the patella was twenty-two inches, and on the opposite side fourteen inches and a half. Before tying the femoral, it was determined to try digital compression. In two hours slight consolidation was manifest, and in twelve hours neither pulsation nor bruit could be perceived. Gentle compression was, however, continued to the end of the twenty-four hours, in order to insure the success obtained. During the night she had a few doses and a hypodermic injection of morphia to allay pain and restlessness while under the compression, which did not produce any abrasion. A gradual diminution of the tumour ensued, and at the date of the last report (November 13) all pain and tenderness had abated, although the patient as yet was not able to walk or press her heel firmly to the ground.

The Induction of Local Anæsthesia by Esmarch's Bloodless Method.

At a recent meeting of the Société de Chirurgie (*Gaz. des Hôp.*, December 12), M. Lannelongue read a report on a paper submitted by M. Chauvel. M. Le Fort having related to the Society a case of excision of the elbow which he had performed by Esmarch's bloodless method without the patient having felt any pain, M. Chauvel communicated the results of some researches upon the subject which he has been making at the Val-de-Grâce, where he is an *agrégé*. M. Lannelongue observes that it would indeed be a welcome fact if we were able to add to the already great advantages derivable from Esmarch's bloodless method the suppression of sensibility in the parts concerned. M. Chauvel first details fifteen experiments made upon himself and others, and then relates three cases which he regards as corroborative of the results obtained from these. In all but one of the fifteen experiments diminution of sensibility was observed after a period varying from five to fifteen or twenty minutes, the insensibility occurring much sooner in the upper than in the lower limbs—the amount of constriction exerted by the bandage, and especially by the caoutchouc tube, greatly influencing the period of development and the degree of the local anæsthesia. M. Chauvel admits that the anæsthesia is almost always incomplete, and the reporter expresses himself dissatisfied with his mode of testing sensibility, and with the distinction between tactile insensibility and insensibility to pain. Moreover, the experiments have been confined to the skin, and no deductions can be drawn from them as to the insensibility of the deeper-seated parts.

The clinical portion of the memoir is really that whence deductions can alone be surely drawn; and here M. Chauvel has not much to offer, being only able to produce three cases in which the plan has been tried in the present point of view. Two of these were examples of ingrowing nail, requiring operations which were attended with very little suffering. These M. Lannelongue considers as quite insufficient to establish the fact of insensibility being induced by compression, having regard to their short duration, to the fact that absolute insensibility was not attained, and bearing in mind the very different amount of suffering that is caused by this operation in different patients. The third case is still less conclusive, consisting as it did in the supposed abolition of sensibility to the actual cautery in a soldier who was strongly suspected of malingering. Many facts in operative surgery may also be cited in proof that no such immunity from suffering attends the employment of compression. We do not find by depriving a part of its arterial blood, and placing it in a state of total ischæmia, that we destroy its sensibility. Thus the ligature of the principal limb, and even of the aorta itself, is not attended with this effect; and Longet states that in the five instances in which he tied the aorta in dogs, the sensibility of the lower limbs was never abolished, and the irritation of the sciatic nerve or its branches proved as painful as in the normal condition.

"It is true that Esmarch's procedure not only induces ischæmia, but renders the part anæmic in the extreme. Still, it does not absolutely deprive it of all the venous blood it contains, as is shown by the red colour of most of the tissues. Moreover, elastic compression is quite unable to expel the blood comprised within the different portions of the skeleton which compose a limb. Probably, too, exemption applies also

to the nerves, the circulation in which takes place by means of long anatomical arcades, the origins of which in the important nerves are very near the origins of these nerves themselves—that is, at points where compression cannot be exerted. These circumstances might be advanced to explain the persistence of the nervous functions were it demonstrated that the suspension of all circulation in a nerve, during a time too short for the nutrition of the nerve to be disturbed, suppresses its physiological properties. But it need not be said for this that sensibility undergoes no modification during compression of the limbs, and I may cite the fertile experiments performed lately by Laborde. Immediately after the application of Esmarch's apparatus to one of the hinder limbs of a healthy dog (he says), pricking, pinching, and burning do not give rise to any motor or subjective reaction indicative of a painful manifestation. Forcible pinching of the matrix of the nail, which is especially painful in dogs, gives rise to no apparent sensation; and if some nervous filaments of the two branches of the sciatic have been exposed and are pinched, neither do they give rise to any sensational reaction. M. Laborde has further shown that this anæsthetic period does not last upon the average more than three minutes, during which time it is constant. It is succeeded by a new phase when the sensibility regains its normal rate, but which also only lasts two or three minutes, this being followed, in its turn, by a very characteristic hyperæsthetic period, which continues with exacerbations, its greatest intensity occurring at the eighth or ninth minute. From these experiments it would seem to result that we ought to choose the initial period of the anæsthesia in order to avoid the pain in operations; but its short duration and the hyperæsthesia which succeed it offer but few guarantees for most operations."

REVIEWS.

Five Years' Surgical Work in the Manchester Royal Infirmary. By Edward Lund, F.R.C.S., one of the Surgeons to the Hospital, and Member of the Senate of the Owens College, Manchester. (Reprinted from the "Liverpool and Manchester Medical and Surgical Reports," 1874.) Manchester: J. E. Cornish, 33, Piccadilly; London: Simpkin, Marshall, and Co. Pp. 99.

Suggestions for a Ready Method of Recording Surgical Cases in Hospital Practice. By the same author. (Pamphlet reprinted from the "Manchester Medical and Surgical Reports.")

Unquestionable advantage is to be derived from systematically recording ordinary cases of surgical and medical practice, as well as from the detailed reports of extraordinary cases. It is in the large hospitals and infirmaries that we naturally look for the system of note-taking to be carried on most thoroughly, and to reach the highest perfection. It may, too, be expected of surgeons and physicians entrusted with the care of patients in such institutions, and the teaching of students, that they will make the most of the opportunities they possess for keeping memoranda of all cases treated by them. It is stated by Mr. Lund that "it may almost be regarded as the bounden duty of a hospital surgeon, who is indebted for his public position to the sanction and support of his professional brethren, to lay before them, at stated periods, some account of his stewardship, and to show what has been gained from time to time in the larger field of experience which he possesses, and thus to give back to his fellow-workers in scientific research any new facts he may have noted, or any improved methods of surgical treatment."

Be this as it may, there ought, we consider, to be in every hospital or large infirmary sufficient arrangements for securing notes of the nature, progress, and result of every case admitted into it. This, however, is far from being the state of things at present. Even in some of the hospitals at which registrars are employed, and of which statistical tables are published annually of patients who have been under treatment in them, no accurate records are kept either of the state on admission, or the progress, or the treatment, or the previous history of the cases. Records, indeed, of the name, age, social state, and address of the patients are made, and the name of the disease or injury and the result of treatment are given in the baldest way; but such records are quite worthless for any purposes of investigation or inference. This great void is the consequence of the ill-adapted means generally employed for note-taking. Either it is too irksome to report at all, because of the cumbersomeness of the case-books and the impossibility of subsequently grouping the cases without transcribing; or notes are taken, it may be, but on the medicine or diet card, and these are, as a matter of course, soiled, destroyed, or lost.

To overcome these disadvantages Mr. Lund has made some "Suggestions for a Ready Method of Recording Surgical Cases in Hospital Practice," which he published in a pamphlet in 1871. These suggestions he had put, and is still putting, to the test of actual experience.

The plan is based on that advocated many years ago in Guy's Hospital, and which is still in force there, and has since been introduced into the surgical department of other hospitals. It postulates that notes of cases ought to be recorded on detached sheets of paper instead of in bound books, so that when completed they may be quickly arranged and rearranged according to any classification, and afterwards can be bound up into books.

Mr. Lund has introduced several variations in the details of the plan. As the subject is a very important one we make no apology for extracting from this pamphlet one or two passages explaining its details. Mr. Lund writes—

"I have had the case-papers printed on separate sheets of paper, each about eight inches by five in size. The paper is prepared so as to render it what is called indelible, so that it will take blacklead very well, and it cannot be easily rubbed off. On the left-hand margin of each case-paper a vertical line is printed, and beyond this, to the left, three holes are punched or black marks placed for them by the printer. Through the uppermost of these holes one of Mosley's binding studs or paper-holders is passed, and the papers are screwed down as a single file of, say, about thirty folios; and to give firmness to it, as a sort of back or cover, I use a thin sheet of steel plate covered with leather, and made rather larger than the papers, with a hole at its left-hand corner, through which the binding-pin can be passed. On the opposite side of the plate there is a place for a pencil, and lower down an elastic band is fixed, which, when stretched across the mass of papers, will keep them in position, or, when a few are lifted up, will serve as a sort of marker to indicate the particular paper then under observation. Each of these papers has printed upon it such headings as will enable us to take down notes in the ordinary way. The system being one of exclusion, several headings or items are put down, and those not present are struck out." The upper line is for the statement of the "nature of the case, but this I always leave to be filled up after the report itself is completed."

If the paper be not large enough for the notes of any case, "continued papers" are used; and these are kept screwed down beneath the others upon the same covered board or plate, ready for use.

In the Manchester Royal Infirmary the patients of each surgeon are placed not only in his own ward, but are often scattered about in other wards besides, so that it becomes necessary to have the case-papers so arranged as to be easily accessible as the surgeon passes through the wards. For this purpose "we only require," says Mr. Lund, "a few minutes once or twice a week, for unscrewing the papers from the plate, to rearrange them exactly in the order in which the beds follow each other. When a patient leaves the hospital, or is removed by any cause, we have only to unscrew the file, remove his paper, and, lifting up the others for a moment, place it at the bottom of the file, where it will remain until it is removed for preservation."

The mode of preserving and classifying the reports is also fully described by the author in the pamphlet, but we need not dwell on this. Our object is to call attention to a systematic and convenient method of taking notes of cases, before proceeding to notice a little work which is an admirable example of the results which have followed, and may be expected to follow, from the method. We refer to a *résumé* by Mr. Lund of five years' surgical work in the Manchester Royal Infirmary. In this little volume we have evidence enough of the value of his plan, and we see how, by means of it, we can provide not only for a very brief note of every case, but also for a full record of all important features in any case requiring special description. In this *résumé* we find statistical tables interspersed amongst commentaries upon them and upon individual cases contained within them. These commentaries are interesting and instructive, and refer to many of the most discussed surgical problems of the day. As an illustration of the method of case-taking which he advocates, nothing could

be more successful, and it proves to what great value the experience of *even ordinary cases* may be turned when they are noted with care and intelligence.

In the five years from January, 1867 to 1871, 1309 surgical cases were under Mr. Lund's care in the Manchester Royal Infirmary. The whole of these are classified under eight chief heads, while each of these classes is again divided into several sub-classes. We must content ourselves with a few extracts from the commentaries, leaving the classification and tables without further notice. Among the cases of contusion one only draws especial remarks from the author—viz., a case in which he observed "that very unusual and very peculiar condition of *punctiniform ecchymosis* which has been thought to be indicative of the previous existence of tension of the vascular system, associated with threatened strangulation. It occurred in the person of a little boy, aged six years, who was crushed between the wheel of a lorry and a gate, and was brought into the hospital with an extensive contusion over the left side of the face and head, with sub-conjunctival ecchymosis in the left eye, compression of the front and back of the chest with very superficial ecchymosis of a red colour, and decidedly punctiniform, so that when carefully looked at the whole surface was found to be studded with vascular spots of star-shaped form, sprinkled pretty equally over the whole of the trunk. These were doubtless separate spots of extravasated blood, produced by the bursting of small capillary vessels. This condition of things was associated with a good deal of distress in breathing and some confusion of intellect." These spots from day to day ran through the various shades of colour, from blue to green and yellow, as do ordinary ecchymoses. This peculiar condition of the surface seems, Mr. Lund thinks, to indicate "the greatest possible jeopardy to the circulation of the blood, and might in some few cases (as in threatened strangulation during criminal assaults) be of service in determining some medico-legal questions."

Some few cases of gunshot wounds, of considerable interest, are commented upon. One in which a large piece of the breech of a gun-barrel, nearly three inches in length and three-quarters of an inch wide, remained for five months embedded in the substance of the forearm, compressed the anterior interosseous artery, and, having perforated it, gave rise to occasional and severe hæmorrhage between the times of the accident and of the removal of the foreign body by necrosis-forceps.

In the treatment of burns and scalds a material is used in the Manchester Infirmary which is known as the "burn-ointment," or the ceratum resinæ acidum. This is said to have great tranquillising effects, and produces a condition free of all pain. "It would seem," says Mr. Lund, "as if the carbolic acid which it contains, and perhaps also the resinous terebinthinated substances in it, acted as local anæsthetics to the cutaneous nerves; for we constantly find children treated with this ointment pass very shortly into a state of repose, and sleep without the use of any opiates."

Antiseptic dressings have in Mr. Lund a staunch supporter, as is well known to those who have perused his pamphlet "On some of the more Recent Methods of Treating Wounds." In the little work now under notice he remarks—"The chief feature of a local nature, as compared with constitutional effects, to be remarked upon as a consequence of the antiseptic dressings of amputation-wounds, is, that whatever the particular size or shape of the flaps at the time of the operation, these will be preserved to a degree which is rarely to be met with under any other methods of dressing; for, with the absence of pus, there will be an entire freedom from ulceration or sloughing of the edges of the wound, and a corresponding saving of tissue." And further—"It has been at all times a subject of observation to me, and one which I invariably point out to those who watch my *clientèle* in the wards, that within a very few days after the amputation of a limb treated by antiseptic measures the stump loses that exquisite sensitiveness which is attendant upon deeply seated inflammatory changes." Catgut ligatures Mr. Lund has largely employed, but latterly he has used a combination of torsion and ligatures. When torsion fails or is not applicable, catgut ligatures are resorted to. Torsion, however, he considers to be the "most elegant and effective" means we possess for arresting hæmorrhage in surgical operations.

A case of abscess treated by the injection of a drachm of nearly pure carbolic acid, mixed with sufficient water to keep it liquid, is quoted to show the dangers of the very free use of this remedy. The patient nearly died.

Transplantation in the treatment of ulcers has been largely resorted to—in fact, in all ulcers, as soon as the granulations had risen to the level of the skin,—but though healing has advanced in many cases with marvellous rapidity, the permanence of the cure by this method of treatment has not been satisfactory.

With respect to the difference between syphilitic and strumous ulcers we read, "In contrasting the syphilitic ulcers with those of the strumous type, I have observed that while the true strumous ulcer sometimes presents a sharp-cut edge, something like the syphilitic, dependent, perhaps in each case, on a low vital condition, the strumous ulceration generally burrows at its edges some distance beneath the skin, which assumes a cold, congested appearance, while the syphilitic does not."

As an instance of the honesty with which Mr. Lund reports his cases, we may mention the following:—A woman had her elbow excised, and within a day or two after the operation she had lost sensation in both sides of the little finger, but retained it perfectly in the ulnar side of the ring-finger. From this Mr. Lund concludes that he notched the ulnar nerve, but fortunately not so as to cause entire paralysis. At the end of twelve months she could feel very plainly with the little finger, though some difficulty in raising and extending the ring and little fingers still remained. The woman afterwards earned her living by her needle. The candour of such uncoloured descriptions, which are to be found here and there throughout the book, impresses one with the accuracy of the reports and the truthfulness of the reporter.

A very unusual and curious case is recorded of rupture of the extensor tendons of both limbs just above the patellæ. The patient, a man aged fifty, a tailor by trade, could neither stand nor walk without assistance, but was enabled to do so by the adjustment to both knees of a short lever on each side of the joint, connected by a cross piece, which could be pulled up by an elastic indiarubber spring.

We are a little surprised to read that "the secret of success (in the radical treatment of hydrocele) consists in thoroughly distending the sac of the hydrocele by first noting the number of fluid ounces of serum drawn off, taking care, if possible, to inject in place of it at least one ounce more of port wine, so as to thoroughly expand and fill the sac." This surely is an unnecessary waste of port wine; and most assuredly successful cures can easily be wrought without acting upon this secret.

Amongst the diseases of the breast is an account of an interesting case of cancer of the right mamma, which, it is suggested, was secondary to cancer in the axillary glands. It is much more probable, however, that the disease existed in the breast, but was overlooked—a pardonable thing in a very fat woman when the diseased mass is very small. The case is remarkable, however, for the rapidity with which the cancer increased, and also for the reason that the patient was living five years after the first operation without any trace of further return of the disease.

In noticing this volume of Mr. Lund's we might, did time and space allow, make many more comments and excerpts, but we have sufficiently shown the useful and important nature of the author's work. We shall welcome the realisation of the wish contained in his concluding sentence, that what he has now written "will induce other workers in the field of practical and scientific surgery to undertake a similar task, that we may be able to compare the work done here with that in other hospitals over equal periods, and thus illustrate the utility of following out some 'ready method of recording surgical cases in hospital practice.'"

The Medical Directory for 1875. London: J. and A. Churchill, New Burlington-street.

Coincident with the appearance of numerous almanacs and guides at the beginning of the year, "The Medical Directory" claims from us a passing comment. This publication is the recognised professional guide for British practitioners all over the world, and its merits as such are well known. That it supplies all the necessary information is evident from its general popularity with the profession. The list of provincial medical officers of health has this year been greatly augmented, nearly all districts being now provided with health officers under the recent Act of Parliament. For the purpose of facilitating reference, the principal sections of the volume are indicated on the edges, after the plan of the "Post-office Directory," which cannot fail to be of great convenience.

GENERAL CORRESPONDENCE.

ON THE TRANSPLANTATION OF SKIN *EN MASSE*.

LETTER FROM DR. C. BELL TAYLOR.

[To the Editor of the Medical Times and Gazette.]

SIR,—The following case will probably interest those of your readers who may be inclined to make trials of heteroplastic transplantations similar to those recorded in your columns by M. Benjamin Auger. I operated in March, and hoped to have presented the patient at the annual meeting of the Midland Branch of the British Medical Association, but was prevented by accident from doing so:—

J. P., aged seventy, a farm labourer, residing at Ruddington, a few miles from Nottingham, applied to me in March last on account of failing vision, which affected the right eye, the left having been useless for many years owing to complete ptosis of the lid. I found the right eye affected with incipient cataract; and the left, when the lid was raised, much the better of the two. I therefore advised the patient to wait until the cataract was more matured in the right eye, and in the meantime to submit to an operation by which I proposed to raise the lid of the left eye, and so make it to take the place of the right. An effort, I found, had already been made in this direction by an ophthalmic surgeon without benefit. The patient, however, consented to the operation; and partly owing to the previous failure, and partly to an *embarras des richesses* in the way of patients, I was betrayed into removing a flap of skin much larger than was necessary, and found, on attempting to close the wound, that it would be impossible for the patient to close the eye unless a piece of skin were transplanted into the place of that which I had taken away. In order to allow the bleeding to cease, I had gone on with another operation, and thus allowed about twenty minutes to elapse since the skin was excised; and the portion removed, which was an inch and a half in length, and three-quarters of an inch in depth, was lying in the operating-tray, shrivelled up, lifeless, and cold. I nevertheless replaced it, and, by means of sutures and pads, succeeded in securing perfect reunion—so perfect, in fact, that it is impossible to distinguish the skin replaced from the surrounding tissue. It resembled at first a portion of white kid stitched to the surrounding skin, and my medical friends were quite hopeless as to the issue of the experiment—a feeling, I must confess, to a great extent shared by myself.

This case appears to me to have an important bearing upon practice. If it is possible—and I think this case shows clearly that it is possible—to transplant skin entire from one part of the body to another, or from one person to another, we shall be able to accomplish much which has heretofore seemed impossible in surgery. I am, &c.,

CHARLES BELL TAYLOR, M.D., F.R.C.S.E.,
Surgeon to the Nottingham Midland Eye Infirmary.

MR. NAPIER'S NEW CATHETER.

LETTER FROM MR. WILLIAM D. NAPIER.

[To the Editor of the Medical Times and Gazette.]

SIR,—*Apropos* of the letter of Mr. Warrington Haward, which appeared in your issue of the 19th inst., relative to his successful experience of the use of one of the instruments invented by me a short time ago in connexion with the treatment of disorders of the bladder, will you permit me to point out a slight mistake into which the writer has inadvertently fallen by alluding to it as a "calculus extractor." The instrument used by Mr. Haward was my last improved reteutive catheter, and has nothing whatever to do with the one first named. I am, &c., WILLIAM D. NAPIER.

22, George-street, Hanover-square, December 30.

CHLORAL HYDRATE.—The Custom-house returns show that in the financial year 1873-74 there were 14,092 lbs. of chloral hydrate imported into the United Kingdom.

ACADÉMIE DE MÉDECINE.—Professor Gosselin has been chosen President for the ensuing year, and his post of Vice-President has been filled by M. Chatin, Director and Professor of the Ecole de Pharmacie, and well known to the scientific world by his numerous researches, especially those on iodine. M. Roger has been re-elected as Annual Secretary.

REPORTS OF SOCIETIES.

OBSTETRICAL SOCIETY OF LONDON.

WEDNESDAY, DECEMBER 2.

Dr. E. J. TILT, President, in the Chair.

C. R. BROWNE, M.D., and William Rees, L.S.A., were elected Fellows of the Society.

ANTIQUE GROUP REPRESENTING THE CIRCUMSTANTIALS OF LABOUR IN VERY EARLY TIMES.

Mr. S. H. BIBBY exhibited a Cast, taken from the original, found at Golgas, in Cyprus, in a temple erected in honour of Bael (the supreme divinity of generative power) and Ashtoreth (that of productive power). The group consisted of four figures—the mother reclining on the couch, an attendant at her head, and the nurse sitting at the foot of the couch with the newborn infant in her lap. It was probably made 300 years before the Christian era.

OLD BOOKS.

Dr. TILT exhibited some lent by Mr. Donald Napier. An "Old Bible," in which the process of confinement was portrayed; "Childbirth, or the Happy Delivery of Woman;" a translation of Mauriceau's work on "The Diseases of Women with Child"; and "The Expert Midwife."

Dr. AVELING remarked that the seventeenth-century works on midwifery exhibited were exceedingly interesting, but not very rare. He would like to take the opportunity of asking the Fellows and the profession in general whether anyone was aware of the existence in this country of either of the three following works:—1. The first edition of Rhodion's "De Partu Hominis," published in 1532; 2. The first translation of Rhodion's work into English, by Richard Jonas, published in 1540; and 3. "Speculum Matricis" of James Wolveridge, published in 1655.

PORTRAIT OF PAUL CHAMBERLEN.

Dr. TILT exhibited a Plate, presented by Dr. Taylor, of Birmingham, considered to be a faithful likeness.

Dr. WILTSHIRE stated that the Royal Medico-Chirurgical Society possessed the original set of forceps belonging to Chamberlen, and had kindly lent them for the inspection of the Fellows this evening.

Dr. MURRAY suggested that if the books were not very valuable the owners would do well to present them to the Society.

Dr. AVELING stated his belief that the portrait was that of Peter Chamberlen, the inventor of the forceps, and not of Paul, who was the second son of Peter.

CASE OF HYDROCEPHALUS.

Dr. GRIGG exhibited a specimen of a Hydrocephalic Child. It lived to the fourth day, cried, and took nourishment, and moved all its limbs with perfect ease. The tumour forms, as it were, a second head at the upper part of the skull, and consists of a bag formed of the expanded brain, the membranes, and the scalp.

PESSARY.

Dr. GRIGG also exhibited a modification of Albert Smith's (of New York) Pessary, the shaft being made extremely narrow, in order not to dilate the lower half of the vagina and weaken the main support of the uterus thereby. He (Dr. Grigg) had tried it successfully in cases of retroflexion.

UTERINE DILATOR.

Dr. GRIGG also brought forward a modification of Ellinger's Rapid Dilator. The blades are made extremely thin, so as to act like a wedge; their length is limited to an inch and three-quarters. An index in the handles enables the operator to know to what width the blades are expanded. He (Dr. Grigg) had employed it in cases of anteflexion with dysmenorrhœa successfully.

FIBROID UTERUS.

Dr. MURRAY exhibited a specimen showing the three forms of the disease—subperitoneal, interstitial, and submucous. The case was seen too late to allow of dilatation, and possibly of the removal of the pedunculated intra-uterine fibroid body. The practical and interesting point which arose was whether the hæmorrhage would have been less after the growth had been removed, notwithstanding the much enlarged and fibrous state of the whole uterus. Dr. Murray was inclined to believe

that little or no good in this case would have resulted from any surgical interference. The condition had existed for at least five or six years.

Dr. TILT inquired if the loss of blood had been considerable.

Dr. MURRAY replied that it was a continuous slight drain, not in a stream: there were clots which were moulded in the uterus occasionally.

Dr. HEYWOOD SMITH inquired how long the hæmorrhage had existed, and for what symptoms Dr. Murray had been consulted. If hæmorrhage had continued for five years, he thought something might have been done to check it.

Dr. BARNES thought that probably five years ago the growth was intra-uterine, not polypoid; this condition had increased of late. It was well to remove such growths, as thereby the afflux of blood was diminished. The submucous ones caused most hæmorrhage. The other one might have passed into an inactive or passive state.

Membranous Dysmenorrhœa.

Dr. GEORGE HOGGAN read a paper on the Nature, Cause, and Treatment of Membranous Dysmenorrhœa, illustrated by diagrams and microscopic specimens. The specimen was formed of two different structures, continuous with each other—one from the vagina, consisting of the well-known pavement-cells of the part; the other from the uterus, and formed of embryonic tissue in its early stage, and identical with the structure of the decidua. This rare specimen explained the diverse views on the subject, one school holding that it was an exfoliation, and the other that it was an exudation; the fact being that different observers had examined different ends, and therefore structures, of the same membrane. From the symptoms of the case the membrane seemed due to inflammation. To the naked eye and under the microscope the vaginal portion resembled such products of inflammation as the skin of a blister or the membranous cast of the urethra thrown off in urethritis. The conclusion, therefore, was that the uterine portion continuous and contemporaneous with it was also due to inflammation; but, *vice versâ*, the uterine portion which was identical with the decidua was probably due to the same cause—*i.e.*, excessive vital stimulation,—and the vaginal portion continuous with it likewise. It was therefore reasoned that inflammation and excessive vital stimulation were the same thing, the latter expression being now offered as a new and correct definition of inflammation. The rational treatment he had employed with success was to lower generative action by anaphrodisiacs, as the bromide of potassium in large doses, prior to the commencement of the period.

Report of Sub-Committee on Dr. Meadows' Specimen of Dysmenorrhœal Membrane.

After giving a minute description of the microscopic and naked-eye appearances of the specimen, Drs. Aveling and John Williams concluded that it was the superficial layer of the mucous membrane of the upper portion of the uterus; but of the condition, general or local, which led to its detachment as a whole they were unable to find any anatomical indication.

Dr. JOHN WILLIAMS, in reference to Dr. Hoggan's statements, said he was surprised to find the existence of the mucous membrane of the uterus called in question. The labours of some of the most eminent histologists who have lived during the last fifty years, in connexion with this subject, have supplied the evidence referred to. One of the microscopical specimens exhibited by Dr. Hoggan at the last meeting of the Society was a section of the decidua vera. It had a structure similar to that of the mucous membrane of the uterus shortly before a menstrual period. It is not uncommon to meet with small masses of jelly-like substance in the menstrual fluid in persons who suffer from dysmenorrhœa. They can be hardened in alcohol, and sections can be made of them, and these sections present a structure similar to that presented by the specimen exhibited to night—viz., some round and fusiform cells scattered here and there irregularly in patches in a transparent substance. Occasionally a columnar epithelium cell is met with, but more commonly round and fusiform cells. A similar arrangement is frequently met with in mucus passed from the bladder.

Report on Dr. Carter's Specimen of a Seven Months Fœtus, by Drs. Routh and Brodie.

The weight could not be determined, as the lungs had been removed, which also precluded the hydrostatic test. Its length was twelve inches. The left testis was within the abdominal cavity; the right could not be found. The eyelids were adherent, and the membrana pupillaris present. The nails had not reached the extremity of the fingers. The hairs were dark and fully formed. No valvulæ conniventes were found, nor were there any convolutions of the brain. These signs would rather fix the age at about six months. On the other hand, the well-marked fibrous condition of the skin, the existence of meconium in the colon in abundance, and the advanced state of ossification of the skeleton, especially in the head, would rather point to a later period of life.

Adjourned Discussion on Dr. Gervis's Paper on Retroversion of the Gravid Uterus.

A short abstract was read referring to the principal points. As regards the propriety of inducing abortion, Dr. Gervis objected to it until all other measures had failed. As to the time for attempting the reposition, he was in favour of resorting to it as soon as the bladder had been emptied, delay endangering various pathological possibilities. As to the best position, he thought the knee-shoulder one possessed no advantages over that on the side, the main point being to press the fundus upwards and to the side of the sacral promontory. As to the exact manipulation, he preferred fundal pressure alone, either per vaginam or rectum, a finger being hooked in the os if absolutely necessary. The use of anæsthetics he thought unnecessary as a general rule. As to the cause of death, he thought the gangrenous condition of the bladder and its accompanying constitutional distress in most cases an adequate explanation.

An extract from a letter to Dr. Barnes by Max F. Simon, of Lucca, Jamaica, narrating the particulars of a case, was read, in which great distension of the perineum, with extrusion of the posterior vaginal wall and anterior wall of the rectum, was very noticeable.

Dr. BARNES adverted to the importance of collecting into one focus as many cases as possible. The addition of Mr. Max Simon's interesting case would make five cases in one volume of the *Obstetrical Transactions*. Mr. Max Simon's case illustrated a very important point in diagnosis. The bulging of the perineum by the uterine mass, increased under bearing-down efforts, was characteristic, and did not exist in retro-uterine hæmatocele—the condition which, in Dr. Barnes's experience, had been most frequently mistaken for retroversion of the gravid uterus. This symptom was not formally indicated in books, but he found it was mentioned in the histories of several cases. Under the reflex expulsive efforts set up by the pressure of the uterus low in the pelvis, the retroversion (or rather the overturning) of the uterus was increased. The uterus was now like the fœtal head in labour; its body rolled down in the line of Carus's curve, whilst its neck was more or less fixed at the symphysis pubis. Dr. Barnes then referred to the condition of the bladder. Dribbling, he submitted, was an unnatural state; it signified retention, and therefore should be taken as an imperative indication to pass the catheter, whereas practically it often threw the surgeon off his guard and led to neglect of this course. It was in the obstruction to the bladder that the chief source of danger to life existed; and here he would ask if Dr. Gervis or any other Fellow could point to a single case of rupture of the bladder. This was often assigned as a cause of death, but he doubted if it ever happened. Long before this could take place, death would ensue from damage to the urinary organs, the gangrene of the mucous membrane of the bladder, the retrograde damage to the kidneys, urinæmia, shock, and exhaustion. These compensating factors were at work to obviate rupture of the bladder: the dribbling or overflow, the stretching of the bladder, and absorption of part of the urine. Peritonitis, also commonly assigned as a consequence of retroversion, was, in fact, very rare. In four fatal cases at least which he had investigated there was no peritonitis. With regard to treatment, he insisted that where there had been considerable bladder-damage, as proved by the mucous, purulent, and sanguineous urine, and constitutional disturbance, attempts at reposition should not be persevered in. If the uterus remained locked, exerting undue eccentric pressure upon surrounding organs, it would be better to diminish its bulk, and provoke abortion by puncturing the uterus and drawing off the liquor amnii by the aspirator-trocar. In a considerable number of cases reposition was easy, and it should be effected; but he had seen death ensue although reposition had been accomplished without difficulty,—the shock and urinæmia had already done their work. He had seen with Dr. Brunton a case of retroversion or pelvic gestation at term similar to the one brought before the Society at one of its earliest meetings.

In that case the os uteri could not be found until the patient was put under chloroform. He had delivered by pulling down the cervix, and at the same time pushing up the uterus with its contents from the pelvis. Thus rectified, the child was delivered. There was intense albuminuria, caused, as Dr. Brunton thought, by the pressure upon the pelvic and abdominal vessels. The patient recovered.

Dr. Cleveland said the question in his mind was, not whether the means employed for the reposition of the uterus were of the most skilful and gentle kind—for on that point he had no doubt,—but whether they were used at the proper time. He was at a loss to conceive how a patient, from whose bladder such a large quantity of bloody ammoniacal urine was evacuated, could be in a fit condition immediately afterwards for an operation that could not fail to be attended with considerable shock. He believed that in such cases it would be better to direct our remedial measures in the first instance to the bladder, which was the true source of danger, by catheterism, and perhaps suitable injections into its cavity, but above all by such constitutional treatment as would enable the patient by-and-by, if the uterus did not right itself naturally, to undergo with a better chance of success the necessary measures for reduction. He further wished to ask if such extreme cases ought to occur at the present day, and to express a hope that, through this discussion, attention might be drawn to the risk incurred by neglecting retention of urine in the early months of pregnancy.

Dr. George Roper thought the diagnosis of retroversion of the gravid uterus was generally not difficult—retention of urine was commonly one of its first signs. Stretching of the anterior wall of the vagina, and consequent drawing-up of the urethra, and concealment of its orifice high up behind the symphysis pubis, rendering catheterism difficult, were strong indications of its existence. Retention of urine commonly commenced during the third month of pregnancy, because at this period the length of the uterus equalled the antero-posterior diameter of the pelvic cavity; still, in a certain class of cases retention of urine did not occur at such an early period—viz., when the uterus was turned topsy-turvy. Here the long axis of the uterus corresponds to the axis of the pelvic brim, and the uterus continues to grow in its reversed polar position till a later period of pregnancy. The cervix, here pointing upwards, grows in an upward direction into the abdominal cavity without exerting injuriously any longitudinal pressure. A case of this kind, in the sixth month of pregnancy, had been observed, in which the uterus, apparently by its own contraction to expel its contents, underwent self-rectification, casting out the ovum with membranes entire.

Dr. Brunton said that as Dr. Barnes thought it of so great importance to note every sign and symptom present, he would remind Dr. Barnes that in the case alluded to there was an oblique furrow on the abdominal surface, giving one the impression of the existence of twins. The furrow no doubt was caused by the doubling over of the uterus.

Dr. Wynn Williams drew attention to the liability to a recurrence of retroversion in subsequent pregnancies. In one case abortion at the third month had taken place on two occasions. The uterus was replaced, and a Hodge inserted; the patient became pregnant, and went her full time, the Hodge being left in until she had quickened. Again she became pregnant; nothing was done, and she aborted. She again became pregnant, and went her full time, the uterus having been replaced and a Hodge inserted about the third month. In another instance a patient had been allowed to remain three days without the bladder being relieved; she was between four and five months pregnant. The bladder was enormously distended with urine. Two large-sized chamber-utensils of urine were drawn off. In a day or two the whole of the mucous membrane of the bladder was passed in a gangrenous condition, and the patient died of blood-poisoning, not uræmic, but septic. Another patient consulted him when seven months pregnant for the purpose of having premature labour induced, stating that she had on all previous occasions aborted or had a premature labour. The urine was drawn off for several days, and twenty to thirty drops of liquor ergotæ given thrice daily, in the hope that the contraction of the muscular fibres of the uterus might assist in righting its position. Before the end of the week the uterus acquired its natural position, and the patient went her full time. Whether the administration of the ergot or the drawing off of the urine was the cause of the replacement it is not easy to determine.

Dr. Ateling observed that the weight of the gravid uterus was sufficient to render the influence of gravitation worthy of consideration. He would, therefore, take exception to the lateral recumbent position as the best. The knee-elbow position he believed would be found in all cases to favour the removal of the fundus uteri from the pelvic into the abdominal cavity.

Dr. Galabin called attention to a mode of treatment from which he had found benefit in one instance—viz., gradual pressure by an air-ball pessary in the rectum, introduced for a few hours at a time. Previous attempts at reduction, both in the knee, elbow, and lateral positions, had been made under chloroform, and had failed; the use of air-ball pessaries in the vagina had only slightly raised the fundus, and there was reason to believe the uterus was fixed by adhesions. Treatment was interrupted before the uterus had been completely restored, but the difficulty of micturition was entirely relieved. His own experience was limited to six cases of complete retroversion of the gravid uterus, all at or about the fourth month of pregnancy. Of these, three were restored at once by the fingers in the rectum, counter-pressure being applied, not to the os or cervix by the vagina, but by the hand externally above the pubis. In one of them a previous attempt in the lateral position under chloroform had failed, and he was led to believe that the knee-elbow position presented greater advantages. In another case the uterus was replaced at the end of three days by the use of an air-ball pessary in the vagina, after an attempt at immediate reduction had failed. In the sixth, complete restoration was procured by means of a copious enema which had been given as a preliminary to further treatment. In none of the cases did abortion occur.

Dr. T. Braxton Hicks said that, as the time was short, he would give the results of his experience in a very few words. He had never seen anyone die from retroversion of the pregnant uterus excepting one patient, who had advanced so far as the seventh month and a half. In this case there had been old adhesions binding down the uterus, together with chronic and recent peritonitis. There had been no bladder trouble. Dr. Hicks was present at the delivery of the case of Dr. Oldham's, which was at full term, and he believed there had been no retention. With regard to the means he had taken to restore the uterus, he had never had any real difficulty, although he knew such cases did sometimes occur. He always had the urine drawn off two or three days, giving opiates to lessen irritability, and then, placing the patient in the knee-elbow position, he gently pushed up the fundus. If the opposite pole, being above the brim, did not come down, he pressed it down from the exterior just above the symphysis pubis. If these measures, carried out gently and slowly, failed, he placed the patient on the side, and introduced an empty air-bag into the vagina, and then inflated it. A T bandage with perineal pad was applied externally to retain it, and generally about the second—not later than the third—day he had found the uterus restored. He had never found occasion to apply the fingers or bags per rectum.

Dr. Palfrey remarked that on hearing Dr. Gervis's paper he thought they were three very unfortunate cases. In the London Hospital he had had several cases, but death was a very rare sequence—two only, out of twenty-seven cases. The last case he had seen occurred in Essex; six medical men had attempted to pass a catheter, and failed. He had succeeded with the greatest ease in passing one with an olive-shaped end (if necessary a larger-sized one could be passed over this), where the finger had failed to detect the urethra after nearly two hours' trial.

Dr. Godson called attention to the effect produced upon the kidneys in cases of retroversion of the gravid uterus, an increased secretion occurring for days after the first evacuation of the bladder. This rendered it important that the catheter should be passed very frequently, in order to avoid distension of the bladder. In one case he remembered, 200 ounces were first drawn off; next day 102, the following 104, diminishing to an average of forty-eight ounces directly the position of the uterus was restored. The exfoliation of the mucous membrane of the bladder did not necessarily cause death, there being a specimen in the museum of St. Bartholomew's Hospital of the whole of the mucous membrane of the bladder with abundance of muscular fibre at the back, which was passed per urethram by a patient in whom the uterus subsequently righted itself, and delivery took place at full term; the patient being still alive, but unable to retain her urine more than a few minutes, a contracted bladder evidently existing.

Dr. Edis had met with several cases. In one the patient had been allowed to go nearly three days without any relief to the bladder; the fact of pregnancy had been overlooked. Nearly ten pints of urine were drawn off by the catheter, the patient placed in the knee-shoulder position, and the retroverted uterus replaced by pressure through the rectum. In another instance two miscarriages at about the fourth month had previously taken place, and was only averted a third time by restoring the uterus to its proper position and inserting a Hodge; the patient going her full time. He thought the knee-shoulder position by far the best, care being taken to press the fundus to either side, and not against the promontory of the sacrum. He had never had to resort to anæsthesia in these cases.

Dr. John Williams thought that ergot relieved the retroverted condition and was of much service in these cases.

Dr. Hayes doubted the occurrence of sudden retroversion of the gravid uterus. The urgent symptoms—retention of urine, great abdominal pain, tenesmus, etc.—supervened suddenly, but this was the case almost invariably where no thought of a sudden retroversion was entertained; hence the supposition, now given up by most authorities, that distension was the cause of, and not caused by, the retroversion of the uterus. The distended bladder, however, interfered greatly with, and often quite prevented, the uterus regaining its normal position, which, unless bound down by adhesions, it had always a tendency to do. This was clearly seen to be so by numerous cases where, simply by rest and the constant evacuation of the bladder—may be with the aid of an air-pessary in the vagina or rectum,—the uterus righted itself. Why not imitate this plan in such urgent cases as some of those recorded by Dr. Gervis and other Fellows, in which grave injury to the bladder or kidneys, or to both, was so evident? Do not proceed in these cases to hasty and forced reposition, which has resulted so often in fatal shock; but enjoin rest, keep the bladder empty by catheter, and give the uterus time to gain its normal position. This would be greatly helped by placing in the rectum—or, better, in the vagina—an air-pessary, which would start the upward movement of the uterus.

Dr. Gervis, in reply, said he had not observed that bulging of the perineum by the fundus of the retroverted uterus to which Dr. Barnes referred; at all events when retroversion occurred in the early months of pregnancy. In none of the three cases narrated had he noticed this appearance. In one the vulva was œdematous. He was scarcely disposed to think it occurred with sufficient uniformity to be considered diagnostic. The question of the propriety of restoring the uterus to its proper position when the bladder was seriously implicated, as alluded to by Dr. Cleveland and Dr. Hayes, was, of course, one of the greatest importance. He could only say that in the cases narrated there was no great difficulty in effecting the reposition, and that, certain leading principles of treatment being agreed upon, details might be influenced by the circumstances of each case. He still was inclined to think that no great gain, if any, arose from the knee-elbow position. If one pictured to oneself the situation of the retroverted uterus when a woman was in the knee-elbow position, its axis would be still rather upwards and backwards; and it must be the pressure of the fingers, and not gravity, which accomplished its reposition. On the question of the early replacement of the uterus, he still thought that this should be accomplished as soon as its displacement was discovered; it was then comparatively easy, and, even if the bladder could be saved from injury by daily drawing off the water, there was still the pressure upon the rectum to be considered, and the possibility of the occurrence of peritonitis, as in the case narrated by Dr. Hicks. He begged to thank the Society for their kind attention to his paper, which was intended more to elicit opinion than to bolster up any particular theory.

On the Indications afforded by the Sphygmograph in the Puerperal State.

Mr. Fancourt Barnes read a paper on this subject. He pointed out the extremely high tension in primiparæ before labour; its disappearance after delivery; the appearance of a characteristic tracing on the second or third day, with the milk fever, showing fulness, some dicrotism, an absence of tension, a frequency of about 120 beats per minute, and a well-developed percussion-stroke. He showed the gradual return of the pulse from this date to its normal state. He considered the high tension in pregnant women due to—(1st) hypertrophy of the heart; (2nd) increased amount of blood; (3rd) additional strain on the kidneys, caused by the added effete matter thereby to be excreted; (4th) the vascular system not having accommodated itself to the added physiological work; (5th) functional increase of nerve-force during pregnancy. He said that if the high tension made its reappearance after delivery it might be looked on as an omen of coming albuminuria with eclampsia and uræmia. Here he considered the sphygmograph to afford aid in the prophylactic treatment of these diseases.

Dr. Wharton P. Hood and Dr. Hope were nominated auditors.

CLINICAL SOCIETY.

Friday, December 11.

Prescott Hewett, F.R.C.S., President, in the Chair.

Cases of Rare Skin-Disease.

Mr. Morrant Baker exhibited a living specimen. The eruption was chiefly in the form of papules and tubercles of various sizes, from a pea to a kidney bean; but in some parts it appeared, as if by confluence of the papules, in the form of irregular wheals and blotches. The papules were smooth and flattened, scarcely irritable, and not at all tender; of a pale yellowish-pink tinge for the most part, but varying from this to a decided pink or dull red. The eruption was most profuse on the back. There was none on the palms or soles, and none at the anus or its immediate neighbourhood. The mucous membrane of the mouth and the tongue was unaffected. The patient was a boy twelve months old, and the eruption had appeared when he was six weeks old. During the last few months no fresh spots had appeared; and, although none had disappeared, they had grown at no greater rate than the child himself. The patient was, and had been throughout, strong and healthy. There was no history of syphilis. The child had not been vaccinated; and had not suffered from any of the usual infantile diseases. Mr. Morrant Baker said he was in much doubt as to the nature of the disease. On the whole, he was disposed to believe that it should be grouped with the erythemata, as the difficulty in attaching it to this class seemed less than when an attempt was made to place it in any other class of diseases of the skin.

Dr. Tilbury Fox brought forward a living specimen with the same disease as that exhibited by Mr. Morrant Baker. He stated that he had met with three instances of the affection during the last two years and a half. The case exhibited to the Fellows presented the following history:—The child, E. C., was brought in May, 1873, when seven months old, to University College Hospital. The mother stated that the child was born at the full time, and did not evidence any sign of disease till it was six weeks old, when the eruption began. The mother was a healthy-looking woman; had had two children before the one now in question; had never had any miscarriages; and only suffered from bilious attacks. Careful inquiry into her history elicited no evidence whatever of her having been syphilised, or of her being the subject of any syphilitic taint whatever. The eruption in the child made its appearance in the form of two places on the inner side of the left leg just above the knee. The places looked as though the child had been "scorched" or "scalded," and the mother thought she had burnt the child. The next part affected was the neck, and then the body. At present, the whole body was affected—the scalp, soles of the feet, palms of the hands, and the whole of the trunk and limbs. The spots, when first seen by Dr. Tilbury Fox, varied in size from a small split pea to a shilling and more, but the majority were about the size of a good pea, and there were many the size of an almond. They were at first dullish red (copper-coloured), but became pale after a time, being then of a fawn colour. Some of them were pearly-looking, and some buff-coloured. They were very numerous at the back of the neck, over the sides of the body, and the temporal regions. They felt somewhat firm, like a stiff piece of chamois leather. The spots were all elevated above the surface; the larger ones as much almost as a quarter of an inch. On close inspection, they presented in some cases the aspect of a uniform infiltration; but most of them were seen to be made up of a congeries of indistinctly marked smaller projections still, which seem to be seated at the hair-follicles. In the larger swelling, the separateness of the projections seemed lost in the close amalgamation of these individual projections. In fact, in some places the

appearance of the little swellings might be roughly likened to a hypertrophy of the skin, involving specially the follicles of the skin, and of a buff colour. The child presented a curious appearance, and was "as spotted as a leopard"; but, in place of discolorations, there were buff-coloured nodules studding the whole normal skin. In some cases the nodules had shrivelled more or less, leaving a fawn-coloured, slightly elevated and flattened nodule. There were nodules on the mucous surface of the mouth and palate. In every other respect the child appeared to be healthy. It had had no jaundice or special liver-complaint, nor had the secretions or excretions been at all disordered. The second case was seen by Dr. Tilbury Fox in consultation with Dr. Gream, and subsequently Dr. Brodie. The third was sent from Yorkshire by Dr. Hebblethwaite. The main features were the same in these two cases as in the above-described, only that the places were fewer. In one of the instances, the disease was congenital in part; in the other, it began when the child was at the age of six weeks. Several of the spots looked suspiciously like syphilitic eruptions. Dr. Fox referred at length to the differential diagnosis of the case, and affirmed that it bore the closest resemblance to vitiligoidea or xanthelasma, only that it occurred without liver-disorder of any kind, and in young children, and as an acute general eruption at its outset. There was, beyond the hyperæmia, a distinct deposit of buff-coloured stuff, probably about the sebaceous glands.

Mr. Hutchinson said that he had never met with this disease in so young a subject. It certainly was not urticaria, which was not attended with the deposition of new material as in these cases. He was inclined, then, to regard the cases as examples of a very rare and hitherto undescribed form of general xanthelasma; or, if objection were made to the use of that term, he might suggest the somewhat barbarous name of *xanthelasmoidea*.

(*To be continued.*)

OBITUARY.

FRANCIS KIERNAN, F.R.S.

This distinguished anatomist and physiologist died on the 31st ult., at his residence, 30, Manchester-street, Manchester-square, in the seventy-fifth year of his age, having been born on October 2, 1800. At an early age his parents came from Ireland to reside in this metropolis; soon after which he was sent to the Roman Catholic College of Old Hall, Ware, Herts. Here he soon became a most hard-working pupil; and, having obtained a superior preliminary education, he entered on his professional studies at St. Bartholomew's Hospital, which he pursued with great enthusiasm. As he was passionately fond of anatomy, he soon distinguished himself in this branch of his profession; and so great was his reputation that, on opening a class, he soon obtained a large number of students at his private residence in Charterhouse-square. This caused great jealousy at his hospital, and in 1825 the Council of the College of Surgeons passed a resolution refusing to receive certificates from any but recognised teachers. This was a heavy blow to Kiernan's future prospects; the large class rapidly decreased, as many of the students were unable to pay the fees both to hospital and private teacher. He petitioned the Council to rescind the regulation; his application was supported by Messrs. Vincent, Lawrence, and Lloyd, of St. Bartholomew's Hospital, who, moreover, stated the great advantages he had derived in devoting himself to the cultivation of anatomy and surgery in the most celebrated schools of France and Italy, which rendered him, in their opinion, in all respects well qualified to act as a teacher, and they therefore strongly recommended his claims to the favourable attention of the Court of Examiners. His request, however, was not granted.

In one of his memorable speeches (since so rigidly suppressed), Mr. (afterwards Sir William) Lawrence said, in allusion to these absurd regulations, "Another case will show you that the ambiguity of this unintelligible process may be found very oppressive. Mr. Kiernan is a gentleman who has devoted himself for some years with great zeal and success to the study of anatomy and surgery, both in this country and in the most celebrated schools of France and Italy, with the express purpose of becoming a teacher, for which employment he has shown himself admirably qualified." His application, as already stated, was refused; a second and more strongly supported application met with the same peremptory refusal as the first. As an instructive commentary on the policy of this very regulation, it was bitterly observed by Lawrence "that they who have been most distinguished among us for anatomical knowledge, and on whom the character of the country in respect to this science must depend, have all belonged to a school which would have been absolutely proscribed by its provisions—which, in short, could never have existed had this enactment been in force. William Hunter, the greatest character whom England has produced in human anatomy, and inferior to no man in any country for the variety and extent of his contributions to anatomical and physiological science, and for that combination of genius and acquired knowledge which has since caused his name to be venerated wherever these sciences are held in respect, could not, under the present laws of the College, have founded the school which has immortalised his own name, and reflected so much credit on his country. His pupil and associate, Hewson, who has shown in his valuable contributions to anatomical science,(a) and particularly in his discovery of the absorbing vessels in birds, that he had imbibed the spirit of his great teacher, would have been equally disqualified; so would Cruikshanks, author of "History of the Absorbents," as also James Wilson, Charles Bell, etc.

Recurring to the early career of Kiernan, we find that he was admitted a Member of the Royal College of Surgeons in November, 1825, and about this time he commenced a series of minute investigations which led to those wonderful discoveries concerning the anatomy and physiology of the liver with which his name will be for ever associated. The intelligence of these discoveries rapidly spread throughout Europe, and numerous were the visitors from all parts of the Continent to his private museum, to examine his microscopical preparations of this important organ. His readiness to afford every information to all comers resulted in a somewhat unpleasant incident, as a Frenchman having obtained from Kiernan all the information he could, returned to Paris, and had the audacity shortly after to publish Kiernan's discoveries as the result of his own investigations. This led to a long and tedious correspondence, which ended in proving that the Frenchman had no right to the laurels he had so unjustly tried to pluck from Kiernan's brow,—an example which was immediately followed by an Englishman, and at once denounced and justly exposed. The result of his labours he published in the *Philosophical Transactions*, and was at once elected a Fellow of the Royal Society, and, soon after, the additional honour of the Copley Medal was conferred on him by that Society.

In 1837, on the incorporation of the University of London by Royal Charter, Mr. Kiernan's name, owing to the active part he had taken in its formation, was associated with those to whom the Charter was given; he thereupon became a member of the Senate, and was soon after elected one of the Examiners in Anatomy and Physiology—an office which he held for many years.

In 1850 Mr. Kiernan was elected by the Fellows to a seat in the Council of the Royal College of Surgeons(b)—an honour which was repeated at the termination of three quinquennial periods; and in 1862 he was elected a member of the Court of Examiners, in succession to Mr. Edward Stanley. As an examiner he was most just and strictly impartial. In 1864 he was elected one of the Vice-Presidents of the College. The following year he was attacked with paralysis, from the effects of which he partially recovered, but his speech remained impaired the remainder of his life. Owing to this illness, he justly declined again being nominated for re-election as an examiner. Thus was severed Mr. Kiernan's official connexion with the Royal College of Surgeons, in which, however, he always took the greatest interest; and only recently he requested the writer of this short and most imperfect notice of the life of a great and good man to make the necessary arrangements for transferring the whole of his collection to increase the value of the Hunterian Museum.

Mr. Kiernan was an ardent admirer of art, and, with rare discriminating taste—which he no doubt imbibed during his early travels in Greece and Italy,—had formed a collection of sacred engravings from the old masters, amounting to a very large number, obtained by infinite labour and at a great expense. Shortly before his death he presented these to his accomplished nephew Mr. Francis Scarle, and his medical

(a) See the interesting and valuable edition of his works by Professor Gulliver, F.R.S.

(b) The reader is referred to the *Medical Times and Gazette* of that date for the special circumstance.

portraits to his good friend and able medical adviser Mr. Edwin Sass, whose attention to the close had been unremitting.

Mr. Kiernan was never married, and had survived nearly all his old and greatly attached friends, as Lawrence, Skey, Hodgson, Stanley, Wormald, etc. Of this gentleman it may be truly said, "*Mœte ille banis flibilis occidit.*"—R.I.P.

We understand his remains will be interred this day (Saturday) at the Roman Catholic Cemetery at Mortlake.

T. M. S.

JOHN BUNYAN FOSTER, L.R.C.P., M.R.C.S.,

Aged thirty-two, was born at Huntingdon, the son of Mr. Michael Foster, and brother of Professor Michael Foster, of Cambridge. Educated at University College school, he became a pupil of Professor Humphry, of Cambridge. He afterwards entered as a medical student at University College Hospital in 1859, and, qualifying in 1863, he became House-Surgeon at the Royal Free Hospital, Gray's-inn-road. Here he spent two years, having abundant opportunity for the development of his eminently practical talents. On leaving the Royal Free Hospital he became Sir Henry Thompson's assistant, with whom he has thus been associated for the last ten years. With Sir Henry he had every opportunity of using his practical acquirements, and was beloved by all his patients for his kindness and attention.

The accident which led to his death was caused by an explosion of gas in a room into which gas had evidently been escaping for some time. For a few days he seemed to progress favourably under the assiduous care of his friends Sir Henry Thompson, Mr. Erichsen, and Dr. Ringer, but meningitis supervened on the fifth day, and carried him off on Wednesday, December 16. His disposition was most kind and genial, and his manners most engaging, ever making for him true and firm friends amongst all those with whom he was brought in contact.

JOHN HASTINGS, M.D.

This well-known member of our profession died last week of heart disease, in his seventieth year. He commenced his professional life as a general practitioner in the Vauxhall-road, and relinquished that about thirty years since, to practise as a physician in Albemarle-street, Piccadilly. He chose for his speciality consumption and its treatment. He published shortly afterwards a work on the subject, which met with the hostility of the entire medical press. In fact, the work displayed so much ignorance of the subject that it could scarcely have been otherwise. It succeeded, however, to a certain extent with the public, and Dr. Hastings accordingly became a popular physician in cases of which he had treated in his book. For some years he occupied a prominent position in the eyes of the public, during which he published several works vaunting the merits of certain "remedies" in the treatment of that disease. At length, it would appear that his resources in the recommendation of new remedies had been exhausted, and, with singular want of his usual acumen, he proposed the employment of the dung of serpents as a remedy for the disease. It is difficult to understand upon what grounds he arrived at the opinion he thus expressed. Whatever these may have been, his pamphlet received a severe criticism by one of our contemporaries. Dr. Hastings was sufficiently ill-advised to move for a criminal information against that journal. The Lord Chief Justice, in refusing the rule, expressed himself strongly against the applicant. A man, he observed, who could recommend or advocate such a mode of treatment as that advanced by Dr. Hastings, had no right to call upon the court to interfere in an extraordinary manner. The criticism referred to appeared to him to be just and fair, and he accordingly dismissed the application with costs. We refer to the career of Dr. Hastings as an instance of a man with moderate ability and little acquirements who can achieve, by a persistent course of publishing works and advertising them, a certain amount of success—a success which terminated with him, as it must in all similar instances, in failure. How many among those who have adopted his system of tactics have signally failed! Books on the practice of medicine or surgery addressed to the public have but a temporary existence, and their authors are nowhere in the race of life. Dr. Hastings had consummate tact, and a pleasing, genial manner, but these did not rescue him from the just criticism of legitimate medical censors. In all the relations of private life he was exemplary. J. F. C.

MEDICAL NEWS.

Apothecaries' Hall.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, December 24, 1874:—

Bailey, Samuel Henry, Nottingham.
Favell, Richard, Sheffield.
Homan, George William, King's College Hospital.
Lewis, David Howell, Brechfa, near Carmarthen, South Wales.
Theed, Wm. Cawood, Barkham, Wokingham, Berks.

The following gentlemen also on the same day passed their primary professional examination:—

Bevan, Richard, Guy's Hospital.
Bruce, Robert, St. Bartholomew's Hospital.
Cambridge, Thomas Arthur, Middlesex Hospital.
Clements, William George, Middlesex Hospital.
Collingridge, William, St. Bartholomew's Hospital.
Fell, Thomas Kennedy, Guy's Hospital.
Knight, John Tomlinson, Guy's Hospital.
Manders, Horace, St. Mary's Hospital.
Townsend, Charles Percy G., Birmingham Queen's Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

Browne, Lennox, F.R.C.S. Edin.—Aural Surgeon to the Royal Society of Musicians, *vice* Dr. Peter Allen, deceased.

Forbes, Duncan M., L.R.C.P. Edin., L.F.P.S. Glasg.—Medical Officer for No. 1 District of Basford Union, Nottinghamshire.

Powell, George B., L.R.C.P. Edin., L.R.C.S. Edin., L.S.A., L.M.—Resident Medical Officer of the Nottingham Friendly Societies' Medical Institution.

NAVAL APPOINTMENTS.

Admiralty.—Valentine Duke, Surgeon, to the Portsmouth division of the Royal Marines; John Burke, Surgeon, to the *Swiftsure*; Robert Grant, Surgeon, to the *Hector*; J. B. Drew, Surgeon, to the *Flora*, additional for service at Ascension; J. B. Isaac, Surgeon, to the *Duke of Wellington*; and Stephen Sweetman, Surgeon, Second Class, to the *Fox*, additional, in lieu of a surgeon.

BIRTHS.

Cavafy.—On December 23, at Pembridge-gardens, the wife of John Cavafy, M.D., of a daughter.

Clover.—On December 24, at 11, Cavendish-place, Cavendish-square, the wife of J. T. Clover, F.R.C.S., of a son.

Dawson.—On December 23, at 1, York-road, Brighton, the wife of R. Dawson, M.B., of a son.

Galton.—On December 25, at Woodside, Anerley-road, Upper Norwood, the wife of John H. Galton, M.D., of a daughter.

Harley.—On December 23, at Saffron Waldon, Essex, the wife of Edward Harley, L.R.C.P., M.R.C.S. Eng., L.S.A., of a daughter.

Mackenzie.—On December 29, at Rugby, the wife of John Ingleby Mackenzie, M.B. Cantab., of a daughter.

Provis.—On December 29, at The Chantry, Mere, Bath, the wife of Wilton Provis, L.R.C.P., M.R.C.S., of a daughter.

Rundle.—On December 27, at 132, Stanhope-street, London, N.W., the wife of George Edward Rundle, L.R.C.P., L.R.C.S., of a daughter.

MARRIAGES.

Green—Baldwin.—On December 16, at Lower Mitton Church, Stourport, W. E. Green, M.R.C.S. Eng., L.S.A., of Neath, to Emily, adopted daughter of P. J. Baldwin, Esq., of Stourport.

Newberry—Spicer.—On December 22, at St. Nicholas's, Leeds, Kent, W. J. Newberry, M.R.C.S., of Beresford House, Sutton Valence, son of J. T. Newberry, M.R.C.S., of London, to Annie P. Spicer, of Burgess Hall, Leeds.

Wilson—Robertson.—On December 22, by licence, at St. John's, Bognor, Sussex, Henry George Wilson, Capt. 1st W.I. Regiment, third son of the late Brigadier N. Wilson, K.H., 64th Regiment, to Annie Frances, eldest daughter of the late H. F. Robertson, Surgeon-Major 40th Regiment, and niece of Major-General Hannyngton.

DEATHS.

Browne, Kate, wife of Barry Valentine Browne, Esq., and eldest daughter of the late John Colles Carter, Inspector-General of Hospitals, Ireland, at Lancaster-road, Notting-hill, W., on December 27.

Crowdy, Eliza, widow of Charles Whitton Crowdy, M.R.C.P., of Bath, at the residence of her son-in-law, Trinity Parsonage, Bow-road, London, on December 24, aged 78.

Hutchinson, St. John, third son of R. S. Hutchinson, M.D., of Scarborough, at Canton, of typhoid fever, on December 23, aged 26.

Jones, Harriet, beloved wife of Richard Jones, F.R.C.S., at Brackley, on December 22, aged 69.

Potter, Eliza, beloved wife of F. D. Potter, M.R.C.S. Eng., L.S.A., Ongar, Essex, on December 22, in her 65th year.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made, and the day of election (as far as known) are stated in succession.

Derbyshire General Infirmary.—Assistant House-Surgeon. Applications, with testimonials, to the Secretary, Mr. Samuel Whitaker, 4, Victoria-street, Derby.

Essex Lunatic Asylum.—Second Assistant Medical Officer and Dispenser. Candidates must be L.S.A., and possess a surgical qualification. Applications, with testimonials, to Dr. Campbell, County Asylum, Brentwood, Essex.

Middlesex Hospital.—Surgical Registrar. Candidates must be F. or M.R.C.S. Eng. Applications, with testimonials, to the Secretary, on or before January 8.

North-Eastern Hospital for Children, Hackney-road, E.—House-Surgeon. Candidates must possess a double qualification. Applications, with testimonials, to the Secretary.

Scarborough Union.—Medical Officer. Candidates must be duly qualified and registered. Applications, with testimonials, to Mr. Woodall, Clerk to the Guardians, on or before January 13.

Trinity College, Dublin.—Professor of Chemistry. Applications and testimonials to the Registrar, on or before January 23, 1875. Further particulars may be obtained from the Rev. Dr. Haughton, Medical Registrar, Trinity College, Dublin.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Bakewell Union.—Mr. J. S. Walters has resigned the Bakewell District; area 15,951; population 4733; salary £25 per annum. Also the Workhouse; salary £36 per annum.

Worcester Union.—Mr. Joseph R. Buck has resigned the Second District; area 1514; population 8749; salary £45 per annum.

Hitchin Union.—Mr. O. Foster has resigned the Workhouse; salary £55 per annum.

Leek Union.—Mr. Thomas E. Dakeyne has resigned the Endon District; area 10,360; population 2529; salary £20 per annum.

Poplar and Stepney Sick Asylum District.—Mr. Henry W. Webster has resigned the office of Assistant Medical Officer at the Asylum; salary £150 per annum.

Stratford-on-Avon Union.—Mr. C. Barlow has resigned the Welford District; area 11,529; population 2070; salary £50 per annum. Also the Workhouse; salary £40 per annum.

West Ward Union.—Mr. J. A. L. Ffoulkes has resigned the Patterdale District; area 16,374; population 976; salary £10 per annum.

APPOINTMENTS.

Barton-upon-Irwell Union.—James B. Brierley, M.D., M.C. Edin., M.R.C.S. Eng., to the Stretford District.

Buckingham Union.—Edward McCarthy, M.R.C.S. Eng., L.S.A. Lond., M.D. Queen's Univ. Ire., to the Third District.

Hackney Union.—John B. White, M.D., C.M. Queen's Univ. Ire., as Resident Medical Officer for the Infirmary.

Plymouth Incorporation.—Edward M. Prynne, M.R.C.S. Eng., L.S.A., to the Southern District.

Sevenoaks Union.—Herbert Thompson, M.R.C.S. Eng., L.S.A., to the Second District.

Towcester Union.—Frederick Dawson, M.R.C.S. Eng., L.S.A., to the Blakesley District.

The Great Yarmouth Board of Guardians have increased the salary of Mr. John C. Smith, the Medical Officer to the Workhouse, from £80 to £120 per annum.

Dr. Hopper, of Leadgate, in jumping from a sledge drawn by two horses running tandem, which had bolted, got entangled in the reins, and was dragged, face downwards, for a considerable distance, and sustained a fracture of his right leg.

George Phipps, a butcher, of Gillingham, Dorsetshire, has been sentenced to one month's imprisonment, without the option of a fine, for having sent the carcases of two diseased sheep to the Metropolitan Meat Market for sale as human food.

The London Orphan Asylum, which has been unoccupied for three years, is now to become the temporary home of the idiot and imbecile poor, under the management of the Asylums Board.

The death-rate reached no less than 50 per 1000 in Glasgow last week, being the highest rate in the kingdom. Dense fogs and severe weather were most fatal amongst the aged, infirm, and delicate.

The Sanitary Officer of Lymington, by the instructions of the Board of Guardians, has given notice to Mr. Beazley, the owner of the barn in which the "Shakers" have hitherto been sheltered, that the presence of so many persons in such a small building is a nuisance, and that he must turn them out. A similar notice is to be given to the person at whose cottage the children have been accommodated.

Intravenous Injections of Chloral.—In spite of the academic objections which have been urged to the practice of producing anæsthesia by injecting chloral into the veins, Professor Oré has just forwarded two new cases to the Académie des Sciences, in which it has proved quite successful. In the one, diseased bone had to be removed from a carious tibia; and in the other, ovariotomy was performed. In order to remedy the inconvenience which might arise from the acidity of the chloral, he now neutralises this by means of a solution of carbonate of soda (one part to ten), of which two or three drops are added to the anæsthetic mixture of one part of chloral and four of water.—*Gaz. des Hôp.*, December 22.

Composition and Quality of the Metropolitan Waters in December, 1874.—The following are the returns (by Dr. Letheby) of the Society of Medical Officers of Health:—

Names of Water Companies.	Total Solid Matter per Gallon.	Oxygen required by Organic Matter, &c.	Nitrogen.		Hardness.	
			As Nitrates &c.	As Ammonia.	Before Boiling.	After Boiling.
Thames Water Companies.	Grains.	Grains.	Grains.	Grains.	Degs.	Degs.
Grand Junction	18·87	0·135	0·104	0·002	14·1	4·1
West Middlesex	18·31	0·049	0·147	0·000	13·8	3·6
Southwark & Vauxhall	18·53	0·104	0·127	0·002	14·0	4·0
Chelsea	18·57	0·125	0·124	0·002	14·0	4·2
Lambeth	18·67	0·095	0·125	0·002	14·0	4·0
Other Companies.						
Kent	27·17	0·001	0·247	0·000	21·0	6·0
New River	19·67	0·016	0·161	0·000	14·4	4·0
East London	20·20	0·029	0·180	0·000	15·0	4·0

Note.—The amount of oxygen required to oxidise the organic matters nitrites, etc., is determined by a standard solution of permanganate of potash acting for three hours; and in the case of the metropolitan waters the quantity of organic matter is about eight times the amount of oxygen required by it.

The water was found to be clear and nearly colourless in all cases but the following, when it was more or less turbid—namely, in those of the Grand Junction, Southwark and Vauxhall, Chelsea, and the Lambeth Companies.

The average quantity of water supplied daily to the metropolis during the preceding month was, according to the returns of the Water Companies to the Society of Medical Officers of Health, 116,336,586 gallons; and the number of houses supplied was 513,520. This is at the rate of 34·2 gallons per head of the population daily. The last official return from Paris stated that the average daily supply per head of the population was 27·3 gallons; but this includes the water used for the public fountains, and for the ornamental waters in the Bois de Vincennes and the Bois de Boulogne.

GIDEON'S GREEN-SEAL SHERRY.

Certain specimens of what they term their Green-Seal Sherry have been submitted to us for examination by Messrs. Gideon, of Welbeck-street, and they certainly seem to fulfil the exigencies of many a man's case as regards wine-drinking. It is all very well for those who can afford them to have a dry wine for dinner, and a fuller and sweeter one after; but it is not everyone who is so placed. Now, this sherry of Messrs. Gideon's is just such a wine as suits well both with food and after food—soft, yet fairly full, and of medium dryness, it constitutes an admirable wine for ordinary use.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—Bacon.

Antony.—The Medical College, London, was instituted in 1773.

P. C. M.—Albertus Magnus and Roger Bacon were the two most scientific authors in 1256.

Frederick George.—Mondinius, a professor in Bologna, was the first person who publicly dissected (1315) and published anatomical plates of the human body. Vesalius was the first great anatomist (1540); he published several anatomical works.

G. O. F.—See "Braithwaite's Retrospect," part xxiii., page 492.

Meteorologist, Greenwich.—Leap-year, except in Sicily, is looked upon with suspicion, the strongest evidence being borne by the North Italian proverb, "*Anbisesti, o la mama o'l bambi*"—*i.e.*, When a child is born in leap-year, either it or its mother will die before the year is over. It may be worth the while of young ladies to know that—

> "If they wad drink nettles in March,
> And eat muggins (mugwort) in May,
> Sae many braw maidens
> Wadna gang to the clay."

Cremation, Leeds.—The subject was thoroughly discussed in Paris so long ago as 1867, when M. Favrot published an interesting book on "Inhumation and Incineration," in which he gave the history of the modes of disposing of corpses among ancients and moderns. This history abounds in curious and startling facts, among which the following is rather extraordinary. It would appear that the original inhabitants of Florida used to burn the bodies of medical men only. They carefully collected the ashes, mixed them with water, and drank the latter to keep off disease. To George Alfred Walker, M.R.C.S., is unquestionably due the credit for abolishing the interment of the dead in the midst of the living. This gentleman, who retired from the practice of his profession, is now residing in Wales, and, we are glad to add, in perfect health.

M.D., Glenelg, Adelaide.—We are much gratified with your favourable opinion, and will forward, as directed, the monthly parts of the *Medical Times and Gazette*. You will find the notice in vol. xviii. of this journal.

Sib.—*British and Foreign Medical Review*, vol. xiii., page 293.

Mile End.—The name "zymotic" was first suggested by Dr. William Farr, upwards of thirty years ago.

Paul J.—The proportion of spinsters, wives, and widows aged twenty and under forty to every 100 women in 1871, as shown in the last Census Report for England and Wales, gives the general average throughout England and Wales thus:—Spinsters 37·7, wives 59·4, and widows 2·9.

Secundus.—Duties on medicines commenced in 1783.

W. A., York.—John Falcourt, of Lucca, in Italy, was the first apothecary in England—1362.

Thistle.—£1700 has been collected for the Livingstone Memorial in Glasgow; £2000 is the sum required for the purpose.

G., Bristol.—Collections were made in 1300 places of worship for the Metropolitan Hospital Sunday Fund this year. The total receipts were £29,678 13s. 2d.—about £2000 more than last year. The expenses amounted to £926 17s., or about 3½ per cent. on the sum collected.

T. H., A Tutor, and Omega.—The result of the preliminary examination in Arts, etc., at Burlington House, brought to a close on the 24th ult., cannot be known for many weeks, as there are several hundred papers to be read by the Examiners.

T. C., King's College.—You are giving yourself and us unnecessary trouble in writing: why not refer to the advertisements of the College, which appear regularly in this journal? Some time in January. Your application should be addressed to the secretary.

H. T., M.D.—Certainly not; although we read that at the dissolution of Parliament on Friday, May 7, 1731, his Majesty gave the Royal assent to the several Acts of the past session—among others, one "to enable Lunaticks and Ideots to make Conveyances, &c."

"*Bills of Mortality*," *Marylebone.*—These useful documents were commenced by the Parish Clerks' Company in 1592, who, about 1625, were licensed by the Star Chamber to keep a printing press in their hall for printing the bills, so valuable for their warnings of the existence or progress of the Plague. The weekly bill of the parish clerks has, however, been superseded by the "Table of Mortality in the Metropolis," issued weekly from the Registrar-General's Office, Somerset House, since July 1, 1837.

G. J. S., Orchard-street.—Dr. John Armstrong was the author of the didactic poem, "The Art of Preserving Health." His remains were deposited in a vault under the communion-table of St. Paul's, Covent-garden.

L.R.C.P. Lond.—It is not without precedent, as the Royal College of Physicians placed a marble tablet with suitable inscription to mark the place where the remains of Sydenham are deposited in St. James's, Piccadilly.

Bacchus, Stockwell.—Perhaps the following is what you refer to, and if you turn to the *Medical Times and Gazette* of February 11, 1865, p. 151, you will learn more:—"The reputation of Tokay as a nervine stimulant is, I believe, established. Nor need I mince matters and refrain from saying that 'when childless families despair,' (I quote from Tate and Brady's version of the Psalms—Brady was Chaplain to Apothecaries' Hall, temp. William and Mary, and translated the Psalms as such,) when January is wedded to May, and when old men wish to have the privileges of young ones, then Tokay is in request. It was, as I am told, a favourite drink at the Court of George IV." Try it, and communicate to us the result.

L.S.A., Plymouth.—The properties of the betel nut may be judged from the following lines in the *Athenæum* of 1861, p. 278:—

"Betel nut is bitter, hot, sweet, spicy, binding, alkaline;
An emulcent; an astringent; foe to evils intestine;
Giveth to the breath a fragrance, to the lips a crimson red;
A detergent, and a kindler of love's flame which lieth dead.
Praise the gods for the good betel! these be thirteen virtues given,
Hard to meet in one thing blended, even in the happy heaven."

M.D. Cantab.—You are quite correct; Sir James Prior, in his "Life of Edward Malone," says—"The celebrated writer Sterne, after being long the idol of the town, died in a mean lodging without a single friend who felt interest in his fate except Becket his bookseller, who was the only person that attended his interment. He was buried in a graveyard near Tyburn, belonging to the parish of Marylebone, and the corpse being marked by some of the resurrection men, as they are called, was taken up soon afterwards and carried to an anatomy professor of Cambridge. A gentleman who was present at the dissection told me he recognised Sterne's face the moment he saw the body."

John St. John Long.—In answer to "An Old Subscriber," on page 515, in the number for October 31, 1874, Mr. Hugh James Fennell, of Dublin, writes—

"John St. John Long was twice tried at the Old Bailey on charges of manslaughter. The first (on October 30, 1830) of a Miss Cashin, a young Irish lady, who had only arrived in London the previous summer. This young lady, who was in good health, he induced to allow a corrosive lotion to be rubbed over her back and shoulders, by predicting that if she did not she would fall into a rapid consumption. A violent inflammation, followed by suppuration and gangrene, was the result; and on the fifteenth day after the application of the lotion the lovely Miss Cashin was stretched in the sleep of death. Of course, this could not be passed over. A coroner's jury brought in a verdict of manslaughter against Long, and his trial followed. Here the fashionables whom he had befooled did not desert him; they crowded the Court, and gave evidence in his favour. The judge (Mr. Justice Park) also manifested a strong partiality for him, and, although the jury brought in a verdict of guilty, he merely sentenced him to pay a fine of £250. The prisoner took a roll of notes from his pocket, and, having paid the fine, left the Court with his friends, and taking a seat in one of their carriages, drove to the West-end. Miss Cashin's death was quickly followed by another. A Mrs. Lloyd died also from the effects of the corrosive lotion; and again a coroner's jury found St. John Long guilty of manslaughter. Again he was tried at the Old Bailey; but this second trial terminated in his acquittal. He died of consumption (the very disease for which he pretended to possess a specific remedy) at the early age of thirty-seven years. A handsome tomb covers his grave in the Kensal-green Cemetery, London. (See 'A Book about Doctors,' by J. Cordy Jeaffreson, vol. ii., chapter 8.)"

The Uses of Turpentine as a Disinfectant.

TO THE EDITOR OF THE MEDICAL TIMES AND GAZETTE.

Sir,—A letter from Mr. Eugene Rimmel, published in your number of November 14, 1874, containing "a few practical remarks respecting the use of perfumes as disinfectants," has some hints in it which may lead to some practical investigations. I have no experience with the use of the *odorous* essential oils as a means of disinfection, but I would like to make a remark upon the influence which the turpentine distilleries have upon the town in which I live. Wilmington, North Carolina, the town spoken of, is the great export market for oil, or "spirits of turpentine," as it is known in commerce, and also for tar, pitch, turpentine, and resin, the products of the extensive forests of *Pinus palustris* which abound on the seaboard belt of all the Southern United States. This town is situated on the Cape Fear, a river which has a broad alluvial shore, and is subject to diurnal flooding by tide-water. The town itself is situated on a sand-ridge, and directly across the river to the west are extensive swamp rice-fields, not now under cultivation. During the late civil war, commencing in the early spring of 1861, all of the turpentine distilleries (which were located on the river-side in the town limits)—amounting to about six—were closed, and were not put in operation again until from 1866 to 1870. It had long been a popular theory that the health of the community was due to the resiniferous odours from these stills; and this opinion was shared by the medical men also. In 1862, these distilleries having ceased operations then for about eighteen months, a virulent epidemic of yellow fever broke out, having its origin, doubtless, by importation through the blockade, but owing its great virulence and rapid spread to the insanitary condition of the town. True to the theory held as to the health-giving virtues of the resin and other products of the pine tree, barrels of resin were burned day and night in the streets, covering the town with a funereal pall of dense black smoke. The only other notable epidemic was that of spotted fever (perhaps cerebro-spinal), which broke out in 1865, before the operations at the stills were recommenced. Previous to the establishment of distilleries in our midst—perhaps forty years ago—malarial fevers were very rife, but since that time they have prevailed to a less extent, and are more easily controlled by remedies.

Another fact, bearing only an indirect relation to the above statement, is that during the civil war, when quinine was scarce, the Surgeon-General of the Confederate States ordered experiments to be instituted at several of the large military posts, to prove whether or not oil of turpentine applied to the body by means of a broad band saturated with it, and worn around the abdomen, had any effect in cutting short the paroxysms of ague. Its effects were described as "marvellous," used in the cold stage of malarial fever, as endorsed by very many observers.

It has long been the custom of the white proprietors of rice plantations in this section to move their families to the pine forests during summer and autumn, as there they enjoyed immunity from chills and fevers, so malignant upon their plantations. The theory that it is the resiniferous exudation from the *Eucalyptus globulus* which destroys malaria, seems to have abundant confirmation in the parallel of our North Carolina forests.

I do not pretend to have thrown any light upon Mr. Rimmell's inquiries, but have only called attention to the fact that the resiniferous products of our pines are regarded by us as prophylactics and neutralisers of miasm—a fact which lacks scientific demonstration, but one which rests pretty firmly upon experience. I am, &c.,

Wilmington (N.C.), December 8, 1874. Thomas F. Wood, M.D.

The Contagious Diseases Act.

TO THE EDITOR OF THE MEDICAL TIMES AND GAZETTE.

Sir,—"Quot homines, tot sententiæ." This old adage seems startlingly exhibited in the present day by not a few such *savants* as Mr. Stansfeld, Dr. Kenealy, and Dr. Manning—men of the Polyphemus tribe—one-eyed, one-sided, gigantic in bold assertion and clamorous demand. Your remarks of the 12th inst. on the Contagious Act (Venereal) I beg to supplement with a few observations. While the statistics show a lessened degree of disease, which ought to satisfy opponents, they fall back upon the religious question, and the annoyance to which virtuous women may be subjected. To these latter questions I would mostly confine myself. In the first place, I affirm as matter of reason and utility that all disease, whether traceable to vice or cause whatever, it is desirable to cure and eradicate. In the next place, that religion has nothing to do as an objection to this Act; for the palpable fact is that persons of both sexes who do not abide by the religious restraint give way to sexual incontinence, running all risks of shame and disease. The intemperate and illogical outcry raised against this Act evaporates altogether when brought in view of facts. The great amount of venereal disease affecting our soldiers and sailors in seaports and garrison towns brought forth this legislation—the serious loss of health and serious deprivation of their services, besides the great national expense. The more, therefore, we can get rid of this disease, the better for all, including also the unfortunate women. As to any annoyance or interference offensive to virtuous women, the administration of the Act is carefully carried out, and officials made seriously responsible. Being a clear boon of health to the men and women concerned, it is a most valuable advantage to society at large; for what medical practitioner of long experience does not know of many distressing cases arising from husbands bringing disease home to their wives, and the wives as a consequence infecting the children born with this taint, from which they die or lead miserable lives? Young men, too, of all ranks, who contract this disease, are frequently unfitted to become the fathers of healthy children after marriage. I can fully believe that if those persons who in their zeal so vehemently denounce this Act considered the matter, and saw before them what this Act may do in saving their families from the direful and insidious influences above noted, they would give up the phantasy they are pursuing. I am, &c.,

An Old Medical Practitioner.

COMMUNICATIONS have been received from—

Mr. Lennox Browne, London; Mr. Nelson Hardy, London; Mr. T. Spencer Wells, London; Dr. Wilson, Florence; Mr. J. Gould, Hatherleigh; Dr. Rhys Williams, London; Mr. D. Napier, London; Dr. Coats, Glasgow; Dr. Russell, Birmingham; The Secretary of the Harveian Society; The Registrar-General, Edinburgh; The Secretary of the Clinical Society; Mr. Jonathan Hutchinson, London; Mr. S. Welch, Stansted; Montpitchet; Dr. A. Sheen; Mr. B. Vincent, London; Mr. W. W. Reeves, London; Dr. Letheby, London; Mr. G. B. Powell, London; Dr. Minot, Boston, U.S.A.; Dr. Steventon, Kingston; Mr. J. Forster, Adelaide; Dr. J. Reed, Victoria; Dr. Van Steenkiste; Mr. J. Brown, Dorchester; Mr. Adolphus, Jamaica; Dr. W. Lee, Washington; Mr. C. Macnamara, London; Mr. J. Graham, Tunbridge; Mr. H. Morris, London; Mr. Spencer Watson, London; Mr. C. Mercier, London; Dr. C. Handfield Jones, London; Mr. G. Brown, London; Mr. J. Chatto, London.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Pharmaceutical Journal—Allgemeine Wiener Medizinische Zeitung—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—La Tribune Médicale—Le Mouvement Médical—La France Médicale—Le Progrès Médical—Bulletin de l'Académie de Médecine—Practitioner—Chicago Medical Journal—Cincinnati Medical News—Canada Lancet—Canada Medical and Surgical Journal—Philadelphia Medical Times—Boston Journal of Chemistry—Indian Medical Gazette—Bridlington Free Press—Lincoln Gazette—Bristol Daily Times and Mirror—New York Psychological and Medico-Legal Journal—American Practitioner—Medical Temperance Journal—Journal of Anatomy and Physiology.

BOOKS AND PAMPHLETS RECEIVED—

Micrographic Dictionary, parts 19 to 21—Jahresbericht über die fortschritte der Thier-Chemie heransgegehen, von Dr. Richard Maly—Transactions of the Odontological Society of Great Britain, vol. vii., No. 2—Untersuchungen über das Gehirn Neue Folge, von Dr E. Hitzig—Sulla Medicatura Antisettica alla Lister in Chirurgia, pel Dr. Gesualdo Clementi—Forty Years of American Life, by T. L. Nichols, M.D.—Cameron's Manual of Hygiene.

APPOINTMENTS FOR THE WEEK.

January 2. Saturday (this day).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 9 a.m. and 2 p.m.; Hospital for Women, 9½ a.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

Royal Institution, 3 p.m. Prof. Oladstone, "On the Voltaic Battery: Electrical Decomposition." (Juvenile lecture.)

4. Monday.

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

Medical Society of London, 8½ p.m. First Lettsomian Lecture—Mr. C. F. Maunder, "On Aneurisms."

5. Tuesday.

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Pathological Society, 8 p.m. Annual Meeting for the Election of Officers, Report, Address, &c. The following Preparations will also be exhibited:—Mr. Lawson—Sarcoma of the Sclerotic. Dr. Wickham Legg—Aneurism of Mitral Valve. Mr. Alex. Morison—Specimens of Urinary and Biliary Calculi. Mr. Sydney Jones—1. Congenital Dislocation of both Hips (a living subject); 2. Large Lymphangioma Secreting Chyle (a living subject); 3. Hypertrophy of Limb from Disease of Knee-Joint (a living subject). Mr. Nunn—1. Hypertrophied Bursa Patellæ Removed by Operation; 2. Epithelioma of the Colon. Mr. Bryant—1. Complete Cancerous Occlusion of the Rectum in a Girl aged eighteen years (Colotomy); 2. Extreme Ulceration of the Rectum Cured after Colotomy. Dr. Huggan—1. Microscopical Specimen of Melanoid Sarcoma in a Codfish; 2. Microscopical Specimens of Cancer, prepared by a new process. Dr. Way—Internal Stricture, with Rupture of Cæcum.

Royal Institution, 3 p.m. Prof. Gladstone, "On the Voltaic Battery: The History of the Battery in its various Forms." (Juvenile lecture.)

6. Wednesday.

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Obstetrical Society, 8 p.m. Annual Meeting—Election of Officers; President's Address. Dr. Bathurst Woodman, "On the Treatment of Mammary Abscess by Rest." Dr. Madge, "On a Case of Labour Complicated by Pelvic Tumour and by Convulsions." Mr. Ashburton Thompson, "On Zinc Phosphate in Cases of Amenorrhœa."

Royal Microscopical Society, 8 p.m. Meeting.

7. Thursday.

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.

Harveian Society, 8 p.m. Annual Meeting—Election of Officers; President's Address; *Conversazione.*

Royal Institution, 3 p.m. Prof. Gladstone, "On the Voltaic Battery: Electrotyping, &c." (Juvenile lecture.)

8. Friday.

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

Clinical Society, 8½ p.m. Mr. Teevan will exhibit a Case of Subcutaneous Urethrotomy. Dr. Farquharson, "On a Case of Hæmoptysis in a Syphilitic Patient." Mr. T. Holmes, "On a Case of Naso-Pharyngeal Polypus."

VITAL STATISTICS OF LONDON.

Week ending Saturday, December 26.

BIRTHS.

Births of Boys, 944; Girls, 896; Total, 1840.
Average of 10 corresponding years 1864-73, 2135·0.

DEATHS.

	Males	Females.	Total.
Deaths during the week	811	835	1646
Average of the ten years 1864-73	799·8	799·1	1598·9
Average corrected to increased population	...	...	1759
Deaths of people aged 80 and upwards	...	...	105

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric or Typhoid Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	1	9	...	10	...	2	2	1
North	751729	1	...	12	5	6	1	11	1	1
Central ...	334389	...	1	4	...	2	...	...	1	1
East	639111	...	3	25	2	10	1	4	2	1
South	967692	1	4	15	5	10	1	6	1	2
Total	3251260	2	9	65	12	38	3	23	7	6

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·563 in.
Mean temperature	29·9°
Highest point of thermometer	36·8°
Lowest point of thermometer	18·9°
Mean dew-point temperature	27·5°
General direction of wind	Variable.
Whole amount of rain in the week	0·03 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, December 26, 1874, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1874.*	Persons to an Acre. (1874.)	Births Registered during the week ending Dec. 26.	Deaths Registered during the week ending Dec. 26.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London ...	3400701	45·1	1810	1646	36·8	18·9	29·9	−1·17	0·03	0·08
Portsmouth ...	120436	26·8	45	45	...	17·0	...	...	0·31	0·79
Norwich ...	82257	11·0	33	54	36·0	20·0	28·3	−2·06	0·12	0·30
Bristol ...	192889	43·3	114	100	38·0	22·2	32·2	−0·11	0·27	0·69
Wolverhampton ...	70296	20·9	43	39	37·8	18·2	27·2	−1·56	0·34	0·86
Birmingham ...	360892	43·0	260	211	33·6	18·0	31·0	−0·58	0·36	0·91
Leicester	106202	33·2	75	58	...	...	...	...	...	...
Nottingham ...	90894	45·5	48	64	39·8	16·7	29·0	−1·67	0·23	0·58
Liverpool	510640	98·0	319	354	39·6	23·5	32·5	0·28	0·34	0·86
Manchester ...	355349	82·8	231	279	...	...	...	...	...	...
Salford	133068	25·7	83	101	37·9	18·9	28·4	−2·00	0·33	0·84
Oldham	86281	18·5	55	64	...	...	...	...	...	...
Bradford	163056	22·6	117	125	37·0	21·0	29·9	−1·17	0·27	0·69
Leeds	278798	12·9	151	176	37·0	22·0	31·3	−0·39	0·42	1·07
Sheffield	261029	13·3	171	152	42·0	20·0	32·3	0·17	0·00	0·00
Hull	130996	36·0	96	79	37·0	11·0	26·9	−2·83	0·38	0·97
Sunderland ...	104378	31·6	83	38	42·0	24·0	32·4	0·22	0·57	1·45
Newcastle-on-Tyne	135437	25·2	109	92	...	...	...	...	...	...
Edinburgh	211691	47·8	79	124	...	...	...	...	...	...
Glasgow	508109	100·4	364	483	45·3	18·9	29·6	−1·33	0·09	0·23
Dublin	314666	31·3	112	161	43·0	23·5	32·6	0·34	0·25	0·63
Total of 21 Towns in United Kingdm	7618655	36·6	4434	4455	45·3	11·0	30·4	−0·89	0·27	0·69

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·56 in. The lowest was 29·28 in. on Sunday evening, and the highest 29·86 in. at the end of the week.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1874 by the addition of three years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

CLINICAL REMARKS ON INJURIES OF THE HIP.

By THOMAS ANNANDALE, F.R.S.E.,
Surgeon to the Edinburgh Infirmary, and Lecturer on Clinical Surgery.

Two cases of injury to the hip having been admitted into the wards during the last few days, I think the opportunity a good one to make some remarks upon this class of accident. In the majority of cases the symptoms of the injury are well marked, and point distinctly to the nature of the accident; but cases every now and then occur in which the diagnosis is more difficult and the exact condition obscure. If you do not ascertain the true nature of the accident you cannot expect to treat it successfully; and therefore I wish you to learn to examine and study every case carefully and after a proper method. In examining a case of injury to the hip, let me advise you to direct your attention to the following points:—

1. The history of the accident, and the age of the patient.

2. The direction of the axis of the limb, and the position of the pelvis and foot.

3. The position, mobility, and area of movement of the trochanter major and head of the femur.

4. Length of the limb by careful measurement.

5. Mobility of the whole limb, and the absence or presence of crepitation, and (if present) its situation.

6. An inquiry if any changes in the position or length of the limb have been noticed to follow the first symptoms of the accident.

In making your examination in this order you will be most likely to receive a true knowledge of the nature of the case; and I would here remind you of the possibility of deformity or shortening of a limb, the result of former injury or disease, aggravating or obscuring the symptoms of a recent injury. I have myself seen an injured limb extended in order to bring it to its proper length until it was discovered that the shortening depended on former disease of the hip-joint.

The occurrence of a second injury in the same limb is rare, but it has been observed. For instance, I lately saw a gentleman who had not only injured his hip severely, but had also fractured his patella. I refer to this because, when a limb is injured severely in more than one place, one or other of the conditions may be overlooked and remain untreated.

In all doubtful cases chloroform should be administered for the purpose of assisting diagnosis.

The two principal classes of injury of the hip are fractures and dislocations. Each injury has its special symptoms; but as I have not time on this occasion to study all of them, I will give you very generally the distinctions between these two classes.

Fracture.	Dislocation.
1. Shortening of the limb.	1. Lengthening or shortening, according to the direction of the dislocation.
2. Increased mobility and crepitation obtained in one or other motion of the limb.	2. Mobility diminished or impossible in certain directions; no crepitation.
3. Eversion of the foot, without fixture.	3. Inversion or eversion, according to the direction of the dislocation, with fixture.
4. If the limb is extended to its proper length and position, it will not remain so unless the extending force be continued or splints applied.	4. If the dislocation is reduced, the limb remains in its proper position and retains its proper length.

Exceptions to some of these conditions do sometimes occur, but a consideration of *all* the signs present will generally enable you to come to a correct diagnosis.

Let us now, for illustration, study in detail the two cases which are before us. The first one is that of a man about forty years of age, who fell from a height of forty feet a few hours before his admission. His principal injury is one of the left hip; and it is somewhat surprising, considering the nature of the accident, that he has not suffered more. Having examined him as has been recommended to you, we find that the appearance, position, and mobility of the limb are natural, but there is a slight lengthening as compared with the other leg. This symptom, with some swelling and tenderness over the trochanter major, is the only abnormal condition present, and our diagnosis of the case is—a severe "bruise of the hip-joint." This symptom of slight lengthening is frequently present in this injury, but the absence of any other signs proves that the bones and joint are not otherwise injured. Bruises of the hip-joint must not be neglected, but treated from the first carefully. The essential treatment of this injury is rest—complete rest—of the joint; and this is best accomplished by keeping the patient in bed and applying the long splint for three weeks or a month, after which, if pain and other signs of irritation are absent, the joint should be gradually moved, and the patient permitted to go about carefully. Hot fomentations and other sedative applications should be used during the progress of the case if pain is complained of. In patients of unhealthy constitution, and in old persons, this accident may be followed in the one case by inflammation and disease of the joint, and in the other by a slow form of absorption of the head and neck of the femur, giving rise to shortening and deformity of the limb. It is well, therefore, to warn the friends of such patients of these risks, and to give a guarded prognosis in regard to the ultimate result of the injury.

The second case we have to study is that of a strong young man, aged nineteen, who, twelve days ago, was severely crushed in a coal-pit, and received an injury to his right hip. You will observe that the direction of the axis of the injured limb is entirely altered from the natural state; the whole limb is turned inwards, and the foot markedly inverted. The trochanter major is displaced backwards and upwards, and its area of movement is diminished. The limb is shortened about an inch. The mobility of the limb at the hip is much interfered with, and rotation outwards cannot be performed. No crepitation can be felt, and no alteration in the position or length of the limb has been noticed by the patient since the accident. In addition to these symptoms you will see that when the patient lies flat on his back the injured thigh is flexed, and when I attempt to straighten it the patient's back becomes arched. This latter sign was first pointed out to me by the late Mr. Syme, who considered it quite diagnostic of this special injury. We can detect no other injury, and the patient tells us that both his limbs were perfect before the accident. Our diagnosis of this case is—"dislocation of the head of the femur backwards." While the patient is being put under chloroform, in order that we may relieve the effects of the injury, I wish to say a few words in regard to the best method of performing reduction in dislocations of the hip-joint. I show you a hip-joint, taken from a case of dislocation which proved fatal owing to other severe injuries complicating the case, in order to point out a ligament which has much to do with dislocation in this situation. This ligament, known to you as the "ilio-femoral" ligament, has been named the "Y" ligament by Dr. Bigelow, who has most successfully proved its agency in connexion with these injuries, and the importance of relaxing it by extreme flexion of the thigh and leg, so as to permit of the easy reduction of the head of the bone. A knowledge of this agency, and of the method of its complete relaxation by flexing the thigh, forms the principle of reducing dislocation of the hip by "manipulation," as it is termed. This plan is so simple, so efficient, and so vastly superior in every way to that in which extension by means of pulleys is made, that I hope you will all watch my proceedings in the present case, in order that you may be able to practise it successfully.

The patient, being now fully under the influence of the chloroform, is laid, as you see, on his back on a firm mattress placed upon the floor. The pelvis being steadied by an assistant, I seize the ankle of the injured limb with my right hand, and, flexing the same leg upon the thigh, grasp the knee with my left hand. The thigh is now firmly flexed on the abdomen, and in this position it and the leg are made to take a wide sweep outwards as far as they will go, when the whole limb is brought down to its natural situation, being at the same time straightened. After one or two trials of this proceeding we have failed to reduce the bone, so let us stay our proceedings for a moment and endeavour to discover the cause of our failure. I feel the head of the bone distinctly moving, but it refuses to enter the acetabulum, and I am inclined to think that my assistant, who is steadying the pelvis on the side of the injury, is in the way, and prevents me making a sufficiently wide sweep. I therefore ask him kindly to support the pelvis from the opposite side, and we will make another trial, taking a wider sweep. This time we

are successful, and you could all see that the head of the bone entered the acetabulum with a jerk.

The dislocation being reduced, we must take precautions to keep the joint at rest; so we will tie the patient's legs together, having first placed between them some soft padding. The patient will be kept in bed for about three weeks or a month, and then allowed, if all be doing well, to move about a little.

I trust, gentlemen, that this case has impressed upon you the principles of diagnosing and reducing a dislocation of the hip-joint. If you understand this case you will have no difficulty in treating, upon the same principles, any of the other dislocations of the hip-joint.

In connexion with the case it may be useful for us to consider whether or not there is any other injury of the hip which might simulate a dislocation of this kind. There is one injury which might do so, and this is "an impacted fracture of the neck of the femur with *inversion* of the foot." In this latter accident the inversion of the limb and foot would not be so marked or fixed as in the dislocation; neither would the mobility of the limb be so much interfered with, or the trochanter major and head of the bone felt in their backward position. In the case of the impacted fracture there might be only a slight crepitation, or even an absence of it; but, if any doubt remained, the fracture would fail to be relieved and the symptoms cured by any attempts at reduction.

I will conclude my remarks by a word in regard to a complicated injury which is rare, but which has been occasionally met with in this joint. The complication consists of a fracture of the acetabulum, and when the fracture causes a separation of a portion of the margin of the acetabulum it may prevent the dislocated head of the bone from remaining in the cavity when reduced. Such a complication would be recognised by this latter fact and by the existence of some crepitation; and I am inclined to advise that the treatment of a case of this kind should be to keep the thigh in the flexed position by means of "angular extension"(a) for some weeks after the accident, the dislocation having first been reduced.

ORIGINAL COMMUNICATIONS.

THE LEVERAGE OF THE LOWER HUMAN JAW.

(AN EXCERPT FROM THE AUTHOR'S NOTE-BOOK.)

By JOHN GORHAM, M.R.C.S. Eng., etc.

DATA.—*Average Weight of each Single Tooth in Grains—Average Weight of all the Teeth in Grains—Weight of Lower Jaw in Grains, without the Teeth—Weight of Lower Jaw with its Full Complement of Teeth in Grains—Centre of Gravity of Lower Jaw—Position of Fulcrum—Long Arm in Inches—Short Arm in Inches—Fulcrum of all the Teeth—Long Arm of each Tooth in Inches—Short Arm of each Tooth in Inches—Moment of each Tooth—Sum of Moments of all the Teeth.*

The Weight(b) *and Bulk of the Teeth are always in the same ratio.*

OWING to the equal density of all the teeth, their weight and bulk coincide; hence these terms are convertible, and are thus used in the following section. If the bulk of a lower incisor, for instance, which weighs ten grains, is equal to the one-fiftieth of a cubic inch, then the weight of an upper canine, the bulk of which is equal to the one-twenty-fifth of a cubic inch, will be twenty grains, and so on. In other words, if one tooth weigh twice as much as another, it will have twice the bulk.

Relative Size of the Teeth.

The largest teeth in the head are the upper molars (33·4 grs.), and the smallest are the lower incisors (10·8 grs.): an upper molar is about three times as large, therefore, as a lower incisor. From the lower incisors the teeth increase in magnitude in the following order:—A lower bicuspid (14 grs.) is bigger by about four grains than a lower incisor, and an upper bicuspid (16 grs.) exceeds a lower in size by about two grains. Next in order come the upper incisors (16·4 grs.), which scarcely exceed in bulk the upper bicuspids. The lower canine stand next (17·9 grs.), being a little larger than the upper incisors. Then follow the upper canine (21·4 grs.), which are much bigger than the lower, and about twice the size of the lower incisors. In the remaining groups the teeth are much larger: an upper wisdom (32 grs.) is about thrice the size of a lower incisor; the lower wisdom (31·9 grs.) is nearly the same in bulk. Finally, the largest teeth in the head are the molars.

Relative Size of the Teeth in the Upper and Lower Jaw.

The teeth in the upper jaw are larger than those in the lower. The weight of all the teeth in the upper jaw is 370 grs., that of those in the lower 330 grs.,—showing a difference of 40 grs.

The Difference between the Size of the Teeth in the Upper and Lower Jaw diminishes as they recede from the Front of the Mouth.

The mean difference of an upper as compared with a lower incisor is 5·6 grs.; of an upper canine to a lower, 3·5 grs.; of an upper bicuspid as compared with a lower, 1·4 gr.; and of an upper molar to a lower, 1 gr. The greatest difference is that between the six front teeth, the incisors and cuspids, in each jaw. The upper incisors and cuspids weigh exactly 108·4 grs.; the same teeth in the lower jaw, 79 grs.—difference, 29·4 grs.;—whereas the difference between the six upper and lower molars amounts to 2·1 grs. only. There must, of course, be a necessity for this disparity in bulk, else it would not have existed. Why should there be a difference in the upper and lower front teeth amounting to 29 grs., and a difference of 2 grs. only between a like number of teeth at the back of the head? Several reasons might be assigned, amongst which may be noticed that, as the front teeth in the upper jaw stand out most prominently in the face, they are most exposed to the effects of blows or other injuries, and require, therefore, great firmness as to their setting in the alveoli, which measure results in no small degree from their superior magnitude. In the next place, they have to bear the succussion from the lower teeth in the act of mastication, for in ascending through a much more considerable space than the back teeth—sweeping as they do through arcs of larger circles—they must of necessity accumulate velocity; and velocity and weight are equal to force.(c) In the third place, if the teeth in the lower jaw were as heavy as those in the upper, the muscular power required to elevate them in conjunction with the jaw itself would be greatly increased, and might prove altogether disproportionate to the demand. Now, as it has been proved by direct experiment that the teeth in the lower jaw are lighter in weight than those in the upper, and also that they increase in weight according as they recede towards the back of the jaw, one of the advantages—not to say necessities—for this twofold arrangement would appear to consist in the sensible diminution of stress upon the lever power by which the lower jaw is moved; a stress or force which tells more, it must be remembered, inasmuch as, at the best, the use of this kind of lever is always attended with a certain loss or disadvantage. Now, the expenditure of power is, as will be shown, economised to a remarkable degree by the lighter weight of the teeth in the lower, as compared with those in the upper jaw, as well as by the lighter weight of the front teeth in the lower jaw itself, as compared with those which are situated behind. In order to make this apparent, it is necessary first to consider the leverage of the lower jaw itself, destitute of the teeth; next, to show the additional power which is required to elevate it when supplied with its full complement of teeth; and then, by way of contrast, further to notice what additional loss of power would be sustained, or, in other words, what greater encroachment would be put on its muscular resources, supposing that the teeth in the lower jaw were all reversed in their position—the incisors being caused to occupy, for instance, the places of the molars, and *vice versâ;* or supposing, in the next place, that the lighter teeth in the lower jaw were replaced by the heavier ones of the upper. Of the two bones chiefly concerned in the mastication of food

(a) See Bigelow on the Hip, p. 115.

(b) For the loan of some thousands of teeth, in order to conduct these experiments, the author is indebted to Charles James Fox, Esq., Surgeon to the Dental Hospital, London, and to John Franks, Esq., surgeon, Sevenoaks, Kent.

(c) As the upper teeth are always in a state of quiescence, and the lower always in a state of motion, an incessant battery is kept up by the latter against the former. The question might be, Which is to succumb? but that is not the question,—it is this: How are both to maintain their stand-point for a long series of years, at the lapse of which neither shall have given way? This will become apparent when the angle at which the lower teeth impinge on the upper is considered, and from which it will be seen that the superior size of the upper teeth, and, by consequence, their firmer articulation in the jaw, were absolutely necessary to prevent their being fairly beaten forwards by the impact of those belonging to the lower jaw.

and articulation of speech, the upper bone remains almost entirely stationary or passive; whilst the lower bone, on the other hand, is almost incessantly in a state of motion. The provision consists in the fact of the lower jaw being so articulated with the bones of the head that it shall work about a hinge. This kind of motion requires that it shall have a muscular apparatus on purpose that it may be elevated or depressed, moved laterally, or caused to advance and retreat, according to its various exigencies: no similar provision being required for the upper jaw, which is immovable. As the lower jaw turns about a fixed point by the aid of a force acting upon a certain part of its shaft, the bone becomes in effect a lever-rod, of which that portion which is situated at the joint is called the "fulcrum," the bone itself the "rod," whilst the muscles which move it are the "power."

TABLE I.—*Bulk or Volume of the Teeth.*

Name.	Mean weight in grains.	Bulk or relation to cubic inch.
Lower incisor	10·8	0·020, or $\frac{1}{50}$th
Lower bicuspid	14·6	0·027, or $\frac{1}{37}$th
Upper bicuspid	16·0	0·030, or $\frac{1}{33}$rd
Upper incisor	16·4	0·031, or $\frac{1}{32}$nd
Lower canine	17·9	0·034, or $\frac{1}{29}$th
Upper canine	21·4	0·040, or $\frac{1}{25}$th
Lower wisdom	31·93	0·060, or $\frac{1}{16}$th
Upper wisdom...	32·0	0·060, or $\frac{1}{16}$th
Lower molar	32·4	0·061, or $\frac{1}{16}$th
Upper molar	33·4	0·063, or $\frac{1}{16}$th

In the above table it was not sufficiently important to carry the calculations beyond three decimal places; hence the bulk of two teeth slightly differing in their mean weight comes out the same.

TABLE II.—*Mean Weight of all the Teeth from the Lightest to the Heaviest, from* 844 *Experiments.*

Number weighed.	Lower incisor.	Lower bicuspid.	Upper bicuspid.	Upper incisor.	Lower canine.	Upper canine.	Lower wisdom.	Upper wisdom.	Lower molar.	Upper molar.
130	10·8									
56	.....	14·6								
115	.....	.....	16·0							
108	.....	.....	.....	16·4						
112	.....	.....	.....	.....	17·9					
37	.....	.....	.....	.....	.....	21·4				
32	.....	.....	.....	.....	.....	.....	31·9			
28	.....	.....	.....	.....	.....	.....	.....	32·0		
110	.....	.....	.....	.....	.....	.....	.....	.....	32·4	
107	.....	.....	.....	.....	.....	.....	.....	.....	.....	33·4
844										

In order to find the true leverage of the lower jaw, it must be considered from two distinct and different aspects. The first is that which relates to its anatomy, the second to its mechanism. Under the former are comprised its general configuration, weight, weight of the teeth, and exact line of concentration of the muscular power required to elevate it. The latter embraces the mechanical principles by which it is moved, and in which are involved the kind of lever used, the length of its rod, the position of its fulcrum, the centre of gravity, the point of power. From these data the amount of force required to lift it is calculated. To this must be added the additional force expended in enabling it to perform its proper functions of mastication, articulation of speech, etc. The study of the leverage of this bone in this way becomes at once attractive and instructive, involving as it must do a minute acquaintance with its anatomical details, comprising the weight of the teeth as well as a knowledge of the mechanical powers which are exerted in setting it in motion.

On mapping out the lower jaw into regions for the purpose of converting it into a lever-rod of the third kind, there will be found in this bone several peculiarities not belonging to other bones in the body which are moved by the same kind of lever force. First, the bone is bent at its anatomical angles. Now, as a bend in a lever goes for nothing, ideal lines must be drawn about it in order to procure a straight rod from which to calculate the lever powers. Secondly, the muscular apparatus by which it is raised is not concentrated in a given point on the bone, as in the case of the biceps muscle of the arm, but is spread over a space comprised between the coronoid process and the ascending ramus. The point of power, therefore, which must be somewhere or in some line which defines the concentrated effort of both muscles (temporal and masseters), has to be determined, otherwise the length of the short arm of the lever could not be discovered. Thirdly, the muscles act on the limbs with what is called a mechanical disadvantage. But it must be observed that mechanism has always in view one or other of these two purposes—either to move a great weight slowly, and through a small space; or to move a light weight rapidly through a considerable sweep. Now, while the latter of these two movements is that which the occasions of animal life principally call for—as in the case of the arm, where extent of motion is required rather than the ability to lift a heavy load,—in the mechanism of the lower jaw to overcome resistance was the chief end required; and accordingly the muscular fibres constituting the power are found to pass perpendicularly downwards from the sides of the head to the lower jaw-bone, and acting on it in a straight line. The force with which the power acts in this case is immense, particularly when the resistance to be overcome is placed near the fulcrum or directly beneath the action of the muscle. Advantage is taken of this circumstance in cracking nuts by putting them a certain distance back between the jaws. Fourthly, while the resistance or weight to be overcome consists essentially in the substances which are used for aliment, and which may be exceedingly hard or tough, yet, besides this, there is the absolute weight of the jaw itself, amounting to nearly one thousand grains, the power to raise which has therefore to be determined. In this case the bone is the weight, and the point or position of that weight from the fulcrum, in order to determine the long arm of the lever, is the centre of gravity of the bone itself; and this is found by actual experiment. Fifthly, having found the power required to raise the lower jaw-bone by itself, the next question is to determine the additional leverage which would be required, supposing that it is supplied with its full complement of teeth. There is here a very pretty and curious bit of mechanism in connexion with the teeth of the lower jaw, any explanation of which, however, could not have been attempted unless the weight of the teeth had been previously ascertained, but which nevertheless is essential to the proper understanding of the leverage of the jaw. It results from the fact that while every tooth has its own specific weight, it has also a different distance from its fulcrum. It is obvious, therefore, that there are as many distinct ideal lever-rods as there are teeth, and each requires a separate calculation in order to find the lever power to lift it. It is in effect like suspending a number of different weights in a row along a lever-rod, taking the power to raise each of them in succession, and then the sum of all the powers collectively to raise them altogether. Sixthly and lastly, the mechanical disadvantage of this kind of lever is partly compensated for in the very weight of the teeth themselves; and to this the attention of the reader has been already directed—for, as the teeth in the lower jaw are much lighter than those in the upper, and lighter moreover in front than behind, such an arrangement puts less stress on the power at that very part of the bone, considered as a lever, where the power acts with the least advantage. The utility of this is rendered still more apparent by contrasting the effect which would be produced by reversing the order of the teeth in the lower jaw from before to behind; or, again, by exchanging those in the lower jaw for those in the upper. In either case a much greater demand, amounting to several hundred grains, would be made on the power.

(To be continued.)

CASE OF

LARYNGITIS—TREATMENT BY VERATRUM VIRIDE—RECOVERY.

By C. HANDFIELD JONES, M.B. Cantab., F.R.S.

J. B., FEMALE, aged twenty-four, seen July 27, 1874. Is a night nurse in a surgical ward: has not had very good health. Was attacked yesternight with sore throat; her breathing was difficult all night, and was very bad this morning about 9 a.m. There was scarcely anything to be seen in the throat, but the dypsnœa was so great as to make it probable that tracheotomy would be requisite. Some leeches were applied to the region of the trachea, and gave much relief. When I saw her about 2 p.m., she was lying at full length, apparently suffering a good deal, but breathing fully and deeply; the abdomen rising in inspiration; the lower ribs expanding, and the upper also. Respirations were 21 per minute; respiratory murmur was

heard in the backs, but was not so full and free as it ought to have been. There was no dulness. Temperature 102°; pulse 120. Laryngoscopic examination was very difficult, but I got a snap look at the upper orifice of the larynx: the epiglottis appeared to be normal, but the lining membrane of the larynx was reddened, and the cords seemed close together. The tongue was coated; there was no trace of diphtheria. I diagnosed laryngeal catarrh with great hyperæsthesia of the sensory nerves, and advised a dose of chloral and Graves' hot sponge to the throat. At 4 p.m. I found her pulse 105, of good force; her breathing twenty per minute, and not stridulous, or but slightly so. Her face was not at all dusky; she lay down well. Her voice was rather, but not very, hoarse; she could only utter words singly. She had pain in swallowing, and got milk down with difficulty. There was still much anxiety of facial expression, and sense of difficulty in breathing, and it was evident that no effectual relief had been obtained. Appreciating now the decidedly grave character of the malady, which I was somewhat disposed to doubt at first, I ordered her to take tinct. veratri viridis ℥ iv., aq. ʒij., omni horâ, until some notable effect was produced.

July 28.—Took seven doses up to 11 p.m.; then was very sick, and had no more till 1 a.m.; another dose was given at 10 a.m. She passed a very good night. Is now spitting up lumps of green muco-pus; lies on her side in a steamed tent. Respirations 33,—much play of lower ribs; pulse 90, of good force. Pt. mist. 3tis horis.

29th.—Temperature 97·5°; pulse 76, weaker; respirations 39; breathing in both backs weak, but there is no dulness. She lies down well, and breathes quietly—*i.e.*, without much muscular effort, very differently from her mode of breathing forty-eight hours ago. Can speak intelligibly. Has been made very sick again by the medicine, and has had only six one-drachm doses since 6 p.m. yesterday. Pt. ʒj. ter die.

30th.—Doing well; can swallow better; takes food better; temperature 100·4°.

The laryngitis gave no trouble after this date, but it was succeeded by a good deal of pneumonic congestion of the lower part of the right lung, which lasted a few days.

She remains now (September 8) in a weakly state; is not very able for her duties as night nurse, but has no very definite ailments. Laryngoscopic examination shows nothing abnormal.

It is certainly very markworthy that in this case, when the inflammation was at its height, the breathing movements were so vigorous, and the expansion of the lungs so considerable. The explanation of this is, I suppose, that the swelling of the laryngeal membrane was not sufficient to obstruct materially the ingress of air, while the impressibility of the afferent nerves of the mucous surface was so much increased by the morbid process, that the motor nerves were excessively stimulated, and the inspiratory muscles acted with unusual energy. The same thing may be observed sometimes in cases of bronchitis: that during the active period of inflammation the respiratory murmur is heard more loud and full in some parts of the lungs than it is in the same parts at a later date, when the acuteness of the inflammation has somewhat subsided, though the amount of obstruction to the access of air remains much the same. It is perhaps possible that volition may have been concerned in causing the deeper breathing, but I am pretty certain this was not the chief cause. Spasm of the constrictors is certainly a frequent result of laryngeal irritation, and it is not easy to say why it was not present in my patient rather than exaggerated action of the inspiratory muscles of the thorax. The latter misled me at first, and, in spite of the elevated temperature, disposed me to doubt whether the disorder was not to a great extent neurotic. Another point for observation is that the respirations became actually more frequent as the disease declined. From 20 or 21 per minute on the first day, they rose to 33 on the second and 39 on the third; the temperature and pulse, on the contrary, declining to 97·5° and 76 on the third day. It is pretty certain that the more frequent inspiratory acts were less effective than those on the first day—that the movements of the chest were shallower. One has not rarely to remark that the mere frequency of the respiration is no measure of the degree of dyspnœa. I hardly think anyone can question the efficacy of the veratrum viride. The force of the disease was at once broken, and by the third day all anxiety was at an end so far as the larynx was concerned, though the right lung suffered for some days subsequently. In children's croup this tendency of laryngeal inflammation to propagate itself down the bronchi to the lungs is often apparent.

The above history is hard to reconcile with the doctrine that acute disease cannot be cut short by depressing treatment.

MIDWIFERY NOTES FROM BRITISH KAFFRARIA.

By CHARLES J. EGAN, A.B., M.R.C.S.E.,
Assistant-Surgeon, Grey's Hospital, King William Town.

Cases of hydrops amnii receive little notice in works on midwifery, but as there are some points connected with this complication that deserve notice, I send notes of the following cases:—

Case 1.—*Third Confinement—Male Child—Hydrops Amnii—Cross Birth.*

On May 17, 1873, I was called to see Mrs. P. (attended by a midwife), as the os had been fully dilated for four hours, the membranes unruptured, but no progress made in the labour from weakness of the pains. On making a vaginal examination, I found the os fully dilated, and the membranes quite tense and stretched across the brim of the pelvis, but not protruding in the smallest degree into the pelvis. I ruptured the membranes (which were found to be very tough) with a probe. An immense quantity of water was evacuated (more than two gallons). The womb contracted well on the fœtus, and the right shoulder presented. I administered a dose of ergot, and delivered the child by turning, without any difficulty; it was born alive, strong, and well formed. The placenta was expelled in about ten minutes, and was accompanied by considerable hæmorrhage. A second dose of ergot was then given, which, along with pressure over the uterus, cold applications over the sacrum and vulva, checked the discharge.

Case 2.—*Twelfth Confinement—Hydrops Amnii—Child Born Dead—Hæmorrhage.*

Mrs. M., aged thirty-five, a month before the time of her expected confinement was taken with labour pains. When these had lasted about four hours I saw her. On examining her I found the abdomen of an unusually large size, almost globular, very hard and tense, giving no distinct feeling of fluctuation, no unevenness or greater hardness in one part than in another. The labour pains were strong, but ineffective. On making a vaginal examination the os was found to be very high, and not at all dilated. I waited for two hours longer, the pains continuing at intervals of ten minutes, but no change taking place in the os. *Ballottement* was very well marked, and the fœtal heart could be heard. Considering it to be a case of hydrops amnii, I ruptured the membrane with a stylet, letting off more than two gallons of water (the water filled a large chamber-pot and a wash-hand basin, besides a large quantity that escaped over the floor of the apartment). The first water that came was perfectly clear and straw-coloured; when nearly all was evacuated it became tinged with blood, and afterwards there was much discharge of pure blood. I gave a dose of ergot and put on a tight binder. Labour pains ceased altogether for nearly an hour, when they recommenced regularly, the child presenting with the head. Three hours after the rupture of the membrane the child was born dead, perfectly formed, presenting no malformation. The placenta was expelled in ten minutes, and along with it a large clot of blood, nearly equal in size to the placenta, and also clots attached to the uterine surface of the placenta, appearing as if it had been formed in the womb by detachment of the placenta at the time of the evacuation of the liquor amnii. A second dose of ergot was given, the binder made firm, and a napkin wet with vinegar and water put to the vulva. No further hæmorrhage occurred.

Case 3.—*Sixth Confinement—Hydrops Amnii—Child Anencephalous—Hæmorrhage.*

I was called to see Mrs. W., aged thirty, on November 6, 1873, for abdominal pains simulating labour. She had arrived, according to her calculation, at the full term of her pregnancy, and was suffering from constant pains in the womb and back, like feeble labour pains, but not regular or intermittent. These had now lasted for two days, and prevented her obtaining any sleep. When I examined her I found the abdomen of an enormous size, of globular form, giving distinct feeling of fluctuation; the skin was tense and shining. On making a vaginal

examination, the os could be with difficulty reached; it was high up, and turned back towards the promontory of the sacrum. No *ballottement* could be detected, nor could the fœtal heart be heard; neither could I find the placental bruit. There were, therefore, no certain signs of pregnancy, and the abdomen presented all the appearances of a large ovarian tumour. As expectant treatment I ordered half-drachm doses of chloral hydrate every fourth hour, to quiet the system and procure sleep, but with little benefit.

Next day no change in the case presented itself. Two days after (November 9) everything continued in apparently the same state, but I considered that the abdomen was increased in size, and the constant pains and want of sleep had become very distressing. On examining the abdomen this day, I distinctly felt the kicking of a fœtus, but could not hear the fœtal heart or the placental bruit. Considering it then as a case of hydrops amnii, I determined to pass a sound into the uterus, and, if correct, to evacuate the liquor amnii. I first administered a dose of ergot, and had to introduce my hand into the vagina in order to reach the os, which was lying very high up, next the promontory of the sacrum. While examining I passed my finger into the os, and by pressure, without the use of any instrument, I ruptured the membranes. An immense quantity of water escaped (which was caught in a bath, and when afterwards measured was found to exceed three gallons). I then applied a tight binder and gave a second dose of ergot. The os was dilated to about the size of a half-crown, and the child presenting with the feet. In about a quarter of an hour severe flooding set in, which was checked by pressure, and a third dose of ergot given. The womb contracted firmly round the fœtus, but regular labour pains did not commence for nearly four hours. They then set in strongly and regularly, and the child was delivered by the feet, dead and anencephalous; but it did not appear as if dead any length of time. It presented an appearance as if the face was set on between the shoulders without any neck, the face looking directly upwards. The back of the head, and the spinal column as far down as the second dorsal vertebra, were covered by a membrane, the same as is seen in cases of spina bifida. There was no hæmorrhage with the birth, but a large clot adherent to the uterine surface of the placenta was expelled along with it. The patient made a good recovery.

These cases, I think, present some points worthy of notice:—

1. *The Delay to the Labour.*—This is the only point mentioned in regard to these cases in systematic works on midwifery. The excess of the liquor amnii seems to arise from some diseased state of the amnion, which, while it produces an increased quantity of fluid, at the same time renders the membrane tougher and stronger than usual, so that the muscular contractions of the uterus are unable to rupture it; and, at the same time, the uterus itself becomes weak from over-distension, and its contractions much less effective than natural. In none of these cases was there the least suspicion of syphilitic taint, as I inquired into this subject, and all the patients were mothers of perfectly healthy children.

2. *The Danger of Hæmorrhage before the Birth of the Child.*—This I consider arises from the partial separation of the placenta as soon as the pressure produced by the excess of water is suddenly removed. In the second and third cases the clots of blood attached to the placenta point to this as the most probable cause of the hæmorrhage. In the first case the placenta was not examined on this point. In Dr. Burns's "Principles of Midwifery" (fifth edition, sec. 23., chap. xv.)—an old work, but yet of much value—it is stated that labour in which the liquor amnii is in excess is liable to be accompanied or succeeded by uterine hæmorrhage, but I do not find this mentioned by other authors.

3. *That the Child is frequently Born Dead.*—Death in these cases, I consider, results from the same cause as the hæmorrhage—viz., separation of the placenta in the womb some time before the birth. The anencephalous state of the child in the third case was no reason that it should not have life when born. In the second case the child was alive before the evacuation of the water, as proved by the stethoscope. In the first case I consider that the child being born alive was owing to the fact that the os was fully dilated at the time that the water was evacuated, and the child, being across, was delivered at once by turning, and before death could occur from separation of the placenta.

The treatment for these cases appears to be—before rupturing the membranes to administer a full dose of ergot, and to apply a binder on the same principle as when tapping the abdomen in cases of ascites; and then, as soon as possible, to deliver the child by turning.

The next cases I bring forward as confirming the value of the treatment recommended by Sir J. Y. Simpson in cases of placenta prævia, showing that the complete detachment of the placenta stops the hæmorrhage.

Case 4.—*Fourth Confinement—Placenta Prævia—Placenta Born First.*

At the end of the seventh month of pregnancy Mrs. D. was taken with profuse hæmorrhage. A fortnight after this the hæmorrhage returned, and I was then called to see her (November 29, 1871)—about the middle of the eighth month of pregnancy. On arriving at the house, I found that the placenta had been born for nearly an hour, and was lying in the bed—the child unborn, and still attached to the placenta. There had been profuse hæmorrhage going on for some time previous to the coming away of the placenta, but on its coming away the hæmorrhage had ceased.

On making a vaginal examination, I found the fœtus lying across the brim of the pelvis—the head to the left side, and its back to the mother's pubes.

I delivered the child by turning, which was born dead. The mother was perfectly blanched, very restless, tossing her arms about and above her head, and the pulse could be barely felt. I administered some brandy-and-water, and a draught of tincture of opium, ammonia, and camphor. There was no hæmorrhage with the delivery of the child, and the mother made a good recovery.

Case 5.—*Seventh Pregnancy—Placenta Prævia—Constant Hæmorrhage during Gestation—Labour at end of Fifth Month—Ovum Born in a Perfect State.*

On October 17, 1873, I was called to see Mrs. S., complaining of passing blood from the vagina, not very profuse, but very frequently, the hæmorrhage occurring nearly every week for the previous four months. She considered herself to be at the end of the fifth month of pregnancy. She had suffered much from morning sickness, and had felt quickening. I prescribed a mixture of sulph. acid. dil., sulph. magnesiæ, and infus. rosæ.

Ten days afterwards (October 28) I was again called to see her at 5 o'clock a.m. More than usual discharge of blood had come on at 10 o'clock on the previous evening, but this had completely stopped at 3 a.m., and regular labour pains had then set in. I immediately attended, and made a vaginal examination. I felt a mass at the os uteri (which was well dilated) like a placenta. While making the examination a strong pain came on, and the whole of the ovum, in a perfectly unbroken state, was expelled; the placenta coming down first. The child was dead, and of a dark livid colour. The ovum was quite perfect, of an oval shape, about eleven inches long by five wide, the placenta forming the base.

The sudden cessation of the hæmorrhage two hours before the birth evidently arose from the placenta at that time becoming perfectly detached from the uterus; and at the same time the death of the fœtus was produced.

Case 6.—*Partial Placenta Prævia—Prolapse of Cord.*

Mrs. D., aged thirty-five years, at the end of the eighth month of her seventh pregnancy was seized with severe flooding, succeeded shortly by labour pains. The discharge of blood continued for some hours at intervals, when I was called to see her (July 19, 1874).

I found on examination a long loop of the funis protruding from the vagina; the pulsation in it was still strong and regular. The os was nearly fully dilated, the child's head could be felt presenting at the pubes, and a large part of the placenta was found to be in the vagina, pressed between the child's head and the sacrum. The flooding had ceased, but immediately recommenced as soon as I pushed the head a little upwards. I therefore proceeded to deliver by turning, which was easily effected. There was great difficulty in making the child respire, but by using the usual means it was completely brought round. The womb contracted well, and the mother made a good recovery.

The hæmorrhage in this case was evidently stopped by the compression of the placenta between the head and the brim of the pelvis, and perhaps the labour might have been allowed to terminate by the efforts of nature alone, without any danger to the mother's life; but then the child would almost certainly have been born dead; and therefore I delivered at once. When I first examined her the circulation through the cord had not

been interfered with, as the placenta formed a soft cushion for it between the head and the brim of the pelvis; but this would not have protected it when the head had fully entered the pelvis.

King William Town, British Kaffraria.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

NORTH-EASTERN HOSPITAL FOR CHILDREN.

CASES OF CONGENITAL CYANOSIS.

(Under the care of Dr. SANSOM.)

Case 1.—William M., aged eight months, was brought to the hospital on May 20, 1874. The child suffered from cough and dyspnœa, and presented deep dusky-blue coloration of the skin, with purple hue of the mucous membranes; he had been blue from birth.

Auscultation manifested a loud first-sound bruit over all the anterior cardiac region, intensified at the base, not heard at the back of the chest; the second sound sharply accentuated. Treatment consisted in the administration of tincture of digitalis in one-minim doses. At first the cyanosis deepened, but the cough and dyspnœa became considerably relieved, a part of this success being no doubt due to the warmer weather of the months of June and July. At the close of July diarrhœa occurred with general failure, and early in August convulsions commenced. Then followed destructive ulceration of the left cornea. Convulsions recurred at intervals, and the child died on October 13, aged thirteen months.

At the autopsy, the heart was found to be rather small, the valves healthy, the foramen ovale open, the orifice presenting a diameter of about an eighth of an inch. All organs filled with dark blood.

Case 2.—George I., aged five months, brought to the hospital on July 11, 1874. Deeply cyanosed; veins much distended. On examination, no abnormality of heart-sounds could be detected. The case was treated by minim doses of tincture of digitalis, with, occasionally, squill mixture when there were attacks of cough and dyspnœa. Convulsions occurred the last week in September; at the end of October the incisor teeth pierced the gums. On October 28 sudden death occurred, the mother at 4 a.m. hearing sounds of impeded breathing, and, on lighting a candle immediately, finding the child dead.

The autopsy was performed under circumstances of difficulty, the heart being examined only after removal. It weighed one ounce and one drachm. The septum between the ventricles was imperfect, presenting an oblong opening, the diameters of which were five-eighths and three-eighths of an inch respectively. The foramen ovale also presented a wide opening. The apex of the right ventricle presented only a groove, and the pulmonary artery was either entirely absent from this situation or else was merely rudimentary. Unfortunately, severance of the vessels took place too low for the ductus arteriosus to be observed. Much serum was contained in the pericardial sac and in the ventricles of the brain.

Case 3.—Thomas S., aged nine months, was brought to the hospital on August 22, manifesting great lividity. One of eight living healthy children. The mother had had a severe fright at the fifth month of her pregnancy. There was a loud systolic bruit over all the cardiac region; loudest at the base. Blueness increased; and in October there occurred much cough and dyspnœa; the ends of forefingers became clubbed; the superficial veins were greatly distended, and the temporal and facial arteries showed locomotive pulsation. In November, eruption of two incisor teeth occurred, and coincidently convulsions and increased dyspnœa. Death occurred on November 14, the age then being twelve months.

At the autopsy, by Mr. Brown, House-Surgeon, the middle lobe of the right lung and a large portion of the left lung were found to be collapsed. The heart, greatly hypertrophied, weighed three ounces and one drachm; all cavities dilated, and filled with clots of very black blood. Greatest thickness of wall of left ventricle, five-twelfths of an inch; of right, seven-twenty-fourths of an inch. The interventricular septum, perforate by an aperture just below the septal aortic semilunar valve, rectangular in shape, five-twelfths by three-twelfths of an inch. The interauricular septum was also perforate by two small apertures, one at the upper, the other at the lower part of the foramen ovale; but these were so bounded by sickle-shaped fibrous bands that there was probably no admixture between the blood of the auricles. The cavities of the heart and the vessels were lined with a thickened endocardium; the aorta of great size (diameter half an inch); pulmonary artery, diameter one-third of an inch. Valves all competent.

Remarks by Dr. Sansom.—(1.) *The Cause of the Cyanotic Coloration:* There are two well-defined theories to account for the blue coloration—the first declares it to be due to the darkening of the arterial blood by its commingling, on account of the structural defect of the heart, with the venous; the second asserts that the cause of the blueness resides only in the venous congestion resulting from the structural abnormality. Some observers hold that both these theories may be correct; and this appears to be the lesson taught by these three cases. In Cases 2 and 3 there was so free communication between right and left heart that commingling of arterial and venous currents must have occurred. In Case 1, the opening of the foramen ovale was so small that possibly the two currents were kept distinct. It would appear to be practically impossible to distinguish by the hue alone whether venous blood was circulating in the arteries, or whether the venous channels were over-full. A child suffering from congenital cyanosis and a child blue from cold present very much the same hue. The line of demarcation in the course of gradual apnœa is not to be drawn. For example, when carbonic acid is retained in the blood, the first effect is seen to be contraction of the arterioles, and hence increasing fulness of the venous radicles. This is probably due to a cause operating upon the vaso-motor centre. Cyanosis may be the immediate effect of such a cause. But if the carbonic acid continue to accumulate, the blood in the left heart becomes of the venous character, and the cyanotic hue is due to a double cause. Granting the hypothesis that cyanosis may be due to both these causes, what is their relative frequency? From the data recorded by Stillé and by Peacock it would appear that in a case of congenital cyanosis the chances in favour of abnormal communication between the blood-currents are more than ten to one, and the chances in favour of some obstruction to the pulmonary artery about six to one. It appears to be probable that the more frequent cause of cyanosis is such congenital abnormality of heart as permits the arterial blood to be darkened by the venous, but that in some cases congenital cyanosis is due to an obstruction to the return of blood, which gives rise to congestion of the venous channels. (2.) *The differential diagnosis* of these cases of cardiac malformation is, of course, very difficult. The existence of the cyanosis is a *primâ facie* case in favour of abnormal communication between right and left cavities. Auscultation usually reveals a bruit; but, as the above cases show, a very extreme condition of malformation can occur without the production of a murmur. In fact, in Case 2, which presented the most extreme anomaly, no murmur could be detected. Considerable aid may sometimes be derived by observing the intensity of the second sound. When the second sound on the left side of the sternum is dull and suppressed there is evidence of a contracted or imperfect pulmonary artery. In Case 1 there was such pronunciation of the second sound that it was rendered probable that the pulmonary artery was not deficient; and this was confirmed at the autopsy. In Case 3 there was abundant evidence of cardiac hypertrophy.

SEAMEN'S HOSPITAL.

ABSCESS OF LIVER RUNNING A RAPID COURSE—ASPIRATION—DEATH FROM EXHAUSTION.

(Under the care of Dr. RALFE.)

[The notes of this case have been supplied by Mr. Andrew Duncan, House-Physician to the Hospital.]

Alfred P., aged thirty-seven, was admitted into the Seamen's Hospital, under Dr. Ralfe, on August 14, 1874, suffering from hepatic abscess. He states that he was quite well till August 7, when he felt a sudden pain in the right hypochondrium; this became more and more intense, and he was obliged to lay up till he was admitted. Had dysentery three years ago, but has been well since. The patient has an anxious countenance; complains of pain over the right hypochondrium, which is increased by pressure, coughing, and deep breathing. Has no shoulder-tip pain, jaundice, or ascites. Dorsal decubitus. Lower margin of liver-dulness apparently normal; percussion

of the chest showed that absolute dulness extended up to the level of the angle of the scapula; breath-sounds feeble; vocal fremitus diminished; no ægophony; puerile breathing on left side. Was ordered a jacket poultice and a saline mixture with opium.

August 22.—The general condition of the patient since the last note has become worse; the tongue covered with a thick, dry, brown fur. The liver can now be felt to project an inch below the costal margin; no fluctuation perceptible; superficial veins over right hypochondrium slightly congested. Dulness is found over chest to begin anteriorly at the fourth interspace, posteriorly midway between the spine and angle of the scapula. Breathing and vocal fremitus indistinct over dull area; no ægophony; above area of dulness, puerile breathing.

23rd.—Evening temperature 103·8°; pulse 126. Delirious at night. Posteriorly the dulness extends to within an inch of the spine of the scapula.

24th.—Morning temperature 102·2°, pulse 114; evening temperature 104·2°, pulse 130. Tongue less dry; profuse sweating. The right hypochondrium now presents well-marked bulging; intercostal spaces obliterated. Area of dulness anteriorly—median line, fifth rib to an inch and a half below xiphoid; nipple line, fourth space to an inch and three-quarters below costal margin; axillary, seventh rib to eleventh rib. During the day diarrhœa set in; five stools. Subsultus tendinum and delirium at night.

27th.—Morning temperature 101·6; pulse 136. The subsultus and delirium still continue, also diarrhœa; passes his water in bed. The dulness anteriorly has now mounted to the third space, posteriorly to the spine of the scapula. The enlarged liver can be tilted up by the hand placed underneath; no fluctuation, however, observable. Paracentesis was performed by Mr. Glanville with the aspirator, the puncture being made in the lower third of the axillary region; about forty ounces of thick pus were evacuated. The dulness nearly resumed its normal limit after the operation. Brandy ℥xij., wine ℥vj. Evening temperature 101°; pulse 124.

28th.—Passed a better night; less delirium; still passes water in bed; diarrhœa and sweating continue. Brandy ℥xviij. Morning temperature 100·6°, pulse 130; evening temperature 102·6°, pulse 140.

29th.—Died at 8 a.m.

Post-mortem, twenty-eight hours after Death.—Thorax: Right lung pushed up extremely; lower border and base collapsed; several ounces of serum in right pleura; left lung base congested. Abdomen: Liver weighed 100 ounces; two pints of pus collected; nearly whole of right lobe infiltrated with pus, especially in the upper and posterior portion, where the liver structure appeared to be completely broken down. The pus depôts were surrounded by a well-marked border of hyperæmia; two small spots of commencing suppuration in the left lobe. Copious effusion of fresh lymph on upper surface of the liver, uniting it with the under surface of the diaphragm. No lesion, old or recent, could be found in the intestines.

Dr. Saunders, Medical Officer of Health of the City of London, reports that, on the whole, the health of the City was satisfactory, although there had been an unusual number of deaths on account of the severity of the weather.

Hypodermic Aperients.—M. Luton found in 1873 that a subcutaneous injection of a solution of ten centigrammes of sulphate of magnesia in one gramme of distilled water acts as a laxative, or even as a true purgative. Subsequent investigations have also proved to him that these purgative hypodermic injections in the above dose suspend symptomatic vomiting in cancer of the stomach, dyspepsia, and gastric catarrh. He also recommends their trial in the nervous vomiting of pregnancy, of migraine, of sea-sickness, and of essential ileus.—*Gaz., Méd.*, January 1.

Harmlessness of Puncture of the Liver by the Aspirator.—Dr. Berenger-Féraud concludes an article on this subject in these words:—"This constant harmlessness in sixteen different cases, and after twenty-one punctures, seems to me to be of a nature to embolden practitioners inclined to employ the aspirator, whether as a means of diagnosis or as a therapeutical agent in certain diseases of the abdomen; and I believe that the fear of traversing a certain extent of the proper tissue of the liver with the trocar, and of puncturing the organ, whether sound, congested, or hyperæmic, should not in future serve as a ground for declining to operate."—*Bull. de Thérap.*, December 15.

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The Medical Times and Gazette *is published on Friday morning, Advertisements must therefore be sent to the Publishing Office not later than One o'clock on Thursday.*

Medical Times and Gazette.

SATURDAY, JANUARY 9, 1875.

HOSPITAL SUNDAY FUND.

With the exception of one or two grumblers, and the proprietors of certain special hospitals and dispensaries, the distribution last year of the amount collected by the Hospital Sunday Fund Committee gave general satisfaction. We believe that the distribution was carried out upon generally just and equitable principles. At a meeting held on Monday last at the Mansion House, under the presidency of Sir Sydney Waterlow, Bart., M.P., the speakers congratulated the meeting on the general success of the movement, and a resolution was passed that even yet greater success might be attained this year by a more general collection in the various churches and places of worship of all denominations. Canon Miller and the Chief Rabbi were of opinion that the Hospital Sunday and the Saturday Funds should be still entirely distinct. This was generally acceded to by the different speakers. Archbishop Manning did not fully recognise the distinction; he, however, eventually moved that June 13 next should be fixed as Hospital Sunday for 1875, and that clergymen and ministers of all denominations should be asked to contribute. This motion was seconded by Dr. Kennedy, and passed. Bishop Claughton proposed the re-election of the committee of ladies and gentlemen who acted as managers of the Fund last year; and this, being seconded by Alderman Finnis, was agreed to. The chairman, in proposing the adoption of a special committee appointed to consider the question of distribution, remarked that the basis of the distribution they recommended should be as before, but "that no institution be admitted to participate in the allotment of the Fund if the Committee of Distribution find the cost of its management exceed a reasonable percentage of the whole current expenditure, but that in no case shall the primary basis of any institution be lowered or any award withheld until after a conference has been requested with the

managers of the particular institution concerned"; and that dispensaries should be placed on the same footing as hospitals —only such, however, as were managed by a committee duly constituted to participate in the Fund.

An amendment to this was proposed by Mr. W. Cooper (Recorder of Ipswich), and seconded by Dr. Morell-Mackenzie, to the effect that if the expenses of the management of any hospital or dispensary exceeded 30 per cent. of the receipts arising from any source whatever save endowments, a proportionate reduction should be made from the arithmetical basis of the award; and that in cases where the expenses exceeded 40 per cent. no award should be made whatever. Both mover and seconder complained of the exclusion of many of the special hospitals—notably the British Skin and the Hospital for Diseases of the Throat,—and urged that the Fund, in that and other respects, had not been fairly or impartially administered.

A rather warm discussion followed, in the course of which Mr. Brudenell Carter took exception to the statement in the report of the Distribution Committee, that in determining their awards to the several hospitals the Committee had not only been guided by the general principles already indicated, but had also kept ever in view the paramount claims to support which, it appeared to them, were possessed by the great general hospitals, which stood open night and day for the free admission of urgent cases of accident and disease of every kind, as compared with the obviously weaker claims of those special institutions, so much less generally useful, which were open only to particular classes of cases, and admission to which was more or less difficult to obtain, and very often delayed. He contended that all diseases incapacitating the poorer and working classes from their ordinary labour, whether they happened to be special complaints, such as leg, or throat, or skin disorders, or ordinary illnesses, or even accidents, stood upon an equal footing; and that if a hospital, whether general or special, had its beds full and was doing a good work, it was deserving of support.

In the end, Mr. Cooper's amendment was withdrawn, and upon the motion of Archbishop Manning a committee was appointed to examine and report upon the claims of special hospitals in particular, and generally on the basis on which the grants of the Hospital Sunday Fund ought to be made to hospitals, both general and special. The following gentlemen were appointed by the meeting to form that committee, namely:—Archbishop Manning, Bishop Claughton, Mr. E. H. Galsworthy, Mr. W. Cooper, Dr. Morell-Mackenzie, Mr. Brudenell Carter, the Rev. H. R. Haweis, Dr. Glover, Mr. Arthur Kinnaird, M.P., Mr. Shaw Stewart, Mr. T. Fowell Buxton, Mr. Coope, M.P., the Rev. Canon Miller, Dr. Steele, Mr. Campbell De Morgan, Dr. Saunders, the Rev. J. F. Kitto, Mr. Joseph Fry, Mr. Callender, and the Rev. W. Rogers.

It must be remembered that the Distribution Committee did make grants to some special hospitals; and we suspect that the lay public are, as a rule, more likely to overrate than to underrate the value of such institutions. But there are special hospitals and special hospitals, and the Committee must have the power, and ought to be credited with an honest desire, to discriminate between them. If, however, there is any real and wide-spread belief, or suspicion, that any of the special hospitals, or so-called hospitals, have been hardly dealt with, the Council of the Hospital Sunday Fund have acted wisely and well in meeting the wishes of the complainants and appointing a committee of inquiry. The constitution of the committee gives every assurance that they will fully and impartially examine and report upon the matters submitted to them; and that all hospitals, special and general, doing true and good service as public hospitals, and doing it well, will have their claims to assistance duly admitted and recognised.

RECRUITING AND DESERTION.

While grave discussions are carried on as to the efficiency, or non-efficiency, of our army at the present day, it is almost beyond dispute that the physical quality and fitness of such recruits as are obtained for it are far from satisfactory. Authority after authority,—some of them of unimpeachable integrity and vast experience,—bears witness to the weak and unmuscular youths who present themselves as recipients of the Queen's shilling; and an inspection of any but the crack regiments of our land forces will at once establish the accuracy of the assertion, that the strong, healthy, and lusty portion of the community, which in former days used to find its way into the various depôts, is no longer attracted by the hope of martial fame.

It is scarcely within our province to dilate on the reasons for this ostensible falling-off, and the remedies to check it: the short-service system and withdrawal of pensions may, no doubt, have exercised a deterrent influence; and the greatly advanced scale of wages which artisans and labourers in every branch of industry now command must act adversely in inducing mature men to abandon well-paid occupations to enlist. If such ideas be correct, the alternative, though unpleasant, is perfectly clear: the pay of the soldier must be increased to such an extent that the recruiting-sergeant may no longer find himself outbid in the great labour market. The portion of the subject to which we feel bound to call attention is the false security which is engendered by the continued and systematic enlistment of weedy and unhealthy youths, by which means, even if numbers are kept up, efficiency is dangerously neglected. It will be remembered that during the Dartmoor manœuvres one regiment was almost broken up at the end of a few miles' march, from the number of men who knocked up and fell out, through the commissariat waggons having failed to put in an appearance at the right moment. Now, if such an incident has to be recorded when playing at soldiers in our own country, what should we have to expect in a real campaign, with all its hardships and privations? The carefully kept medical records of all the latest great campaigns show beyond doubt that the large bulk of mortality is from disease, and not from sword and bullet,—and this, too, amongst nations where the flower of the male population is drafted into the field by the inexorable law of compulsory service. What, therefore, should we have to expect under the present order of things if the British army were unhappily called upon to undertake active and serious work? With all the skill and efficiency of our military medical staff, the "admissions into hospital" in this country are high, and the same may be said of the invaliding; and it remains to be seen whether the numbers under each of these heads will not increase rather than diminish. From some reason—which should be sought for and speedily removed—the service is no longer so popular in this country as it used to be; the old class of stalwart countrymen and broad-chested labourers no longer join the ranks; and the regiments of the present day could not for one instant compare with their namesakes of Peninsular or even of Crimean celebrity. The subject is one of so much importance that it should be met at once, not shelved for future investigation. That Power is least likely to be called upon to assert itself which is known to be the most prepared; and our recruiting returns of the past two years are, as regards quantity and quality, neither satisfactory nor reassuring. The European portion of our army in India numbers between 50,000 and 60,000 men, and, to keep this force efficient the healthiest and best of our scantily-numbered recruits are annually drafted from this country, leaving the residue to be absorbed by the regiments at home. "Coming events cast their shadow before," and, however unpopular the measure may be at first, unless some satisfactory method can be speedily devised for putting things military on a more satisfactory

basis, compulsory service of some description will inevitably have to be adopted in Great Britain.

There is every reason to suppose that, were more popular measures adopted for recruiting our army, the great bugbear of desertion would be finally checked, and men who were contented would perforce remain. As it is, what with light punishments, and the total abolition of flogging and branding, the bad characters not only desert in hundreds as soon as they have received the bounty-money, but a regular trade of deserting and re-enlisting into other regiments has been established. It would be idle to suppose that no unscrupulous and depraved men would enlist, even were the service placed on the most satisfactory of footings; but, as it is even now being mooted whether, under exceptional circumstances, it will not be found necessary to bring back the "cat" into our penal code, so it may well be a matter for consideration by the authorities whether it would not be expedient to re-establish the very mild form of branding known as cross-cupping, which causes very slight disfigurement, only apparent to the examining medical officer, as a means of checking the reprehensible practice of re-enlistment, by which the country is now defrauded of no inconsiderable sum which should be expended in procuring good soldiers.

CLIMATE AND DISEASE IN FIJI.

As not a few of our roving, enterprising, and colonising race have in all probability already turned their thoughts towards Fiji, the newest of our possessions, as a fresh field in which to seek adventure and fortune, our professional brethren may be frequently asked what effects its climate is likely to have upon white men. We are glad, therefore, to be able to give them some trustworthy information on this subject from the valuable report compiled for the Colonial Office by Staff Surgeon Messer, of her Majesty's ship *Pearl*, through inquiries made in 1873 and 1874. The climate of the Fiji Islands is strictly tropical, the hot, moist season extending from November to April, and the cool, dry season from May to October; but the insular arrangement of the land and the strong trade-winds have happily a powerful effect in moderating the temperature, and in preventing the accumulation of miasmata from the enormous masses of decaying vegetable matter, so that the malarious diseases, ague and remittent fever, appear to be very rare; while zymotic diseases are, at present, almost unknown. Venereal disease also is said to be all but unknown, and the natives are reported as being very chaste. The breezes, however, which during the greater part of the year keep the air in motion, and in many ways are so highly beneficial, increase the evaporation from the surface of the body, and lower its temperature; and hence it happens that bronchitis and asthma are very common among the natives, and are at certain seasons very fatal to the old and the very young. Against these maladies the clothed European would, however, be better protected. "Kava drinking" is prevalent: it soothes somewhat like opium, and is a warm, aromatic, stomachic drink, and the natives maintain that it is useful and healthy; but when taken to the extent that it is by some of the resident white people, it is evidently injurious, and not rarely produces delirium tremens. This white population of the islands is estimated by Dr. Messer at 2000, and we are of course chiefly concerned just now with the effects of the climate upon them. About 1700 of them are British subjects, mostly either of Australian birth or long resident there, and who have been subjected to the influence of different climates and have undergone hardships. Not a few have led wild and reckless lives, bringing to Fiji but the wreck of their original selves. But there are, Dr. Messer says, numbers of fine, strong, well-grown men, who, with the characteristic pluck of their race, have left home with their patrimony more in their muscles than in their pockets, and boldly undertaken the life of the pioneer planter, clearing the ground, planting and reaping with their own hands, and braving the treachery of vindicative cannibals with coolness and courage too often greater than their discretion. And he asserts that "dysentery is the only disease which Europeans have to fear in Fiji and to guard against, as can generally be done by observing a few simple precautions. This is saying more for the climate and health of these islands than can be said of almost any other climate or country in the world, and certainly of those in corresponding latitudes." The Europeans in general work the whole day in the open air, exposed to a tropical sun, and protected only by a straw hat and puggery, or occasionally a pith helmet, and yet in no part of the group of islands did Dr. Messer hear of any death from sunstroke. The climate, however, does affect the English race in one way in which hot climates generally affect them; and Dr. Messer notes that the Fiji settler is easily distinguished from the occasional visitor or the fresh arrival from England "by a spareness of frame, a somewhat sallow complexion, and a hard keenness of expression, approaching sensibly the American type of the Anglo-Saxon race." It must not be supposed, we need hardly say, that the climate never has any depressing effects; and we are told that many days occur, especially towards the end of summer, and when the trade winds are failing, of hot, oppressive, muggy weather which affects many people with irresistible languor; but Dr. Messer is not inclined to think that there is anything specially depressing and lowering in this more than in any other equally hot climate. The effects of the climate are more evident in the white women, who have not much out-door exercise, and who in a rough new country are obliged to work hard; but, he remarks, many of these women have been able to nobly bear their share in the struggle of civilisation against a savage country and a cannibal, treacherous race. It is very satisfactory and important to note that, so far as experience at present tells, it is in favour of the possibility of rearing healthy white children in the plantations of Fiji. Wherever Dr. Messer met with married settlers, there were, as a rule, healthy and numerous children, and the mothers bore testimony to the rareness of sickness among their children, and to the lightness of such complaints as they did occasionally suffer from; while, though spareness of frame was noticed among the parents, the children were generally ruddy, stout, and strong. This description applies, however, to the children on the plantations; those in the town of Levuka "were, in comparison, pale, small, and rather sickly-looking, owing chiefly to sanitary defects and the greater scarcity of food suitable to children."

Altogether Dr. Messer's report gives a very favourable idea of the salubrity of the climate of the Fiji Islands as a tropical climate, and shows that Englishmen fresh from home can contend successfully against its effects, and work all day, exposed to the sun, without suffering. The same winds that so temper the heat as to make this possible, prevent any dangerous accumulation of malarious poison; and zymotic diseases are as yet almost unknown. It seems, therefore, that these

"Sunny isles of Eden lying in dark purple spheres of sea,"

do afford a new and attractive field for the energy and enterprise of the Anglo-Saxon race; but will anyone dare to hope that they will remain nearly as free from vice and disease under the English flag, and with the increasingly frequent presence of the trader, and the spread of civilisation, as they have as yet been?

THE WEEK.

TOPICS OF THE DAY.

We understand the Local Government Board have refused to assent to an increase of the Paddington Medical Officer's

salary from £170 to £200 per annum, on the ground that the present infirmary system would in all probability be very shortly altered. But they did not object to a gratuity of £30, an alternative which the guardians have adopted.

The plans prepared by the architects to the Hackney Board of Guardians, for the separation of the workhouse and infirmary establishments of the Union, have been rejected by the guardians, on account, as they allege, of the separation being an unnecessary expense. The Local Government Board have consequently issued a sealed order directing the immediate separation to be effected, and have given directions for the management of the infirmary as a separate establishment. The Guardians are authoritatively called upon to appoint a chaplain, medical officer, dispenser, and a proper staff, with such assistants as may be found necessary, and, in accordance with the recent regulations, pauper labour is to be abolished. This attempt to enforce compliance with the separate scheme will, we understand, be further resisted by the Guardians. The Local Government Board will, as a matter of course, be successful in their determination of compelling the Guardians to carry out a very proper and necessary alteration.

At the Sanitary Conference to be held at Birmingham on the 14th inst., most of the important towns in the kingdom will be represented. The following will be the programme:—Papers "On the Sanitary Condition of Birmingham," by Dr. A. Hill; Bristol, Dr. D. Davies; Leeds, Dr. G. Goldie; Liverpool, Dr. W. Trench. "On the Comparative Mortality of Large Towns," by Dr. B. Foster. "On Improved Dwellings for the Working Classes," by Sir Sydney Waterlow, Bart., M.P., Bailie Harrison, and Mr. W. Swindehurst. "On Hospitals for the Isolation and Treatment of Infectious Diseases," by Dr. J. B. Pritchett.

Mr. J. G. Braden, Medical Officer of Health of Lewes, states that the death-rate for Lewes, just made up, shows that, including thirty-seven deaths from typhoid fever last year, the average was only 19·2 per 1000. Only one more death occurred in the last twelve months than in the previous year, and, deducting the deaths from typhoid fever, the average was as low as 16·2 per 1000. It will thus be seen that the real mortality was very little above the average.

Dr. Henry Charles Woods, R.N., whom her Majesty has selected to attend His Royal Highness the Duke of Connaught on his tour in Egypt, was appointed as Acting Assistant-Surgeon at Haslar Hospital, December 8, 1863, and on the 28th of the same month was transferred to the *Royal Oak* (35), Captain Frederick A. Campbell, fitting at Devonport for the Mediterranean, which ship from March, 1866, was commanded by Captain the Hon. George D. Keane. On August 30, 1867, Dr. Woods was transferred to the Malta Hospital, where he remained until October 22, 1870. He has been serving with the division of Marines at Deal since December 8, 1870.

In spite of repeated remonstrances, the Vestry of Clerkenwell have not yet built a mortuary to supply the wants of that populous and important parish. On Monday last, at an inquest held by Dr. Hardwicke on the body of the wife of a retired master bootmaker, evidence was given by Mr. Popham, who examined the body, to show that the woman died from natural causes. He made an indignant remonstrance on behalf of the public against medical men being compelled to make post-mortem examinations in such places as that in which this person died—a close and dirty room in Providence-row, Pentonville. He had made a post-mortem examination in a private house on a child which had died from an infectious disease, the consequence of which was that six or seven children caught scarlet fever, and it spread through the locality. Mr. Frederick Cheshire, a nuisance and sanitary inspector stated that he visited the house on Saturday night, and found the rooms dirty, and the walls exceedingly filthy, while the place altogether wanted putting into a sanitary condition. The Coroner remarked that the parochial authorities were willing to spend money, and find a suitable place for the erection of a public mortuary and post-mortem rooms, but were opposed by the ground landlords on the one hand, and the clergy on the other. The only way to alter such a state of affairs was for the Vestry to follow the example of railway authorities, and apply to Parliament for powers under the Sanitary Act to acquire land on which to erect such buildings; and if the landowners put on an exorbitant price, then have the matter referred to arbitration or a jury, to name a fair marketable price for the site required. The jury having returned a verdict in accordance with the medical testimony, added the following resolution to be forwarded to the Vestry of Clerkenwell—viz., "That they desired again to remind the Vestry of the dangers and inconvenience arising from bodies awaiting an inquest or burial being allowed to remain in close rooms and crowded houses; and they requested the Vestry to take steps to obtain the necessary powers to acquire land on which to establish a mortuary and post-mortem rooms."

At a meeting of the Medical Board of the City of Dublin Hospital, on the 2nd inst., Mr. Joliffe Tufnell, President of the Royal College of Surgeons in Ireland, was unanimously elected Consulting Surgeon to that Hospital.

DISEASE AND MORTALITY AT MALTA.

For some considerable time past Malta has laboured under the unenviable notoriety of being a very unhealthy and fatal place of residence,—so markedly so, that his Excellency the Governor in July last appointed a Commission to inquire into the causes of the increased mortality; and their report, lately issued, is, as was to be expected, a repetition of "the old, old story," that the disease and mortality had their origin in, and were propagated by, preventable causes. In order to secure a thorough investigation into the subject, each member of the Commission was assigned the task of examining and reporting on a given division or divisions. From these divisional reports most valuable information and statistics are given. In 1865, 1817 persons, or 12·2 per 1000 of persons living, died from cholera; in the epidemic of 1867 the number who died from cholera and diarrhœa was 403; from 1870 to 1873, 1119 persons died from small-pox; and from 1867 to 1873, no less than 841 from diphtheria. But it is a fact beyond dispute that in a series of years epidemic seasons do not unfairly exaggerate the average death-rate, inasmuch as the mortality arising from them may be taken as gauging the force and quality of those insanitary agencies which tend generally to shorten the term of existence. From 1867 to 1871, a period signalised by the epidemics of small-pox and of cholera, the rate of mortality was 29·00 per 1000 for Malta and Gozo; in 1872 it was 24·28 for the two islands; and in 1873 this had fallen to 22·39; but in June, July, and August, 1874, it had again risen to 49·24 in Malta alone, at the rate, for the eight months only, of 26·12 per 1000, and for the twelve months of 34·86. After indicating the immediate causes, as well as those more remote, which have been active in augmenting the mortality, the Commissioners conclude their exhaustive and able report thus:—

"In suggesting remedies, we have been desirous to avoid any which might seem to savour of meddlesome legislation. We believe that the existence of overcrowding in the towns, the fetor engendered by faults of local drainage, the many sources of foulness which have their origin in the prevalent and too general usage which admits the lower animals to share the same roof with their owners; the existence of stables in house cellars; the need of sanitary supervision in many of the new architectural undertakings, and all kindred sources of pollution, will be best supervised and corrected under such a department of Government as we have indicated—one which

should be endowed with adequate powers for dealing with them. And, finally, we have urged as a measure of the last importance that, whilst ministering to the needs of the parent stock, the Government should lend its aid in organising a liberal scheme of emigration for its offshoots. We believe that the adoption of this measure, in conjunction with the other correctives which have been passed in review, would go far to restore to Malta the fulness of those blessings with which a bountiful Providence has so richly endowed her, and that her chief city may once more deserve to be known, as it was of old, as one of the richest jewels in a kingly diadem."

THE PATHOLOGICAL SOCIETY.

THE annual meeting of the Pathological Society was held on the evening of Tuesday, the 5th inst., when the report of the Council for the past year was read; the officers and Council elected for 1875; and a short address delivered by the retiring President, Sir William Jenner. A number of pathological specimens, including several of great value, were exhibited at the same time. The report for 1874 confirmed the high reputation which the Pathological Society of London has long and deservedly enjoyed for the accomplishment of abundant and valuable work. The Society now numbers 515 members, and its financial condition is highly satisfactory. The report contained the very pleasing announcement that Dr. Peacock, lately President of the Society, had, at his own expense, compiled an index to the last ten volumes of the *Transactions*—a copy of which will be presented to each member. An important alteration was made in the hour of meeting, which was changed from eight to half-past eight o'clock. This new arrangement was accepted with general satisfaction. The vote of thanks to the retiring President was proposed by Dr. Hare and seconded by Mr. Bryant. In his valedictory address, Sir William Jenner congratulated the Society on the success of the two sessions during which he had presided over it, and made special mention of the labours of the Committee on Morbid Growths and the Chemical Committee. Speaking of the two great discussions in which the members had engaged during his presidency,—on Tubercle and on Cancer,—he said that they were, without doubt, of great value. Not that the addresses may have made many converts, but that they brought out discrepancies and agreement more clearly, as well as the considerable amount of accordance practically, which after all existed on the subjects. Each speaker had been enabled, by the expositions of his opponents, to see how much could be said on the other side; and, by an opportunity of speaking, to clear up his own ideas. The retirement of the Honorary Secretaries, Dr. Cayley and Mr. Henry Arnott, was mentioned with regret; no praise could be too great for services which had in every way been of the greatest value to the Society. Sir William concluded his address with a complimentary reference to his successor-elect, Mr. George Pollock, and to the new Secretaries, Dr. T. Henry Green and Mr. Wagstaffe.

The last two sessions of the Society have been, as Sir William Jenner said, highly successful; and we may add the simple truth that that success has in a very large measure been owing to the exemplary manner in which Sir William discharged the duties of President. Rarely allowing himself to be absent from the Society, notwithstanding the great demands that the practice of the profession makes upon his time, he presided over the meetings and the discussions with admirable ability, dignity, and courtesy.

The following is a list of the officers and Council elected for the year 1875:—*President:* *George D. Pollock. *Vice-Presidents:* Lionel S. Beale, M.B., F.R.S.; *Wilson Fox, M.D., F.R.S.; Charles John Hare, M.D.; *Sir William Jenner, Bart., M.D., K.C.B., D.C.L., F.R.S.; Campbell De Morgan, F.R.S.; Carsten Holthouse; John Whitaker Hulke, F.R.S.; Henry Lee. *Treasurer:* Charles Murchison, M.D., F.R.S. *Honorary Secretaries:* *T. Henry Green, M.D.; *William Warwick Wagstaffe. *Council:* *William Cayley, M.D.; Henry H. Cruckshell, M.B.; Arthur Leared, M.D.; John Wickham Legg, M.D.; Joseph Frank Payne, B.A., M.B.; Arthur Julius Pollock, M.D.; Richard Douglas Powell, M.D.; Philip Henry Pye-Smith, M.D.; *Henry G. Sutton, M.B.; *Charles Theodore Williams, M.D.; *Henry Arnott; William Morrant Baker; *Marcus Beck; William Fairlie Clarke, M.A.; M. Berkeley Hill, M.B.; *Thomas Carr Jackson; *Henry Walter Kiallmark; Henry John Hughes Lawrence; Francis Mason; *William Spencer Watson. The gentlemen whose names are marked with an asterisk (*) were not on the Council or did not hold the same office during the preceding year.

HÆMORRHAGIC INFILTRATION OF THE PANCREAS AS A CAUSE OF SUDDEN DEATH.

CERTAIN observations recently made on this subject by Professor Zenker, of Erlangen, and communicated by him at the meeting of the German Scientific and Medical Association at Breslau, would appear to be of great importance to the physiologist, practitioner, and medical jurist. Cases of hæmorrhage into the pancreas, associated with sudden death, have very rarely been recorded; they are probably more common than is believed, for Zenker met with no less than three within twelve months (*Daily Bulletin of the Forty-seventh Meeting of the German Scientific and Medical Association*). The facts observed were very nearly similar in each instance—a corpulent subject died suddenly, or was found dead: post-mortem, the only fresh pathological appearance was extensive hæmorrhagic infiltration of the pancreas and neighbouring connective tissue, and advanced fatty degeneration of the pancreatic parenchyma. Further, there was found, in two of the cases, bloody effusion in the duodenum; and, in two, excessive hyperæmia of the semilunar ganglion.

The coincidence of these remarkable pathological conditions with the occurrence of sudden death indicates, according to Zenker, the great importance of the observation from a forensic point of view: henceforth the pancreas must not be omitted in the examination of the organs after sudden death. In one of the cases, indeed, Zenker was able very strongly to urge that the subject—whose body was found in the water—had probably not committed suicide, but had dropped dead into the stream. On the other hand, these cases very readily remind the physiologist and surgeon of death by mechanical injury to the abdominal viscera—of what is usually termed "shock." It is an interesting fact that in two of the cases, as has been described, the semilunar ganglion was hyperæmic; and it is further a fact that in one at least of these the heart was found in precisely the same condition as that of the frog after Goltz's familiar *Klopfversuch*, or tapping-experiment—namely, relaxed and empty. And Zenker believes that, whether directly or indirectly caused, paralysis of the heart must be regarded as the immediate cause of death in these cases.

THE SANITARY CONDITION OF OXFORD AND THE ILLNESS OF PRINCE LEOPOLD.

IT is tolerably well known that Prince Leopold has recently passed through a mild attack of what can only be called typhoid fever. Defervescence took place unwontedly early, and the Prince is now fairly on the way to recovery from his mild attack; but it is not to be forgotten that he has run a certain risk—a risk, moreover, which sanitary science teaches can in great measure be avoided by due precautions. The most essential of these are good drainage and pure water; and it is not long since we directed public attention to the notorious want of these in many parts of Oxford. It is, moreover, a well-known fact that the neglect of any one member of a community like the inhabitants of Oxford may involve the safety of all, from the highest to the lowest; for scouts,

laundresses, and petty tradesmen do not entirely live in, or solely frequent, the various colleges. We have heard of various suspicious illnesses and deaths amongst the undergraduates, and, knowing the notorious defects of the city as regards drainage and water-supply, we can hardly help mentally connecting the two. The young men at our universities are the hope of the nation, and what concerns the well-being of these places of education is really something more than the health-statistics of Little Pedlington.

NEUMANN ON A COMBINATION OF ECZEMA MARGINATUM WITH ONYCHOMYCOSIS, AND ON PARASITIC SYCOSIS.

In a recent number of the *Wiener Medizinische Presse*, Dr. Isidor Neumann, of Vienna, reports two interesting cases of parasitic skin affections. The first was a case in which the patient suffered at the same time from eczema marginatum and onychomycosis—a combination which has not been previously noticed by any observer. The upper half of the inner surface of both thighs, and the abdomen from the umbilicus downwards, were covered with a very infiltrated eczema marginatum, whose borders were skirted by a number of papules and vesicles arranged in semicircles, and there were similar patches on the cheeks and arms. The nails of the fingers were uneven, brittle, and of an unhealthy yellowish colour, and on microscopic examination chains of jointed mycelium were found in their substance running amongst the epithelial cells. This patient appears to have been infected with the fungus from a horse, which he had ridden for many years, and which had a diseased skin. The second case is one of sycosis, in which a fungus was found on the hairs and in their sheaths—a case, in fact, of the so-called "parasitic sycosis." The hairy parts of the patient's cheeks, chin, and neck were covered with patches, from the size of a threepenny-piece to a half-crown, partly circular and partly of a semicircular shape, whose centres were covered with dirty yellowish scales, which could be easily removed, while there were small vesicles and crusts at their edges. There were also pustules here and there, each penetrated by a hair, while on the chin there were a number of tough reddish tubercles, as large as a pea, surmounted by yellowish-brown crusts. The hairs could easily be extracted, and under the microscope chains of mycelium were found running through them, while round and oblong spores, both isolated and in groups, were embedded in their root-sheaths.

This is the first case of parasitic sycosis which Dr. Neumann has met with at Vienna in his large experience. The disease appears to be as rare in Austria as in England.

THE MEDICAL EDUCATION OF WOMEN IN RUSSIA.

A LADY who has recently been looking at the apparatus for teaching medicine to women writes a somewhat glowing account of it in the *Times*. The Russian women undergoing training are not, however, intended (if we understand aright) for any more elevated post than that of skilled midwives, even though their course of instruction is so long; and they are educated under conditions essentially different from those sought in Edinburgh. The whole educational process is carried on at the Academy of Medicine, in the same buildings and by the same professors as for the young men students, but at entirely different hours. Two hundred and forty young women have now been pursuing the course of training for three years, the term fixed being for four. None have, therefore, at present been sent out to begin their work and profession. The payment for instruction is sixty roubles a year. A small proportion of the females only come from the capital; the larger number of students are from the provinces, many being sent by the different Governments or Town Councils, and their education paid for, on condition that they return to practise in these localities. There are three lady superintendents over the classes; the hours are from 8.30 a.m. to 4 p.m. A large hospital is attached to and forms part of these vast buildings; so there is every opportunity of practical and theoretical instruction afforded on the spot. Three wooden hospitals have been erected in St. Petersburg during the last three years. They are pretty wooden châlets situated in a large space with trees in an open and airy part of the city. Each house or hall contains sixteen beds, eight on each side, filled with men. The ventilation and warming arrangements are good, with high skylights above, and a lower floor beneath for the apparatus for both purposes. A Sister of Charity superintends in each. But the chief point is the school for nurses attached to them, in which seventy young women are being trained, not only in the care of the sick, but in the higher branches of medical knowledge also. Twenty pupils are resident; the others come by day. The entire nursing of these three hospitals is done by them, and the instruction is given by medical professors. Male students do not attend. There is a fourth hospital for women in a house close by, but the sanitary arrangements are found to be so far better in the wooden buildings that another is about to be constructed on the same plan, which will replace the house. Most of the pupils here are orphans, who pay nothing, all the expenses being defrayed by the Empress.

MORTALITY OF LONDON.

In the metropolis 2442 deaths were registered last week, showing 721 above the average. The death-rate during the past two weeks averaged 31 per 1000. The fatal cases of scarlet fever, which in the six preceding weeks had declined from 124 to 65, were 69 last week. The Asylums District Hospitals contained 184 scarlet fever patients on the 2nd inst., showing a steady decline in the four preceding weeks from 243 to 212. The annual death-rate from all causes among persons aged sixty years and upwards, which in the seven weeks ending November 14 had averaged 62·2 per 1000, rose, from the effects of the cold weather during the seven following weeks ending Saturday last, to 130·8 per 1000; during the last two weeks of December it was equal to 150·6.

THE COLOUR OF THE YELLOW SPOT IN THE HUMAN RETINA.

As the result of an examination of several human eyes in a perfectly fresh state Professor H. Schmidt, of Marburg, has come to the conclusion (*Centralblatt Med. Wiss.*, December 5, 1874), that the yellow tint of the macula lutea is a post-mortem appearance, and that the term "yellow" spot is an incorrect one when applied to the living eye. The macula lutea is really of a dark brownish-red colour—that is, of the same which it appears to have in those cases where it can be recognised by the ophthalmoscope in living persons. The macula lutea, whose horizontal diameter is about 0·8 to 1·0 millimetre, has a uniform tint if looked at by daylight, or by lamplight reflected with the ophthalmoscope mirror, but its centre has a darker shade if a stronger light is concentrated on it with a convex lens. The yellow colour which is ordinarily ascribed to the macula lutea was present twenty-one hours after death in the second eye of a person in whom the first was examined immediately after death, and found to have a macula of a dark reddish-brown tint.

WATER OF THE REGENT'S CANAL.

THE impure state of the water of the Regent's Canal is, we are glad to observe, a subject of inquiry at the various vestries of the parishes through which the canal runs. The subject of drainage into the canal was discussed at the Marylebone Vestry last week. Mr. Hallam said the matter had caused much agitation in St. Pancras, and eminent analysts had declared that the water was as bad as any sewer matter. The importance of the question was quite appreciated by the Vestry, and it was referred to the Sanitary Committee.

HARVEIAN SOCIETY OF LONDON.

THE following is a list of the names of gentlemen proposed by the Council as officers of the Society for the year 1875:—*President:* *W. H. Broadbent, M.D. *Vice-Presidents:* J. Hall Davis, M.D.; O. A. Field, Esq.; *W. Tilbury Fox, M.D.; *T. Carr Jackson, Esq. *Treasurer:* Henry Power, Esq. *Hon. Secretaries:* Robert Farquharson, M.D.; *H. E. Sewill, Esq. *Council:* *James R. Lane, Esq.; E. Parker Young, Esq.; Septimus Gibbon, M.B.; A. J. Balmanno Squire, M.B.; G. De G. Griffith, Esq.; J. Lennox Browne, Esq.; W. F. Teevan, Esq.; *W. H. Day, M.D.; *John Easton, M.D.; *E. Symes Thompson, M.D.; *G. G. Gascoyen, Esq.; *H. Cripps Lawrence, Esq. *Trustee:* *James E. Pollock, M.D. An asterisk is prefixed to the names of those gentlemen who did not hold the same office the preceding year.

OPERATION ON THE FIRST PART OF THE LEFT SUBCLAVIAN ARTERY.

WE learn that on Saturday last Mr. McGill, of Leeds, operated upon the first part of the left subclavian artery for relief of aneurism, by cutting down and applying a torsion-forceps to the vessel. The pressure was removed after ten hours and a quarter; pulsation in the tumour was found to have ceased, and the patient is, according to the latest accounts, doing well. The case had been previously treated by galvano-puncture with partial success. This is probably the second time in which the circulation through the first part of the left subclavian artery has been arrested by operation. Rodgers, of New York, ligatured the vessel in 1846.

DR. BRYDEN'S VITAL STATISTICS OF THE BENGAL ARMY.

WE have now before us a very extensive and elaborate report by Dr. Bryden, showing the effects of age and length of service on the sickness and mortality of the European army in Bengal, and an aggregate of the statistics of the army for the ten-year period 1860-69. The reports on the effects of age and length of service have already appeared as appendices to the Annual Reports of the Sanitary Commissioner with the Government of India for the years 1870, 1871, and 1872; they contain many important and interesting conclusions, based upon a comparison between the statistics of sickness, mortality, invaliding, age, and length of service of newly arrived regiments with those of the army generally taken as a standard. Among Dr. Bryden's conclusions are the following:—

First. The British soldier in India belongs to the class of old men when he reaches thirty years of age, whether he reaches this age in the course of Indian service or lands with his regiment. On the subject, however, of the favourable death-rate among the older soldiers during the years 1863-61, Dr. Bryden remarks that its occurrence was due to the circumstance that the men of the army above thirty had reached this age through Indian service, and were not men landed in India and passing through the experience incident to new comers. He thus to a certain degree admits the possibility of acclimatisation, but beyond that the diseases of deterioration—heart diseases, dysentery, hepatitis, phthisis, and above all delirium tremens, rise in the old soldier to an enormous ratio.

Secondly. That the ratio of liability to death increases rapidly with advancing age. This statement is demonstrated by tables showing—firstly, that in the new army of 1858, subjected to the influences of exposure in the field during the hot season, and rains during the Mutiny campaign, of every 100 deaths 13·44 were of lads of twenty and under, 20·48 between the ages of twenty-one and twenty-five, 29·76 between the ages of twenty-six and thirty-five, and 36·32 at the age of thirty-six and upwards. Secondly, that in the army as a body, from 1865-70, excluding cholera, of every 100 deaths 11·09 were of lads under twenty, 19·92 between the ages of twenty and twenty-four, 25·37 between the ages of twenty-five and twenty-nine, and 43·62 at the age of thirty and upwards.

Thirdly. That in newly arrived regiments, from 1861-69, excluding cholera, of every 100 deaths 10·41 were of lads under twenty, 20·02 between the ages of twenty and twenty-four, 31·66 between the ages of twenty-five and twenty-nine, and 37·91 at the age of thirty and upwards.

Fourthly. That in newly arrived regiments in their second year, from 1865-70, of every 100 deaths 5·03 were of lads under twenty, 20·18 between the ages of twenty and twenty-four, 29·41 between the ages of twenty-five and twenty-nine, and 45·38 at the age of thirty and upwards. The same phenomenon of increase of the invaliding-rate with increase of age also holds good.

The following facts are extracted from a table compiled by Dr. Bryden, and which he says comes up to his ideal of a standard, and may be accepted as showing almost in perfection the normal ratios in which men may be expected to die at different ages, when violently disturbing causes of mortality are not present. It refers to the period 1865-70:—

Died per 1000 *of Strength at the Different Ages.*

	Under 20.	20 to 24.	25 to 29.	30 and upwards.
Cholera	4·95	5·63	5·58	6·92
Fevers	4·48	4·78	2·65	2·98
Heat-apoplexy	·94	1·23	2·33	1·41
Delirium tremens	—	—	·24	1·08
Dysentery and diarrhœa	·57	1·82	2·31	3·20
Hepatitis	·09	1·73	3·04	5·45
Phthisis pulmonalis	·29	1·18	1·47	2·14
Heart disease	·19	·18	·92	2·88
All other causes	1·05	2·75	4·41	7·80
All causes...	12·56	19·30	22·99	36·86
Do., excluding cholera...	7·61	13·67	17·41	29·94

Ratio of Liability in Percentages.

	Under 20.	20 to 24.	25 to 29.	30 and upwards.	Total.
Cholera	21·45	24·39	24·18	29·98	100
Fevers	30·07	32·08	17·85	20·00	100
Heat-apoplexy...	10·55	13·80	26·15	49·50	100
Delirium tremens	—	—	18·18	81·82	100
Dysentery and diarrhœa ...	7·21	23·04	29·24	40·51	100
Hepatitis	·87	16·78	29·49	52·86	100
Phthisis, pulmonary	5·71	23·23	28·94	42·12	100
Heart disease	4·56	4·32	22·06	69·06	100
All other causes	6·55	17·14	27·68	48·63	100
All causes	13·70	21·04	25·07	40·19	100
Do., excluding cholera ...	11·09	19·92	25·37	43·62	100

Fever is the special disease of the boys and the young men, in whom, however, the system is gradually prepared for the invasion of climatic disease. The men from twenty-five to twenty-nine show ratios immensely increased in all the diseases of deterioration: heart disease is five times as prevalent as in the former class; heat-apoplexy is doubled; and the liability to hepatitis is as 17 to 30. Phthisis, too, is rapidly increasing; and the effects of drunkenness become visible in the tendency to die by delirium tremens, which is first developed at this period of life. On the subject of delirium tremens we find in another part of the report that in a total of 106 deaths from this disease in the last seven years 20 only have occurred in privates, sergeants affording no fewer than 86.

The ratio of invaliding, also, is doubled in the case of the old soldier when compared with that of the men between twenty-five and twenty-nine. From 1865 to 1870, of men between twenty and twenty-nine, 39·74 per 1000 were invalided; and of those of thirty and upwards, 78·34. The ratio of liability to invaliding of the two classes, taking 100 as the standard, was 33·66 and 66·34 respectively.

A steady decrease of the proportion of soldiers serving in India between twenty and thirty—whom Dr. Bryden designates the best material—appears to have occurred between 1863 and 1870. In the former year the proportion of men of this class was 76·48, while in the latter it was 60 per cent. only. In the earlier years of that period the proportion of old men was one-fifth; in 1869-70 the proportion was one-third, and this third of the army is a body which consistently gives an invaliding ratio of nearly 8 per cent.

If the above deductions by Dr. Bryden from the statistics at his disposal—the period included in which is certainly sufficiently long to justify us in admitting their value—be established by future experience, they have an important bearing upon the much-mooted question of the advisability and necessity of re-establishing a local European army in India; also on the relative advantages of the short and long

systems of service in the British army, of which nowadays such a large proportion is on service in India. It may also be fairly concluded that the rapid deterioration of the value in the lives of European soldiers in India after the age of thirty extends to other Europeans residing for long periods in that country, even under the more favourable circumstances of officers in civil and military employ, or of the rapidly increasing professional and mercantile community now residing in India. The subject is also well worthy of consideration in connexion with the recently much-discussed question of life insurance for Europeans subjected to the influences of the Indian and other tropical climates.

Dr. Bryden considers that if cholera as a cause of mortality be excluded, it is a mistaken belief that the death-rate of the army in India is apt to fluctuate greatly. From the aggregate statistics of the ten-year period from 1860-69 he furnishes a standard death-rate, excluding cholera, of 20·74 per 1000. He also gives the individual details of the mortality of the eleven years from 1860 to 1870, during which there were two periods of excessive sickness—1860 and 1869,—of which years the death-rate was 24·73 and 26·43 per 1000 respectively. The excess of these years he looks upon as a fair counterbalance to the exceptionally healthy years 1862, 1864, 1866, and 1868, the death-rate of which in each instance, excluding cholera, was but a little over 18 per 1000; and he therefore concludes that the above standard of the ten years is a correct representation of a year of average health. That 1867—a notoriously unhealthy year as regards cholera—should, that disease being excluded, show the lowest death-rate for the eleven year period—viz., 17·11 per 1000—he considers to be due less to the fact that it was an unusually healthy year as regards other diseases, than to the circumstance that of the 479 men who died from cholera as many bad lives would have succumbed to climatic disease as would have brought up the ratio to that of ordinarily healthy years.

Including cholera, the standard death-rate from 1860 to 1869 becomes 29·98 per 1000.

Dr. Bryden, in the following table, compares the death-rate of new regiments with the above standard:—

New Regiments.	Death-rate per 1000.		
	Excluding cholera.	Cholera.	All causes.
First year	32·58	15·52	48·10
Second year	24·61	3·33	27·94(a)
Third year	16·32	2·09	18 41

Dr. Bryden observes that these figures seem to teach that a new regiment landed in India attains the normal standard of health in its third year of residence, and that in the first year both climatic and epidemic causes tell powerfully against the new material, which suffers in the second season also from the same causes in a modified form.

From another table,(b) contrasting the components of the death-rates of the first three years (deaths from cholera and violence being excluded), Dr. Bryden demonstrates that the ratio of liability to death from purely climatic diseases—heat-fevers, heat-apoplexy, and acute dysentery—steadily diminishes; while hepatitis, heart disease, and phthisis, the diseases to which the older soldier is more peculiarly subject, have not yet begun to make a decided impression on the death-rate of the new body.

Dr. Brydeu has also contrasted the admission-rate, fever-rate, daily sick-rate, death-rate from all causes excluding cholera, and death-rate from cholera, among new and old troops cantoned together. The illustrations are not selected; they are the whole that it was possible to bring together from the history of the past seven years. The results are given below:—

Per 1000 *of Strength.*

	Admission-rate	Fever-rate.	Daily sick-rate.	Death-rate, excluding cholera.	Death-rate from cholera.
New troops ...	2026·8	620·9	84·2	43·7	48·5
Old troops ...	1219·4	225·4	52 4	13·7	7·2

The aggregate strength of the bodies compared is almost identical, and, being cantoned together, they were exposed to almost identically similar circumstances; the only difference being that the old regiments were composed of acclimatised men, while the new were for the first time meeting the influences peculiar to an Indian climate.

The conclusions at which Dr. Bryden has arrived on the subject of acclimatisation are—That every individual on arrival in India is obliged to pass through a process of adaptation to heat; that when this is completed he is left in a better position to withstand the influences of the hot season. That the young material—in consequence of the young constitution possessing a greater power of resiliency than the old, although the younger may suffer in an equal ratio with the older from the diseases of the unacclimatised—is that best qualified to withstand the climate of India: while the older man dies, the younger recovers, and is not necessarily damaged for Indian service by the fact that he has suffered from serious illness in his first year of residence. That it is not the man above thirty who is efficient for service in India; and that, particularly if in addition to his age he brings with him habits of intemperance, it is useless to send him to India. That the enormously increased death-rate in the case of the old soldiers from diseases of deterioration, as illustrated by the earlier quoted tables given above, means simply that the British soldier can withstand the effects of climate for a limited period only, and that the army, viewed as a body, can never be expected to furnish a large proportion of old soldiers adapted by length of residence to withstand, under exposure, the influences to which the young will succumb.

The invaliding teaches the same thing. It is the old men, as a class, who furnish the invalids, and it is diseases of deterioration special to the old which form the chief components of the invaliding rates; and these diseases of deterioration as a cause of invaliding are general even in the second and third years of Indian service.

On enteric fever as occurring among European troops in India, and latterly attracting so much attention from medical officers as a cause of mortality, Dr. Bryden enters largely in the report under notice. We must postpone till a future number the consideration of Dr. Bryden's conclusions on this important subject.

(a) Given in the text as 21·28, the difference instead of the sum of the figures in the two columns—evidently a clerical or typographical error.

(b) This table is given at page 5, the aggregate strengths of regiments during their first and second years of service from 1864-69 and 1865-70 being given respectively as 14,304 and 14,423; whereas, according to the tables in pages 22 and 23, the aggregate strengths of the same body during the same period are given respectively as 14,802 and 14,643. We have been at some pains to find an explanation of this discrepancy, but without success. The result, however, in the several ratios is unimportant.

NATIVE PRACTICE IN RAJPOOTANA.

The following exceedingly interesting paper on native practice in India, by Surgeon-Major W. J. Moore, L.R.C.P., Superintendent-General of Dispensaries and Vaccination in Rajpootana, we do not hesitate to republish, and so make known to a wider circle of readers than it could have when it appeared in our excellent contemporary, the *Indian Annals of Medical Science*. We have frequently before this had occasion to refer to Surgeon-Major Moore's labours, and do so again with much pleasure. He is, moreover, to be congratulated on gaining the prize offered by the Indian Government for the best text-book on everyday medicine to be put in the hands of the political resident or other officer far removed from skilled medical aid.

Whatever may be the opinions held of the indigenous drugs of India, as compared with the "elegant" preparations of the European chemist, and however the suspicion (sometimes openly expressed) may lurk in the minds of those knowing very little of the subject, that "European doctors" will not condescend to use or even to investigate "native medicines," there are few with the hardihood to assert that native practice, either in medicine or surgery, is superior to these arts as taught among European nations. Still there are some who for certain diseases,—guinea-worm, for instance,—although perhaps not ready to admit the *experimentum crucis* in their own "vile bodies," do not hesitate to extol some native empiric to the disadvantage of the European surgeon. The credulity and ignorance still displayed by an educated and newspaper reading public with regard to snake-bite and its treatment, is an apt illustration of an existing predetermination that there must be some secret native remedy for this and other maladies. For not only during the progress of Fayrer's and Shortt's experiments, but even since the publication of the "Thanatophidia," nostrums have been brought forward, either for internal or external application, vouched for by persons who certainly ought to know better. But as above mentioned, as a rule, the general public are kind enough to admit that physicians and surgeons educated on the European system, provided they have

had some "experience in the country," may be more fitted to deal with the great majority of diseases than the hakeems and baids of the soil, even although the latter are rich in medical lore, handed down from father to son, from generation to generation. Hence we have the frequent exhibition of such stock phrases as "the blessings of European medicine and surgery to the natives"—expressions which have not been always well received by a carping and would-be-censorious native press, and indeed which have been sometimes uttered without a full knowledge of their intensely painful but correct signification. In the following lines the state of medical and surgical practice in Rajpootana (the part of India with which I am best acquainted) is depicted from actual observation, and the text will abundantly testify to the fact that there are few matters in which Government can more immediately benefit the natives of the country, or more demonstrate the humanity of a Christian civilised power, than by the persistent endeavour to render the science and art of the profession available to all.

When coming in contact with the natives, and more especially with the poorer classes of these districts, nothing strikes the medical man more than the apathy with which so many endure what might be cured, until it becomes absolutely incurable. People, for instance, suffer from chronic ophthalmia, and will continue so to suffer for years, until almost complete opacity of the cornea causes them to grope their way to the European medical officer. Having endured much at the hands of local hakeems, they yet expect immediate relief from the sahib, and on being told this is impossible, with a kindly explanation of the nature of the case, and the probable effects of treatment, they retire and again submit to a course of torture, or even maltreatment, by the village baid. Some time ago, a Brahmin, in most respects very intelligent, came to me with a large hydrocele. Tapping was of course proposed, and the man was desired to remain a few days for the radical cure, but he went away, returning many months after in a deplorable condition. He had submitted himself to a village "jurrah" generally in these parts a Bheel, who had applied the actual cautery—or "dhag" as the vernacular has it. About a dozen "dhags" had ulcerated through the integument of the scrotum, sloughing had followed, and although the hydrocele was cured, it was at the expense of the disorganisation of one testicle and months of suffering and danger to life. Why this man went away and submitted himself to the Bheel treatment was explained as effected by the persuasion of friends. Similarly, only the other day, a boy of fourteen came by himself from a village twenty miles away, for relief from stone in the bladder. The operation being necessarily deferred a day or two, his parent came and took him away, offering no manner of excuse for the procedure. But in all probability this boy will be operated upon by the village "jurrah" in the manner presently to be described, when his chances of perfect recovery will certainly not be at the maximum. I have frequently known persons travel long distances—fifty or one hundred miles—to a dispensary, and when told their cure would take time, although certain, start back immediately uncured. Neither could this result altogether from poverty, as in the dispensary they would not be required to provide themselves with food. And there are few natives, the members of whose family are not able to conduct its affairs during the absence of one or two of the household. It follows, then, that while in the highest degree apathetic about their ailments, they are at the same time impatient for cure, but often will not take the trouble to go through the necessary course of treatment. They prefer the ills they have rather than others they know not of!

Of course there are very many not exhibiting this apathy, and consequently attending in all respects to the European medical advice. And these are mostly the inhabitants of the larger cities, where dispensaries have been some time established at the very doors of the people. Proximity of such institutions leads to their being much frequented by dwellers in the immediate neighbourhood, who evince the value in which they esteem European medical advice by the eager manner in which they press forward, not only to tell their own complaints, but to listen to, and comment on, if not to feel a satisfaction in, the misfortunes of others.

The people in the districts and remote localities probably suffer more from the neglect or maltreatment of fractures and dislocations than from any other particular section of neglected or ill-treated accidents or diseases. It is indeed in my experience very rare that either fracture or dislocation terminates in a satisfactory cure when it is treated by the village hakeems. Neither is it extraordinary that it should be so. For the native practitioners, one and all, are entirely innocent of anatomy, even to the extent of ignorance of the number of bones in any part or division of a limb. Often poultices of neem leaves are the only means employed for the relief of fracture or dislocation, and especially after the latter accident. More active treatment of a fracture is much as follows:—

They prepare several lengths of split bamboo, which they bind round the broken part in the *manner* of splints with string. But they do not first straighten the limb by the necessary extension. Consequently the ends of the bones are not brought into apposition, and if other evils presently mentioned are escaped, the limb is always crooked and comparatively useless in the future. Thus I have seen the upper end of the tibia protruding over the lower end at what was once the seat of fracture, forming a prominence more than an inch high on the front of the leg, the bone ulcerating through the skin, and the limb a useless incumbrance. In other instances fractures about the ankle-joint have terminated in complete deformity of the foot, and in more or less uselessness of the member. I have frequently seen fractures of the forearm, where the hand had become perfectly prone and fixed in that position, probably by anchylosis between the broken ends of the radius and ulna. Injuries about the wrist-joint, which, treated *secundum artem*, are often followed by some degree of stiffness, are of course always a complete failure under the hands of the native doctors. But probably the majority of people suffering under the malpraxis of the latter worthies do not escape with the deformities and the minimum mobility of limb as expressed above. For, as a very general rule, the bamboo splints are applied too tightly, and without any attempt to preserve particular parts from pressure; the result being frightful swelling and congestion below the constriction, and ulceration of the parts subjected to pressure. Sometimes the swelling subsides, and this danger is escaped; but in others gangrene ensues, rendering either loss of life or loss of limb a certainty. Many cases of this kind are brought to the dispensaries. Dr. Spencer, of Burtpore, recently mentioned an instance where an injured elbow had been bound up so tightly by a hakeem that gangrene ensued, and the man was brought to the hospital; the muscles dropping off, leaving the bones exposed. In several cases presented to myself of fracture of the leg and arm, the parts were found in a very similar condition. The native hakeems seem to have no idea whatever of adjusting pressure or of applying pressure lightly, and the sufferings they thus inflict must be horrible.

In contradistinction to the cases of malpractice, instances of totally neglected injuries are constantly coming to notice, some of a very extraordinary character. The protrusion of the upper over the lower end of the tibia was spoken of above as resulting under treatment by a hakeem. I have in several persons seen much the same condition in fractures which have united without any professed treatment, the leg being bent and fixed at various extraordinary angles, and more or less useless accordingly. Perhaps one of the most curious cases of the kind was recently witnessed at Bickaneer. Eight months previously a man fell from a camel, the tibia and fibula protruding through the integument posteriorly a little above the heel. The foot was driven halfway up the front of the leg, *in which* position it had been *permitted to fix and heal*. When seen, the limb presented a most remarkable appearance. The ends of the tibia and fibula looked like a very bad conical stump, ulcerated at the end, and projecting seven or eight inches below the heel, the foot as it were growing from the middle of the anterior surface of the tibia! The patient stated that profuse bleeding took place after the accident on several occasions; and, from the account given, it appears probable the loss of blood came from rupture of the posterior tibial artery. Amputation below the knee was the sorry but only resource applicable to this case, which was accordingly performed, the man making a good recovery. Another instance, presenting only the other day, may well be noticed. A man applied for relief under an advanced stage of ophthalmia. Seeing he had lost one arm, inquiry elicited the following rather curious story. Eight years ago this person fell down a well, fracturing the forearm a little above the wrist. It is not clear whether the fracture was at the first compound, or whether the sequel arose from some small abrasion; for although the man was clear on the point of no particular treatment having been adopted, he did not seem to remember how or when the first breach of the integument occurred. But however this happened, in a very short time maggots appeared,

and these maggots destroyed the soft parts, until they reached the elbow-joint, when, consuming the ligaments of this articulation, the bones of the forearm and hand dropped off! The wound then healed, but the stump was conical. The patient stated eight months elapsed from the time of the accident until the arm dropped off. Eight months' consumption of the living body by maggots! A third case, amongst others which might be mentioned, but not so melancholy as either of the former, was fracture of the middle of the humerus not uniting at all. This case had never been submitted to any treatment, and there was loose ligamentous union, rendering the arm practically useless. As some years had elapsed since the injury, it was not thought any kind of treatment would be successful; and it may be questioned if the man would have submitted to the tedium of the treatment necessary in such case.

Of dislocations several are annually seen, which have been totally neglected. These are generally accidents about the shoulder or elbow, caused by falls from camels. The native practitioners do not seem to have any idea of the proper method of treating a dislocation, or a dislocation accompanied as they often are by some kind of fracture about the elbow-joint; and the manipulation necessary for the replacement of a dislocated shoulder is altogether beyond their comprehension. The latter are often let alone, or treated with neem poultices, or often "dhagged" with a hot iron in the manner to be presently described. The former are generally bound up straight and tightly by string wound round six or seven pieces of split bamboo. Some time ago a person was brought to the Aboo Dispensary with extensive suppuration about the shoulder-joint following dislocation of the humerus, with doubtless much laceration of the soft parts, and from the effects of which death occurred.

I have at various times opportunely arrived at a village shortly after some accident remediable by surgical skill had occurred. In one instance, a woman having dislocated her jaw had been perambulating the village for several days, trying her best to talk, and gesticulating instead, being both in her own opinion and in the ideas of the village community possessed by a devil. The learned and oldest people of the neighbourhood had already demonstrated the utter inutility of neem-poultices, of wet cowdung, of incantations, and of offerings to "Bhugwan." So with one accord the village turned out, bringing the woman to my tent. The dislocation being speedily reduced, the woman immediately used the restored faculty of speech to abuse her supposed bewitcher; thanks to the surgeon being in this, as in many other cases, far removed from the category of these "simple people's" ideas. On another occasion I arrived at a village just in time to save a man's life by tying a wounded radial artery. In short, when passing through the country, I have frequently relieved persons who could not have obtained relief except at the hands of a surgeon, and who either from apathy or ignorance would have become altogether incurable, or would have died, before seeking the assistance their cases demanded.

(*To be continued.*)

FROM ABROAD.

Dr. Sayre and Mr. Erichsen on Anchylosis.

At the meeting of the New York Academy of Medicine on October 15 (reported in the *New York Medical Journal* for November), Dr. Sayre read a paper on Anchylosis, a subject to which he has paid much attention. After some general observations he continued:—

"It is important to know whether we have to do with a fibrous or osseous anchylosis. If fibrous, it may be broken up; but if true, we must make a section of the bone. It is in many cases excessively difficult to detect any motion in a fibrous anchylosis; but there is one fact of great importance in throwing light upon this subject, and that is, that on the day after the manipulation much pain is felt if fibrous, and none at all if it is osseous.

"In the breaking up of fibrous joints it is the better plan to thoroughly anæsthetise the patient and complete the operation at once. The gradual method causes irritation without any compensating benefit. The method of operating is to first find the muscles and fasciæ that are put on the stretch when the limb is endeavoured to be extended, and, if possible, divide them subcutaneously a few days before the operation itself is attempted. In attempting the *brisement forcé*, the patient is to be thoroughly anæsthetised; the surgeon then grasps the extremity of the limb, and flexes and extends until he has got free motion in all the normal movements. One of the commonest causes of failure comes from the surgeon stopping too soon in his manipulations, hoping after a time to continue them, but the subsequent irritation and inflammation around the joint prevent any interference until they have subsided. Inflammation as a sequence to the operation is to be prevented, and this is best done by applying adhesive straps around the toes in lieu of the bandage, first having padded the inequalities, and continuing upwards with the roller-bandage. Adhesive straps are so applied also as to allow of the application of a weight to the foot for counter-extension. When the bandage reaches the popliteal space, that also is to be padded, and in carrying it up the thigh a piece of sponge is to be placed over the track of the femoral artery, so as partially to impede the arterial current. The limb is then kept quiet in a splint, with absolute rest in bed. Ice-bags are applied around the joint as an additional aid. In six or seven days the dressings are removed, slight motion made, and the dressings re-applied as before, with the exception of the sponge over the femoral artery. As a result of the operation there may be ecchymosis, but never suppuration; and in all the cases I have operated upon there has never been a resulting synovitis. After a few more days daily motions are made, and an apparatus applied so that the patient is enabled to do it himself.

"When the anchylosis consists of osseous fusion, it becomes necessary to exsect a portion of the bone. Rhea Barton, of Philadelphia, first performed this operation by taking a wedge-shaped portion of bone out of the shaft and keeping up passive motion. Gurdon Buck modified the operation by making it through the articulation; Adams, again, has simplified it by making a simple section of the bone. My own method is to exsect a portion of the bone, leaving the extremities convex. I am afraid that when simple section of the bone is made, sooner or later anchylosis will be again established."

Mr. Erichsen, then on a visit to the United States, observed—"I confess that in the able address of Dr. Sayre my attention has been directed to some points quite novel to me. I refer to the existence of pain subsequent to manipulation in cases of fibrous anchylosis. In my practice I have entirely overlooked the matter, and have relied for diagnosis on manipulation while the patient was under the influence of an anæsthetic. I grasp the joint securely, placing the thumb over the articulation, and allow an assistant to move the extremity of the limb. I can conceive, however, of cases where by this means no motion might be discoverable, and at the same time fibrous adhesions only exist in the joint. I think that I should be inclined to go one step farther than Dr. Sayre in the classification of false anchylosis, and divide it into two varieties—that in which there is no destruction of the synovial membrane, and that in which there is. I had the good fortune once to make a post-mortem of a case of this latter variety, and to see what were the results of the force applied. I found the synovial membrane replaced by fibroid tissue. The post-crucial ligament had torn off a scale of the tibia. The ligamentum posticum was folded and puckered. In those cases the peculiar deformity is a displacement backwards, and a rotation outwards of the tibia, giving the limb a characteristic wavy appearance; and in these cases there is no chance for mobility, inasmuch as the articular extremities cannot be kept in position.

"It is wise to recognise the importance of a partial subluxation on the usefulness of the joint. It is well illustrated in cases where the astragalus has passed slightly out of the arch of the articulation; and unless it is restored the patient will never have any comfort of his ankle-joint. It is in these cases that a class of practitioners whom we have amongst us, and known as bone-setters, make so much reputation. They grasp the limb and suddenly flex and extend it. In this way the muscles are taken by surprise, and the subluxation is reduced. When it is reduced, the patient finds that he can walk without his accustomed pain, and is practically well.

"With respect to the operation for bony anchylosis, I agree with Dr. Sayre as regards the exsection of a portion of bone above the insertion of the iliacus. If the bone is exsected, the case practically becomes one differing in no respect from the ordinary operation of exsection. If, on the other hand, a simple section is made, we have what is analogous to compound fracture, and in process of time, as the histories of the cases prove, there results consolidation."

Award of Prizes at the Académie des Sciences.

On December 28 the Académie des Sciences held its annual public *séance*, which this year was held for the two years 1872 and 1873. The President announced in his address, as one of the proofs of the greater consideration in which science is now held, that whereas the old Academy had but 8000 francs to bestow in annual recompenses, the present body has no less than 110,000 fr. to dispose of in this manner. M. Dumas, the Secretary for the Physical Sciences, delivered an address on the life and labours of the late Augusto De la Rive, the celebrated *savant* of Geneva, and, although this lasted nearly two hours, it was listened to with all the attention and admiration which the addresses of this consummate orator always command.

Although it is said that a movement is about to be set on foot among our own *savants* for the abolition of the award of medals for scientific work done, it will be long, we think, before this step will be taken in France. To be sure, the prizes there usually consist of considerable sums of money, which may prove of great utility to struggling *savants* in the pursuit of science. The prizes on this occasion had to be awarded for the two years, but we shall only notice those of them that have a bearing on medicine and natural science.

1. The Barbier Prize of 1872 was not decreed, but "encouragements" were awarded to three of the candidates—viz., a sum of 500 fr. to M. J. Chatin for his Historical, Chemical, and Medical Studies on the Valerians; 500 fr. to M. Coutaret for an essay on Dyspepsia; and 1000 fr. to M. Byasson for his works on Chloral. For 1873 a sum of 1000 fr. was awarded to M. Lefranc for his chemical and toxicological researches on the *Atractylis gummifera*.

2. The Desmazières Prize in Botany for 1872 was awarded to M. Cornu for his work on the Sexual Reproduction of the Saprolegniæ, an encouragement of 1000 fr. being also given to M. Bornet for his researches on the gonidies of the Lichens. For 1873 the prize was awarded to M. Sirodot for his anatomical and physiological study of the Fresh-Water Algæ of the family Lemanceaceæ, an encouragement of 1000 fr. being also given to MM. Van Tieghem and Le Monnier for their work entitled "Recherches sur les Mucorinées."

3. For the Montyon Prize in Medicine and Surgery three prizes and three "mentions" were decreed. The three prizes were given—one to M. Luys for his Photographic Iconography of the Nervous Centres, in continuation and confirmation of his researches on the organisation and structure of the cerebro-spinal system published in 1865; one to M. Magnan for his comparative investigation of the Action of Alcohol and the Essence of Absinthe on the cerebro-spinal nervous system of man and animals; and one to M. Woillez for his clinical account of the Acute Diseases of the Respiratory Passages. One of the "mentions" was accorded to M. Mandl for his treatise on Diseases of the Larynx and Pharynx; one to M. Fano for his treatise on Ophthalmology; and one to M. Legrand du Saulle for his work "Du Délire des Persécutions." Each of the prizes was of 2000 fr. in value, and each of the "mentions" was accompanied by an "encouragement" of 1200 fr. For 1873 three prizes and three mentions were likewise accorded. Of the prizes, one was adjuged to M. Harting, Professor of Zoology at Utrecht, for his researches in synthetic morphology on the Artificial Production of some Organic Calcareous Formations; one to M. Jules Lefort for his treatise on Hydrological Chemistry; and one to M. Péan for his work on Hysterotomy, entitled "De l'Ablation partielle ou totale de l'Utérus par la Gastrotomie: Etude sur les Tumeurs qui peuvent nécessiter cette Opération." Of the mentions, one was accorded to M. Armand for his treatise on the "Climatology of the Globe, and Medical Studies on all Climates"; one to M. Bouland for his anatomical investigation of the Normal Curves of the Spinal Column; and one to M. Oré, Professor of Physiology at Bordeaux, first for his researches on the Intravenous Injections of Chloral, and on their mode of action in tetanus produced by strychnia and in traumatic tetanus, and secondly for his work on Resections and *Evidements*. These prizes and mentions are of the pecuniary value already mentioned; and besides them there have been made three awards in another variety in this hierarchy of prizes, under the denomination of "indemnities" of 500 francs each. One of these fell to the lot of M. Felizet for his anatomical and experimental researches on Fractures of the Cranium; another to M. Ollivier for four memoirs on Puerperal Pathology; and the third to M. Redard for a MS. on Clinical Thermometry.

4. The Bréaut Prize of 100,000 francs, destined for the discoverer of a cure for cholera as certain as is the cure of pernicious fevers by cinchona, of course still awaits its rightful possessor, if not its claimants; and in the meantime the Academy makes use of a portion of the funds as "encouragements" to the authors of the best works on cholera or other epidemic diseases. For 1872 two such were accorded—one of 3000 francs to MM. Robbe and Bouley for their work, "Du Choléra Epidemique: Essai sur les Formes Cliniques et les Indications Thérapeutiques suivi d'un Mémoire sur le Traitement et la Nature du Choléra"; and one of 2000 fr. to M. Netter for his memoir on the difficulties presented by the question of whether cholera is curable or not, and on the best mode of solving such difficulties. For the year 1873 a "recompense" of 2500 fr. was accorded to M. Proust for his "Essai sur l'Hygiène Internationale," and one of the same value to M. Pellarin for his "Hygiène des Pays chauds: Contagion du Choléra demonstrée par l'Epidémie de la Guadaloupe."

5. The Serres Prize for 1872 is given to M. Gerbe, Préparateur à la Chaire d'Embryogénie du Collége de France, for different researches, of which one of the most important relates to the metamorphoses undergone by the *palinurus* from the period of its issue from the ovum.

6. The Godard Prize for 1872 is decreed to Dr. Pettigrew, of Edinburgh (miscalled "Professor of Physiology in London"), for his works on the Muscular System of the Bladder and Prostate, and on the Mechanism for the Occlusion of the Urethra and Ureters.

7. The Gegner Prize of 4000 fr., intended to aid *un savant pauvre* (honourable poverty indeed, and nobly aided) who has distinguished himself by real work, was decreed for 1872 to M. Gaugain, for the purpose of assisting him in his researches on electricity and magnetism. M. Gaugain, it is stated, has for the last twenty years devoted all his strength and his resources to delicate investigations which require expensive apparatus. For 1873 this prize was given to M. Bernard Renault, to aid him in pursuing his studies on silicified vegetable fossils near Autun.

8. The Grand Prize of Physical Science for 1873, the subject of which was the Development of the Embryo in the Diœcia, whose reproduction takes place without copulation, was adjudged to M. Balbiani for several memoirs on the Reproduction of Aphides, Arachnida, and Fishes.

9. The Lacazo Prize in Physiology for 1873 was adjudged to M. Marey for different works, "which by their character for precision, due to the employment of a new method of observation and experiment, appear to have most contributed in these later times to the progress of experimental physiology and medicine." These investigations are especially found in his three works—"Sur la Physiologie Médicale et la Circulation du Sang," "Sur le Mouvement dans les Functions de la Vie," and "Sur la Machine Animale: Locomotion Terrestre et Aérienne."

10. The Thore Prize for 1873 was adjudged to M. Mégnin for his researches on the Acardiæ—investigations which, in the estimation of the Commission to which they were submitted, "throw an entirely new light on strange metamorphoses and conditions of existence of which examples had not hitherto been adduced."

11. The Montyon Prize in Experimental Physiology was adjudged to M. Georges Pouchet for his investigations of the changes of colour subordinated in certain animals to different conditions of the nervous system. Honourable mentions were also accorded to M. Perrier for his researches on the Lumbrici, and to M. Sanson for his on the precocious development of domestic animals.

12. The Montyon "Prix des Arts Insalubres" for 1873, of 2500 fr., was adjudged to M. Mourcou, an architect of Lille, for the construction of the St. Eugénie Hospital in that city; and two sums of 1500 fr. each were awarded under yet another subdivision of designation ("*témoignage d'estime*")—the one to M. Constantin for a process of varnishing pottery so as to render it proof against the acids used in domestic economy; and the other to M. Gérardin for his process for disinfecting foul streams.

13. The Cuvier Prize for 1873 was adjudged to M. Deshayes for his series of works on Living and Fossil Mollusca.

These are only a portion of the twenty-seven prizes decreed by the Academy, the others chiefly relating to mathematics, astronomy, chemistry, and mechanics. There can be no doubt, we should suppose, that such distributions are a great stimulus

to scientific progress, depending as they usually do on the appreciation, by competent and by no means too lenient critics, of work already done and published. The Commission to which the claims of competitors are referred deliver minute reports upon these, which are often most elaborate, constituting themselves valuable accounts of the progress and present condition of the various branches of science. The names of the reporters are affixed, and in the discussions which ensue they may have to defend the judgments they have arrived at. All must admire how, amidst all her recent fearful troubles, France has continued to maintain her high scientific position, never wavering or faltering at least in this; and that none but the foremost place will content her is witnessed in her recent transit-observation expedition.

REVIEWS.

An Introduction to Pharmaceutical and Medical Chemistry. Arranged on the principle of the Course of Lectures on Chemistry as delivered to the South London School of Pharmacy by JOHN MUTER, M.A., F.C.S., Public Analyst for Lambeth, Newington, etc., etc. London: Simpkin and Marshall. Pp. 785.

IN a few words of preface, Mr. Muter tells us that the present book is only an epitome or condensation of one much more extensive, which stress of work has for the meantime compelled him to lay on one side. Such an acknowledgment disarms criticism with regard to those portions where perhaps the volume is most defective—viz., in those which relate to organic materia medica and physiological chemistry, the latter of which is scarcely glanced at. Nevertheless, in that part which Mr. Muter has had time to give at fair length there is much that is fresh and clear, well calculated to impress the mind of the student. On the whole, too, the matter is well arranged, though in a fashion somewhat different from that commonly used. He begins, however, in a way to which, speaking as teacher, we have ever had a great repugnance. Take a young man fresh from school or from behind the druggist's counter, and attempt to indoctrinate him in the mystery of the modern theories of chemistry: the result will be far from satisfactory. His mind cannot grasp and use aright an abstract theory; better, far better, is it to begin with something tangible which he can see and handle. It is not till by-and-by that he attains the power of grasping the theory which rules all the various combinations and decompositions he sees going on before him, and to argue from these to new and other combinations. It is, moreover, questionable, to our minds, whether the study of applied chemistry alone is to be preferred to the study of a certain proportion of the science with no thought of application, and this again to be studied in the applied fashion. The study of applied chemistry is at once intensely interesting and extremely valuable; but the pure science ought to come first in order. It is true, however, that the comparatively short period allotted for pharmaceutical study necessitates something of condensation in the method of instruction adopted. We have little fault to find in this respect with the individual paragraphs of Mr. Muter's book, though here and there a slight slip occurs. We hope, however, that in a future edition Mr. Muter will find time to correct these, and to otherwise improve what is now a valuable student's book. In one way this would, we think, be easy: the book itself is rather unwieldy, and would admit of considerable reduction in point of size, without rendering the page in any way cramped.

Principles of Forensic Medicine. By W. A. GUY, M.B. Cantab., F.R.S., Professor of Hygiene, and late Professor of Forensic Medicine in King's College, Consulting Physician to King's College Hospital, etc.; and DAVID FERRIER, M.D. Edin., Professor of Forensic Medicine, King's College, and Assistant-Physician to King's College Hospital, etc. Fourth edition. London: Renshaw. Pp. 703.

THE value and authority of Guy's "Forensic Medicine" are now so well known, that it would have been hardly worth while to do more than note the new edition but for the literary partnership Dr. Guy has entered into with Dr. Ferrier. The whole work has been carefully revised, and condensed here and enlarged there, so as to be thoroughly abreast of the knowledge of the day. It is mainly in the toxicological department that Dr. Ferrier's work is to be found, and this part has been undoubtedly improved thereby. The very interesting account of the Tichborne case, which we have already in great part transferred to our columns, and which is mainly from the pen of Dr. Guy, is to be found in an appendix.

Companion to the Latest Edition of the British Pharmacopœia. By PETER SQUIRE, F.L.S., Chemist on the Establishment of the Queen, etc., etc. Tenth edition. London: J. and A. Churchill. Pp. 435.

WHEN this edition of Mr. Squire's admirable work came under our notice, we could not help mentally congratulating Mr. Squire on the wonderful success it has attained to, and on the happiness with which he had hit upon a great public need. It is now ten years since the British Pharmacopœia, and this its companion work, first appeared, and during that period the annual sale of the latter has averaged two thousand copies. Few works and few authors have attained such success—a success, moreover, which seems perennial. But when we come to look into the contents of the work, the secret is disclosed: everything which can avail the prescriber or the dispenser is accumulated within a moderate space, and so as to be as easy as possible of reference. When it first appeared this work was only one of many competitive works in the same field; but it is probably now an instance of survival of the fittest, for, if we mistake not, all the others have perished. In edition after edition, however, Mr. Squire's work has grown. In the earlier editions the old Pharmacopœias of London, Edinburgh, and Dublin were compared with the new British work. This is no longer necessary, but in its place has been incorporated much valuable information relating to or derivable from the most important Continental and American codices. Even since the present edition of the Pharmacopœia was published the work has grown considerably, having been increased from 318 to 435 pages,—the size of the present volume, which, however, includes the most recent additions to the officinal codex. Enlarged space is also found, chiefly by the suppression of the references to the old Pharmacopœias. In this way room is made for many new recipes of preparations, or prescriptions found useful for hospital recipes, and for much curious information of various kinds. There are here to be found notices of many remedies which are not yet, and never may be, officinal—remedies now in a stage of trial, but of which it is exceedingly important to know the recognised uses and to be able to write an intelligent prescription when ordering their application.

In an appendix we have first the articles requisite in chemical testing, with a special view to pharmaceutical necessities. After this comes a list of granulated preparations, of suppositories and medicated pessaries, which is extremely useful, together with a list of so-called American eclectic remedies, chiefly patronised, if we remember aright, by the sect called in this country, somewhat appropriately, Coffinites. Next follows a list of European spas, with some account of their properties; and finally comes an admirable index. All who have used it will testify how amply Mr. Squire's book deserves the patronage so fully vouchsafed to it.

Twelfth Annual Report of the Peking Hospital. By JOHN DUDGEON, M.D., C.M.

THIS Hospital, which is in connexion with the London Missionary Society, continues its work successfully. During the year 1873, of the work of which this Twelfth Report gives an account, 18,300 patients have been prescribed for. Of these only an insignificant number (sixty-five) have been treated as in-patients; and in the opinion of Dr. Dudgeon this class of patients will never be large unless the Hospital be made a poor-house. The cases admitted were for the most part such as required surgical remedies and assistance. Of the out-patients, 8170 are described as new out-patients—that is, are reckoned only once,—while 10,130 are old out-patients. The disproportion between male and female patients is very striking, namely, 14,761 males to 3539 females. Dr. Dudgeon remarks—"But although the numbers do not indicate great advance on former years, the influence of the Hospital is yearly extending and becoming greater. Our connexion with the higher and official classes has been year by year steadily increasing; and in no year has a larger number of high officials been attended to, or graver and more interesting cases seen than in the one under review."

Amongst the reasons for the spread of the influence and

popularity of the Hospital, much importance is attached by Dr. Dudgeon to the foundation of a lectureship on anatomy and physiology in connexion with the Government College. This lectureship has brought the lecturer into close contact with the highest officials of the Government, and has been of advantage not only to the Hospital but to the cause of science and the progress of enlightened views in medical practice. The introductory remarks, and the general and tabular statements of the number of patients, are followed by some short notes on the more important cases, many of which we have from time to time republished.

One of the most remarkable of the many remarkable agents in vogue for the production of different cures and other effects is the use of Spanish fly in the treatment of hydrophobia. In the words of the report—"The patient must eat the body (the head is to be thrown away) of a Spanish fly, and the greatest quietness must at the same time be observed. The patient must on no account hear any noise, such as that of a bell, gong, drum, or such-like, else the recovery is impossible. After the administration of the cantharis, several masses like blood-clots may be observed to pass from the urethra, supposed by some to be the poison of the rabid animal passing out of the system; by others to be small dogs formed in the system by the poison." Dr. Dudgeon does not tell us with what success this treatment of hydrophobia is followed, but no doubt he intentionally leaves us to conclude that it is very difficult to keep the patients out of hearing of some bell, gong, or other such-like noise.

Another remarkable remedy recommended by the native faculty is that for the cure of fistula in ano. For thirteen days some compound powder is applied to the fistula, and "the virtue of the medicine" is occasionally assisted by a few incisions. The object aimed at by this treatment is that "the whole fistula or tube" should come away. All that remains afterwards to be effected is that the parts from which the fistula has been thus removed should cicatrise—a desirable termination, of course, but one which seems to be not often, or only very tardily, obtained.

We will notice one other point dwelt upon in the Report, and then we must have done. The author says—"A good deal has been heard lately of the employment of atropine in cases of opium-poisoning. This treatment rests on the supposed antagonism of the two substances. Some believe that atropine increases the cerebral and anæsthetic effects of opium, and that it is powerless to obviate the depression of the respiratory function, which is the chief danger in opium-poisoning. Others hold that the antagonism is incontestably established. . . . . Having no experience myself, I asked Mr. Pierson—a most intelligent and painstaking American missionary, who was then resident at Uchow, a large town 140 miles west of the capital, and who from time to time was called upon to attend cases of opium-poisoning, to make a trial of atropine, having at the time expressed no misgivings regarding its remedial action. After some months I was much surprised to receive from him an unfavourable report of the use of atropine. When the cases in which atropine has been used are closely examined, I fear an unfavourable judgment will be arrived at. In the favourable cases other remedies have been had recourse to, so as to render it difficult, if not impossible, to divide out the share each remedy had in the recovery."

FOREIGN AND COLONIAL CORRESPONDENCE.

AMERICA.

Philadelphia, Nov. 20, 1874.

Meeting of the American Public Health Association at Philadelphia: The President's Address; Address and Papers by Professor Hartshorne, Drs. Black, Janes, and Baker; Papers on Hospital Construction; and other Papers and Addresses.

The "American Public Health Association," which held its annual session in this city last week, is destined to a brilliant future. Already it has awakened public interest to a remarkable degree by the earnestness of its labours and the high tone and excellent quality of the numerous practical papers offered before it. It is safe to say that such a convention as that which has just adjourned has never before met in this country, taking our standpoint of criticism of all such bodies from the ground of their present and prospective usefulness.

Other associations, such as the American Medical at Detroit, may be actuated by a similar spirit, and the object in view be equally commendable; but the vigorous impulses for good here evinced by representative thoughtful men, in the study of the best methods of preserving the health of every portion of this country, has never been surpassed. I regret that the abstract and quotations I shall give from the papers presented must necessarily be brief, and that space forbids my copying the more valuable of them in their entirety.

Dr. Stephen Smith, of New York (the President), in his opening address, alluded to the fact that the present year has been remarkable for the absence of epidemics and a greatly reduced death-rate from ordinary diseases. During 1873 cholera in Europe was at no time or place nearly so fatal as in our own towns, owing to the timely measures adopted for its prevention. Cholera and yellow fever have scarcely been heard of in 1874. Small-pox has again assumed the character of a local pestilence. The meeting of the International Sanitary Conference at Vienna on July 1 was an important event in the history of the year. The success of the British Social Science Association in promoting sanitary reform has been very great. There are now 200 local boards of health in the United States, which improve in usefulness as the medical element becomes stronger. An effort was made during the last session of Congress to obtain sanitary legislation; and it is hoped that in time the General Government may perfect sanitary organisations for defence against foreign epidemics, or the control and suppression of domestic pestilences which have a national character and importance.

Professor Henry Hartshorne, in his address of welcome, alluded to the College of Physicians, in whose hall the sessions were being held. It was founded in 1787 for the advancement of medical science. It has a medical library surpassed by but one other in the United States—that of the Army Medical Department at Washington; and a museum which, with the extension provided for by the bequest of the late Professor Mutter, has a value in some respects unique, and is altogether a collection that any professional body might be glad to possess. Here meet, also, from time to time the Philadelphia County Medical Society, the Pathological and Obstetrical Societies. Philadelphia, the Professor remarked, being, partly through fortunate natural advantages, one of the most healthy cities in the world, exemplifies, by the plan of its construction and the number and character of its commodious houses, some of those conditions most favourable to successful sanitation. Nor has it been, heretofore, without its share of contributions to hygienic science. We may gratefully remember at this time some of those who have done honourable service in this field, here, in the past; as Benjamin Rush, Robley Dunglison, John Bell, Rene la Roche, and Wilson Jewell. Dr. Benjamin Rush, the "Father of American Medicine," wrote ably upon subjects bearing upon the prevention of disease. Professor Robley Dunglison was the author of the first treatise upon hygiene published in the English language, which reached a second edition before 1850.

The same gentleman then read a paper "On Excessive Infant Mortality of Cities," in which it was stated that in France, according to Bouchut, one-sixth of all born die in the first year of life (Bertillon recently puts it at one-fifth); in Sweden and Finland, one-fifth; in Berlin, one-third. In 1872 considerably more than one in four of the deaths in New York occurred in children one year old or under. Philadelphia suffered last year a total mortality of 16,736 deaths, of which 5121 were under one year, and 7151, about 1 in $2\frac{1}{3}$ of all deaths, under five. Boston in ten years (1861-70) lost in their first year 1 in $5\frac{1}{4}$ of all born. Dr. Farr had shown that in London, about the middle of the eighteenth century, 75 per cent. of the deaths were of children under five years of age; at the beginning of the nineteenth century about 50 per cent., and now about 29 per cent. The rate was declining somewhat during the last few years in Philadelphia and New York. From 1860 to 1872 the deaths under five years were 44·78 per cent., and under one year 27·25 per cent., of the total mortality of Philadelphia. In the summer quarter of 1868, in New York, the whole number of deaths being somewhat less than 8700, nearly 5600 were of children under five years, almost all being from "diarrhœal diseases." In the hottest week of 1872, in Philadelphia, 852 deaths occurred, of which 497 were of infants under two years, 383 under one year. After enume-

rating the various causes of such mortality, Dr. Hartshorne proposed, with Dr. Toner, that summer camps for mothers with young infants, during hot weather, should be provided outside of every large city. He thought that at least 500 infants would be rescued every summer in Philadelphia alone.

Dr. J. R. Black, of Ohio, next read a valuable paper "On the Influence of Hereditary Defects upon the Health of the People," and Dr. E. H. Janes, of New York, one "On the Health of Tenement Populations." This mode of aggregation of poverty-stricken masses is almost unknown in Philadelphia, but in New York becomes an interesting element of consideration as a factor of disease; and this is not to be wondered at when we learn that these buildings, with their numerous families herded under the same roof, are chiefly remarkable for their insufficient amount of air-space, want of adequate ventilation, defective drainage, improper disposal of house refuse, etc. For the improvement of tenement populations, as Dr. Janes suggests, the people need to be educated in matters pertaining to the preservation of health. Their domiciles should contain all the facilities for personal and domestic cleanliness, and some arrangement for social enjoyment as a means of elevating the standard of both physical and moral health. Dr. H. B. Baker, of Michigan, next presented a paper "On Death-Rates of Each Sex in Michigan."

An interesting feature of this meeting was the difference of sentiment earnestly expressed in papers presented—but not, for want of time, as fully discussed as was desirable by the Association itself—on the subject of Hospital Construction. Dr. J. S. Billings, Assistant-Surgeon U.S.A., read "Notes upon Hospital Location and Construction," which, containing many practical hints, may be freely quoted. "Experience has shown," remarks Dr. Billings, "that large and costly hospitals, even on the pavilion plan, are not necessarily free from 'hospitalism': and practical trial in our late war, confirmed more recently in Europe, has led to the recommendation that hospitals should be temporary wooden structures—the so-called 'barrack hospitals.' The good results obtained in our large military hospitals were not alone due to their temporary character, the morbific element due to length of occupation not having time to develope in them. They were better located than civil hospitals, being in the country, where there was plenty of room and fresh air. The necessities of no medical school and the wishes of no board of trustees had to be consulted. It is evident that if one-half of the money required for brick or stone structures were used to erect plain balloon-frame wooden buildings, and the other half invested at ordinary rates of interest, at the end of about twelve years the amount on hand would be what it was in the beginning; the old buildings could then be removed, and the process repeated. The necessary buildings for 200 patients would cost about $50,000. The smaller the number, the greater the cost per bed. Thus, a hospital for 100 patients will cost about $35,000; for fifty patients, $22,000; for twelve patients, from $6000 to $8000. The buildings must not be crowded or superimposed, and no ward should have another room over it. He suggests the placing of the kitchen and laundry on the upper storey of the central or executive building, as in the new army hospitals in course of construction at the Soldiers' Home at Washington and at West Point, New York. By using a lift, this gives no inconvenience, and the kitchen and laundry fires are available as ventilating force the year round. He thinks the hospital should be of such capacity that one ward may always be empty, its windows wide open, and the plastering, with the ordinary hard finish, after semi-annual scrapings and whitewashings for about ten or twelve years, to be torn out and replaced. If the plaster is put up with this in view—for instance, on coarse wire-netting, painted, or in other ways,—the advantage of a temporary structure can be secured in a permanent one, although at an increased cost. A successful device sometimes used in army post hospitals is to line and ceil the ward with canvas, upon which coats of whitewash are placed. In tents and barrack wards of one storey, the obtaining what is ordinarily considered sufficient ventilation is easy except in still, warm weather; and this is the great merit of this mode of construction. In the twelve-bed wards of army post hospitals, a double fireplace in the centre of the ward is so arranged as to bring in fresh air between the fireplaces and warm it previous to its admission to the room. Such a fireplace has been found to satisfactorily heat a room forty-eight by twenty-five by twelve feet, and to ventilate it at the rate of about 40,000 cubic feet of air per hour, the external temperature being at the freezing point. But when the outer air is at zero, such a fireplace does not heat the in-coming air sufficiently, and the result is that its entrance will be stopped by patients or attendants. The hurtful matters to be got rid of in a hospital are such gases as carbonic oxide, sulphurous and hydrosulphuric acids, and organic particles, dead and living, thrown off from the skin and mucous membranes. Carbonic acid, under ordinary circumstances, may be taken as a measure of the amount of other more deleterious gases and organic impurities, while it is easier to measure than they are. The ordinary plans of ventilation are arranged on the theory of largely diluting the foul air, by large cubic space and by large influx of fresh air, thoroughly distributed. For gaseous impurities this is satisfactory, but for organic living particles of contagion (to use Dr. Sanderson's phrase), by reference to his researches and those of Dr. Chauveau on the effect of dilution of vaccine, for instance, it will be seen that it affords little security. In the model hospital of the future the number of rooms for one, two, and three patients will be much increased, and the twenty- and thirty-bed wards will be used only with convalescent and chronic cases, or in hospitals for but one class of patients. Much may be done, however, in the large wards to obtain isolation, especially where the mode of heating is by indirect radiation, in which case two or three of the fresh-air flues should be made to open in the wall near the head of the bed, not more than a foot from the floor. Under these beds an opening may be made one foot square in the floor, communicating freely with the outer air, to be closed with a tight-fitting trap when not in use. When this cold-air opening is to be used it is to be covered with a lattice-work or perforated box, about five feet by two feet and a half, and one foot deep, to break up the in-coming current. Having this arrangement, by the use of wooden screens almost any local degree of temperature and light desired can be secured. If, in addition, a funnel were placed over the bed, communicating with the aspirating channels, the ventilation of these special beds could be made almost independent of that of the ward.

Dr. William Pepper, in a very interesting paper "On the Sanitary Revolutions of Hospitals," defended in some respects the principles on which the larger hospitals were conducted and managed, believing that the unfavourable results at times witnessed were not due to the size or permanency of these institutions, but to faults of construction or abuse of administration that were remediable, such as overcrowding or building an excessive number of wards in a limited space, as was witnessed in the contrasting experience of operations for stone in the Norwich Hospital in England before and since 1862; the mortality being but one to eight and a half previous to 1862, and one to seven since that time, on account of overcrowding. He contended that a well-built hospital of permanent construction can be purified or renovated thoroughly and far more cheaply than a barrack hospital can be destroyed and reconstructed. He favoured the occasional closing of wards, which might thus be kept in reserve; and thought that for the treatment of gangrene, erysipelas, contagious diseases, etc., temporary barracks or tents should be employed. He referred to the desirability of having hospitals near the centres of population, where the best medical talent would be available; to the difficulty of building barrack hospitals where ground was so valuable; to the likelihood of ever these last-named forms of hospital becoming infected; and to the cost per bed being as great as, if not greater than, the older system, the increased cost of a site and of administration being taken into consideration; and to the difficulty of transporting patients for clinical purposes from the various departments of these "iron, wood, or brick villages." Statistics were wanting to facilitate a comparison between similar cases, similarly treated, under the two systems of hospital construction. He thought the sensible and rational method in the meanwhile would be to endeavour to remedy the defects of construction and administration of large hospitals, rather than destroy public interest in their support by decrying them as slaughter-pens and curses to a community.

Mr. Carl Pfeiffer, of New York, next read a paper "On Hospital Architecture and the Perfect Ventilation of Hospital Wards," in which he took the ground that each hospital, like each house, must be suited to the special wants and the special circumstances of the locality in which it is placed, the architect being governed by principles of hygienic laws.

Dr. J. L. Leconte, late Medical Inspector of the United States Army, read a paper "On the Organisation of Municipal Boards of Health," in which he contended that such bodies should

be composed of—1. Students of sanitary science, in most cases medical men, recommended by the chief medical society within the municipality, or some other medical or scientific society of the State. 2. Men eminent for prudence and judgment in commerce recommended by the most respectable commercial organisation. 3. Members of municipal bodies, who may represent the Board of Health in meetings of councils.

At the first evening session of the Association, the Rev. Samuel Osgood, D.D., of New York, gave an excellent address "On Health and the Higher Culture," and was followed by Professor Samuel D. Gross, of this city, with an important discourse "On the Factors of Disease and Death after Injuries, Parturition, and Surgical Operations." He alluded to septicæmia, pyæmia, erysipelas, and hospital gangrene as the great enemies to health and life under the conditions just mentioned, especially in crowded hospitals and the consequent atmospheric vitiation, and to the various dressings employed as preventives of such diseases. He was in favour of restricting the wards of hospitals to a capacity of a very few beds, and strongly urged the great need in every large city of convalescent hospitals, in which there would be no danger of infection from those who were suffering from other diseases. Professor Gross deduced the following conclusions from his own address:—1. That the maladies known respectively as erysipelas, pyæmia, septicæmia, hospital gangrene, and puerperal fever all owe their existence to the same or similar disease-germs. 2. That these disease-germs, whatever their essential nature may be, possess an astonishing proliferating faculty, or power of multiplication and extension, especially apparent in overcrowded and ill-ventilated hospitals, asylums, prisons, ships, and similar establishments. 3. That these germs adhere with great tenacity to everything with which they are brought into contact, especially to woollen articles; that, having once fastened themselves, they are destroyed with great difficulty; and, lastly, that they may readily be conveyed by the clothes, and even by the hands, from house to house, and patient to patient, by the medical attendants, nurses, and friends of the sick. 4. That, in dressing wounds, the greatest possible care should be taken to employ clean hands, instruments, and sponges, to avoid rude manipulation, to remove all extraneous matter, to effect close approximation, to guard against the retention of secretions, and to change the dressings the moment they become soiled. 5. That hospitals, however well-constructed, especially during the prevalence of epidemics, are, as a rule, pesthouses or breeders of disease-germs, and therefore, under such circumstances, unfit as receptacles for sick, wounded, and lying-in persons. 6. That when a zymotic disease breaks out in a hospital, immediate steps should be taken to place the inmates in tents in the open air, and to cleanse the wards with disinfectants, as chlorinated soda and permanganate of potassa, and above all by whitewashing and painting. 7. That the attendants upon the sick and wounded, and upon lying-in women, should make a free use of disinfectants, keep their nails and hands perfectly clean, and never wear the same clothes in visiting their private patients that they wear in the performance of their hospital duties.

The Rev. Dr. Bedle, of Philadelphia, then read a paper "On "Hospitals in their Relations to Public Health Interests, and the Economy of Perfect Cure of the Sick and Hurt."

REPORTS OF SOCIETIES.

CLINICAL SOCIETY.

FRIDAY, DECEMBER 11.

PRESCOTT HEWETT, F.R.C.S., President, in the Chair.

(*Concluded from page* 22.)

CASE OF POPLITEAL ANEURISM.

MR. ROUSE read notes of the case, which had lately been under his care in St. George's Hospital. The patient, a carpenter, aged forty-two, had noticed two years previously a swelling in the popliteal space, without any pulsation. For six months this had increased in size without pain; and then he began to suffer pain of an aching character, and complained of stiffness in the part. Six months ago the patient noticed that the swelling began to "throb"; and two months before admission the leg began to swell. When admitted, the right leg was semi-flexed and œdematous. The popliteal space was entirely filled by a large immovable pulsating tumour, with no lateral expansion and slight purring bruit, which was not synchronous with the pulse, but considerably behind it in point of time. The skin over the tumour was tense, and the veins throughout the thigh were enlarged. The knee-joint was distended by effusion, and attempts at moving the joint or limb produced excessive pain. The femur seemed free from disease, except in the immediate vicinity of the tumour, where it was apparently thickened. There were enlarged glands in both groins, though more numerous on the affected side; and the patient was emaciated, and stated that he was losing flesh rapidly. There was an hereditary history of cancer, and twenty years previously he had suffered from syphilis. On the day after admission the bruit had entirely disappeared. A week after admission the bruit again returned. The effusion in the knee-joint was much diminished, and the apparent thickening of the femur had disappeared. It was, therefore, decided to ligature the femoral artery; and this was accordingly done on the following day by means of a silk ligature. The operation was followed by a decrease in the size of the tumour for ten days, followed by an increase; and on the eleventh, by the formation of a slough over the most prominent part of the sac, followed by the discharge of blood-clot, laminated fibrine, and sanious pus. A month after the operation, gangrene appeared in the little toe, and extended up on to the dorsum of the foot. The limb was, therefore, amputated on the thirty-second day after the artery had been tied, and the patient made a good recovery. On examination of the limb after removal, the tumour was found to be of the size of the fist, the tissues over which had sloughed and exposed a mass of blood-clot. The outer two-thirds of the clot were laminated; the central part soft and dark. The walls of the cyst enclosing this clot consisted of the inflamed and consolidated tissues of the limb; and the popliteal artery opened into it at its upper and inner part by an aperture just admitting the little finger. The popliteal vein was filled with an adherent coagulum; and so also was its internal branch for three inches of its course. Mr. Rouse remarked that the chief points of interest in the case were: 1. The difficulty of diagnosis; the unusual character of the bruit; the upheaving pulsation of the tumour; the history of cancerous disease in the family; the enlarged glands in the groin; the apparent increase in the size of the femur; and the effusion into the knee-joint, which gave the impression that the case might be one of malignant disease; 2. The formation of a slough in the skin over the sac of the aneurism, of which Mr. Rouse had been only able to find one other recorded case; and 3. The cause of the gangrene, which was due to the obstruction in the venous circulation by pressure of the inflamed and suppurating sac.

MR. BARWELL mentioned a case of large popliteal aneurism that had burst and become diffuse, and in which amputation was performed under the impression that the tumour was malignant. There was no pulsation in the tumour; and the superjacent skin was of a blue colour. Preparations of the specimen were preserved in the museums of the Royal College of Surgeons and of Charing-cross Hospital.

THE PRESIDENT, in drawing attention to the absence of pulsation which occasionally occurred in Mr. Rouse's case, related the particulars of two cases in which the absence of pulsation nearly led to a very great error. One, a man, under the care of Dr. Fuller, was admitted for great and persistent pain in the lumbar region. The abdomen was carefully examined, but without result, and Dr. Fuller at first regarded the case as one of rheumatism of the lumbar muscles. Soon after, a swelling appeared in the lower and left part of the belly: there was no pulsation, and the general opinion was that the case was one of psoas abscess. The swelling greatly increased, and extended below Poupart's ligament. Mr. Hewett frequently drew the attention of the students to the case as a typical one of psoas abscess, which, however, he would let alone, as it was not his practice to lay open large abscesses. The skin then became red, and the swelling appeared on the point of rupture. Instead of bursting, however, it diminished in size until it could scarcely be felt. During the whole time the patient suffered from intense pain, which increased as the tumour subsided. The man died suddenly with symptoms of collapse. Mr. Hewett had previously remarked that it was rare to have so prolonged and persistent pain in the back, except in aneurism or cancer. Post-mortem a large aneurism of the aorta was found, which had burst into the abdomen. At no time had pulsation existed, and a narrow escape had

been made of opening the sac. The second case was one of femoral aneurism, for which Sir Benjamin Brodie had tied the external iliac. The man left the hospital cured, but returned a few months later with recurrence of pulsation in the tumour. This was arrested by the pressure of a leather splint applied to the limb. The tumour again increased, and six months later had attained the size of a cricket-ball. It was then thought to be malignant; the patient, however, survived five years, and died of phthisis. The pulsation had ceased after eighteen months. The original diagnosis of aneurism was confirmed post-mortem, and the case showed that aneurism might continue to enlarge without the presence of pulsation. Mr. Hewett also related a case of rapid gangrene of the lower limb in a boy after gunshot wound of the ham. Amputation at the hip was performed, and it was found that one shot was lodged in the popliteal artery, and another in the vein. In this case gangrene set in within twenty-four hours of the injury.

Mr. Morrant Baker related the particulars of a case of large fluctuating, non-pulsating, but very painful tumour of the gluteal region, which was diagnosed abscess, but blood alone flowed on exploratory puncture. It was thought possible that a vessel might have been wounded; and Mr. Baker enlarged the opening, and finally laid the sac freely open. A large blood-cavity between the muscle and bone was thus exposed, and blood welled up from the great sciatic notch. The common iliac was tied, and the patient survived two days. Post-mortem there was found caries of the sacro-iliac synchondrosis, and ulceration of one of the branches of the gluteal artery.

Dr. Southey related a case in which the prominent symptom was extreme pain in the lumbar region, increased by movement. There was abnormal dulness in the left loin; the man was anæmic. The dulness in the loin increased; some fulness appeared, and then a decided tumour, but no pulsation. A distinct thrill was soon perceived over the tumour; œdema of the lower limbs afterwards occurred. Death took place suddenly within ten days, and an aneurism was found, springing from the aorta close to its bifurcation; it had become diffuse, and reached to Poupart's ligament.

Mr. Warrington Haward also related a case of abdominal aneurism, in which pain in the back was the only symptom. At one time the patient was thought to be malingering. Death occurred from rupture of the sac.

Mr. Rouse, replying to Mr. Barwell, stated that the popliteal vein in his case was entirely closed by a firm clot, softening in the centre.

Secondary Syphilitic Disease occurring Twenty-three Years after Primary Infection.

Mr. Venning read notes of the case. The patient was a trooper in the 1st Regiment of Life Guards, aged forty-one, who had contracted syphilis shortly after he joined the regiment twenty-three years ago. For this he had been admitted into hospital, and treated for six weeks with mercury. He had never since suffered from sore throat or eruption. He had married, and had had four children; they and his wife were healthy. On September 20 of the present year, the patient was admitted into hospital with two well-marked rupial sores on the right leg. There were distinct amygdaloid glands in both groins. The patient was put under a course of iodide of potassium and sarsaparilla, and speedily recovered. The point to which Mr. Venning wished to draw especial attention was the condition of the inguinal glands after so long a period of time after infection, as he believed that in them one had a very sure and certain aid in diagnosis, and one which, if more looked for, would supply the key for the solution of many a difficult problem. Mr. Venning mentioned that he had examined every case of syphilis which had occurred in his regiment since he joined, and in which the patient was still in the service; and had found in every instance but one—forty-seven in number—that there was well-marked amygdaloid enlargement of the glands of the groin. All these patients but two had been treated with mercury.

Mr. Pick related a case in which the "amygdaloid" glands were found in the groins. The subject had recently contracted a soft chancre, but there was no evidence of syphilis, and the glandular enlargement was thought to be strumous. Mr. Pick had also met with a case of syphilis in which there were traces of eruption, without enlargement of the inguinal glands.

Mr. Morrant Baker inquired as to the character of the rupial sores in this case.

Mr. Brudenell Carter mentioned a case which bore upon the question recently raised by Mr. Gascoyen, as to the possibility of a father infecting his children, but not his wife. The patient had paralysis of the third nerve. He had contracted syphilis twenty-four years before. His wife had three or four miscarriages; the fifth child was born alive, but was puny. Dr. Addison put both the child and the father on anti-syphilitic treatment, and the subsequent children were all healthy.

Dr. Whipham also related a case of congenital syphilis in which the father alone was the subject of the disease.

Mr. T. Smith asked the exact definition of Mr. Henry Lee's "amygdaloid" glands. Was it simply chronic enlargement? If so, there was nothing at all specific about them, for all the glands in the body might be enlarged apart from syphilis, and chronic enlargement of the inguinal glands followed on many non-specific causes—on leucorrhœa, for example. He also thought that it was not very uncommon, in the upper classes of society at any rate, to find secondary symptoms delayed. He had seen cases of ulceration of the tongue and of the penis in old subjects, which were said to be "cancer," but which were cured by iodide of potassium. In these cases recent infection was out of the question, although in most there was a history of syphilis having been contracted in early life. In the case related there was more possibility of infection subsequent to the time stated.

Mr. Venning replied that the syphilitic gland was characterised by its persistence, and was further peculiar in forming one of a group of multiple buboes generally in the course of the vessels. It felt pulpy, and its characters were well expressed by the term amygdaloid. The rupial sores in his case were marked by characters of psoriasis at their margins; and this, together with their appearance on healing, was, he thought, ample evidence of their syphilitic nature.

ASSOCIATION OF MEDICAL OFFICERS OF HEALTH.

Saturday, December 19.

Dr. Letheby, President, in the Chair.

At the Council meeting held previous to the general meeting of the Association,

Dr. Dudfield suggested that it would be most desirable to record, in the annual summary of the reports of the medical officers of health, the districts from which all patients dying in public institutions were drafted. He found that only about half the deaths in the public institutions situated in the parish of Kensington were of those previously residing in the parish. He especially referred to the Brompton Consumption Hospital. In another institution under his supervision only two of the deaths occurring last year were of Kensington parishioners. The information desired could be obtained through the Registrar-General.

Dr. Letheby inquired if the local registrar would not supply this information, as it seemed extremely unlikely that the Registrar-General, who had just terminated his connexion with the Society, would help them in the matter.

Dr. Buchanan thought that medical officers of health should also obtain information from the general hospitals of the metropolis as to the deaths of cases admitted from their respective districts. Dr. Ross, who succeeded him at St. Giles's, had followed this plan with success.

After a few remarks from the speakers, the subject was deferred to the next meeting.

The Registrar-General having been requested to reconsider his determination to withdraw from the Society, a letter was read in which he adhered to his former resolution.

The discussion on Dr. Letheby's introductory address was then resumed by Dr. Stevenson, who criticised the divisions of the paper and the tendency which it must have to disparage the value of death-rate statistics, as well as exciting undue alarm respecting the inferences derived therefrom. He also considered that the interests of the Society would be compromised were they to assent to the severe animadversions upon death-rate statistics expressed in the address of the President. The professional and general public were startled by Dr. Letheby's address, and shocked by the observations

which followed it in discussion. From the fact that the President has thought it necessary to state that he does not mean to disparage death-rates, it is evident that he admits that he has excited undue alarm. Nevertheless, the language used was calculated to excite alarm—*e.g.*, "The very data or groundwork of the so-called mortality statistics are too uncertain—not to say inaccurate—for specific sanitary purposes," and the ordinary method of determining the sanitary condition of communities is spoken of as a common and vulgar practice, and as a rude and imperfect method. "Migration must render death-rates valueless as indications of the salubrity of towns and surrounding rural districts." Under these circumstances it behoved the Society to speak out with no uncertain sound, and to let the public know what value we do put upon sanitary statistics. Four sources of fallacy in death-returns were pointed out by the President. These undoubtedly influence death-rates, but quantity as well as quality ought to be taken into account. 1. *The Difficulty of Ascertaining the Actual Numbers of the Population:* This, not usually a source of much error, generally throws death-rates out not more than 0·25—very rarely 2·0 per 1000 in ten years. 2. *The Imperfections of the Registration Returns:* These give a constant error, and do not affect comparative results; they introduce minute errors only. 3. *The Relative Proportion of Males and Females in the Population:* Differences in their death-rates, 25·05 and 23·9; difference 1·15. Births, 512 males + 488 females 1000. Practically, in populations males and females are equal. At fifty-two or fifty-three, by greater mortality of males, males and females are equal; and at greater ages females are in excess: average deaths, 24·48. Where males are in great excess, as at Barrow (3 males to 4 females), death-rate thrown out 0·1; and in Bath, where females are in excess (2 males to 3 females), to same extent: hence this cause may be dismissed as trivial. 4. *Migration:* There are no reliable data for estimating the influence of migration upon the death-rates of a district, although many theories have been started on this subject. If the excess of people in St. Pancras (6 per cent.) between fifteen and twenty-five over Berks be eliminated, the death-rate is increased 1·0 per 1000, and less in each succeeding decenniad: hence this cause produces very small errors only. 5. *Birth-rate:* "The birth-rate is the controlling element of the death-rate." The line of argument taken by Dr. Letheby is that the mortality of a community increases as the excess of births over deaths becomes larger, and that wherever the birth-rate of a population is large, the death-rate is necessarily large, irrespective of defective sanitary conditions. The reason of this is said to be obvious, and is to be found in the high death-rate of children, which is apparently assumed to be unavoidable and independent of sanitary conditions. If this be not implied in Dr. Letheby's argument, it follows that a high death-rate among children is due to defective sanitary conditions; that this makes room for more children; that a mother losing her infant speedily becomes again pregnant; and that the death-rate controls the birth-rate, and not the birth-rate the death-rate. Now let us look at facts of three large towns:—Liverpool, birth-rate 37·1, death-rate 35·1; Birmingham, birth-rate 39·0, death-rate 24·9; Sheffield, birth-rate 40·4, death-rate 28·3. Here is no connexion between birth-rates and death-rates, so that a high birth-rate is not necessarily associated with a high death-rate. Nevertheless, a high death-rate and a high birth-rate usually go together. But what is the real influence of a high birth-rate upon mortality? (1.) It increases infant mortality —more deaths among children irrespective of sanitary conditions, and children form a greater percentage of the population. (2.) It increases the proportion of population living at best ages, especially from fifteen to forty-five (see Buchanan's table and my similar extended table), and at the ages of five to sixty (see table D, Humphreys). And this may be supposed to depreciate death-rate largely. The increased mortality among infants is compensated by decreased mortality of adults, there being a less number proportionately of old people to die in an increasing community. As a fact (see tables), where there is a high gross mortality there is a high mortality at all ages (see Buchanan's and my tables). He found by comparing Berkshire with St. Pancras that the high death-rates run parallel with those from zymotic diseases; and therefore the method of estimating the gross death-rates is not so fallacious as has been supposed. We may safely take these as our guide after eliminating all sources of error. He considered Mr. Humphreys' paper, read at the Statistical Society, very valuable, as proving that the varying death-rates at different ages is very constant, and therefore easily computed.

Dr. Ballard, in resuming the discussion, considered that more reliance should be placed upon the age and sex of the population as affecting the mortality of a district. Doubtless zymotic diseases and phthisis swell the death-rate considerably, and these are conditions we are able largely to control. Many other circumstances considerably alter the sanitary condition of a district; for example, intemperance, poverty, unhealthy occupations, etc.; also the apathy or otherwise of local boards with reference to sanitary improvements. Where the poor are badly housed and the sanitary conditions are bad, there intemperance is on the increase. Where a high death-rate, we must inquire the cause, but we cannot say the sanitary condition must be wrong. He referred to a district under his observation where the principal trade is that of needle-making. Previous to the introduction of "the fan" to remove the dust, "grinders' phthisis" largely prevailed, but of late years the death-rate has much diminished in consequence of this improvement.

Dr. Guy, President of the Statistical Society, stated that, whatever conclusion we may arrive at, we must have figures as a test of sanitary condition. The health officers should always show the cause of high figures. He would suggest another possible fallacy—viz., that of comparing what might prove to be a healthy cycle with an unhealthy cycle. His observations showed that such cycles do occur.

Mr. Liddle remarked that when fault was found it was only right for the person to suggest something better. By way of a substitute for the Registrar-General's statistics, Dr. Letheby did not appear to suggest any better plan than that now adopted. If there is no result from our labours, and we cannot show improved sanitary conditions by reference to our statistics, how can we stand before the magistrates, and summon people for infringing sanitary regulations? In Whitechapel the improvement has been most marked, especially of late, and the death-rate has very considerably diminished. By perseverance we hope to do still more in this direction.

Dr. Tripe said he held that the sanitary condition of a place depends, to a very considerable extent, upon the means available for isolating infectious diseases and for the prompt disinfection of houses where fever has prevailed. He had also to mention that the deaths of patients in hospitals and in workhouses not belonging to the district are charged in the Registrar-General's weekly returns against the district in which they occur. In this manner above 2000 deaths of non-residents were entered amongst the deaths belonging to the Hackney district during the years 1861-71, raising the death-rate 17 per 10,000 population, as compared with districts in which there are neither hospitals nor extraneous workhouses. That the deaths in the German Hospital will be taken off, perhaps some years afterwards, when the death-rates are published in an annual report; but that the district will remain charged with above 1200 deaths in the City of London Union for some time longer, until the final corrections are made. He hoped, therefore, that these corrections for the metropolis would in future appear in each annual summary. He was of opinion that every district should be judged by itself; for among the wealthy classes 8 per cent. will die of all born, to 26 per cent. of the very poor; so that other things must be considered besides relative sanitary conditions.

Dr. Buchanan considered that much of the difference of opinion which prevailed had arisen from statisticians thinking they were sanitarians, and *vice versâ*. He thought that the figures of the President had another rendering than those already given. Mr. Humphreys, in his paper at the Statistical Society, carefully avoided touching on "sanitary conditions," although that was the title of his paper. The Registrar-General does not draw the line between the statistician and sanitarian; Dr. Buchanan would not recommend him to attempt it. The gross death-rate is a test, though a rough one, by which to judge of sanitary requirements; but do not let us say that the death-rate is an exponent, except in a broad way, of the sanitary condition of a place. The more we make of our sanitary work, the more we shall need the statistician's help.

Dr. Letheby replied to the criticisms by a few general observations at the close of a lengthy debate. He did not regret having introduced the subject for discussion, because all sanitary officers would now be able better to understand the relative value of statistics. There are many things which the statistician must take cognisance of, and others the health

officer must alone be accountable for, in estimating the relative sanitary condition. Each must be independent of the other. Whereas the health officer is now subject to be constantly weighed in the balance by the statistician, and found wanting when his statistics are high. He only found fault with the Registrar-General's test of sanitary condition. The general decrease of mortality is in itself proof of the efficient work performed by the medical officers of health.

THE PATHOLOGICAL SOCIETY.

TUESDAY, DECEMBER 15.

C. HARE, M.D., Vice-President, in the Chair.

ERYTHEMA MULTIFORME(?).

DR. DUFFIN showed a patient, the subject of a disease of the skin which presented characters intermediate between those of erythema multiforme and herpes iris. He was a tall young man of twenty-six years, and had suffered from this disease for two years, at irregular intervals of a few months, for days or weeks at a time. The dorsum of the hands, cheeks, back of the neck, etc., were the seats affected. A rigor preceded each outbreak, and slight febrile symptoms accompanied it for the first few days. The eruption consisted of red spots, which rapidly increased in size; while the centre became flattened, the margins spread,—then a bruised character was developed as in erythema nodosum. Vesicles thereupon appeared on the summit. Sometimes one spot was developed within a previous area, and even three concentric rings might be seen in places. Occasionally there was evident symmetry of the eruption. The patient was never quite clear of the disease since its commencement. There was never any hæmorrhagic character and never suppuration. Dr. Duffin remarked that this disease resembled erythema multiforme in as far as the spots were circinate, and passed through a "bruised" stage; also from the presence of febricula and the peculiar situation; yet there was no rheumatic taint. The concentric arrangement of some spots pointed, on the other hand, to herpes iris. The disease also somewhat resembled hydroa.

Dr. HILTON FAGGE believed that such a case as this should be called hydroa. There was a question as to the proper use of the term erythema multiforme; but that disease showed a distinct relation to rheumatism. He would classify erythema nodosum apart from erythema multiforme; the favourite situation of the former was the legs.

Dr. DUFFIN replied that the line between these three diseases was a very indistinct one. He had had personal experience of a somewhat similar affection of the skin to the present one, but with rheumatic symptoms and without vesiculation.

Dr. HARE questioned the propriety of applying the name erythema to a disease presenting vesicles.

PRIMARY CANCER OF THE OMENTUM.

The report of the Committee on Morbid Growths on Dr. Crisp's specimen of Primary Cancer of the Omentum (see *Medical Times and Gazette*, October 31, 1874, page 510) was read. The whole of the great omentum was found converted into a solid nodular mass bounded by a margin of infiltrated fat. The microscopical characters were an alveolated arrangement of fibrous stroma, enclosing irregular uni-nucleated cells. The cells had in some parts undergone colloid degeneration; and the specimen was to be considered one of colloid cancer of the omentum. The chief interest of the specimen lay in the fact that the growth was said to be primary, without evident epithelial origin. Examination of the infiltrating border revealed the normal elements of the peritoneum separated by the cells just described. Certain appearances suggested the occurrence of proliferation of the endothelium of the lymphatic spaces. The colloid change was not everywhere abundant. The reporters hesitated to pronounce upon the origin of the cells of the new growth, but inclined to the belief that it was the endothelium of the lymphatic system. They urged upon the members the importance of such specimens, and recommended nitrate of silver as a valuable reagent for staining them while fresh.

ANEURISM OF THE ABDOMINAL AORTA.

Dr. DICKINSON exhibited a specimen of "Obscure Abdominal Tumour," which had given rise to very interesting symptoms during life. A gentleman of seventy-six was attacked in January, 1872, with swelling and redness of the left testicle, followed by pain in the course of the left ureter. The latter symptom continued for some time "dull and heavy," and the patient also described it as connected with the "lower bowel of the left side." The pain increased until it became agonising; for several months it continued so: thereupon constipation and vomiting supervened, the pain being intensified by action of the bowels. Thus the first eight months were passed. Dr. Dickinson now saw the patient for the first time, and found him apparently *in extremis*; he was perfectly prostrate, covered with bed sores, and racked with severe pain along the left ureter. The abdominal wall generally was found to be soft, yet at first nothing abnormal could be discovered by palpation; suddenly, however, on deep pressure being made about an inch to the left of the umbilicus, the patient started, and exclaimed—"That's it." No tumour could be detected. From the situation of the pain and the affection of the testicle, Dr. Dickinson diagnosed the presence of a tumour pressing on the descending colon and the nerves connected with the kidney. The absence of all urinary symptoms was opposed to the probability of calculus. The aspect of the patient was "malignant." Some six weeks afterwards pulsation was detected in the abdomen, to the left of the umbilicus; this increased in distinctness, and a pulsating mass was developed under Dr. Dickinson's observation. Shortly after Dr. Dickinson first saw the patient the pain abated—as if the tumour had freed itself of its attachments. The pain disappeared; health was far recovered; the bedsores healed; the patient walked out. Fifteen months from the commencement of the illness, the bad symptoms returned. One day at dinner the patient suddenly fainted, and was with some difficulty restored by stimulants. Continuing in bed, he improved during the next two days, when he passed for the first time a large quantity of black blood by the bowel. Three days after, he again passed a mass of coagulated blood. He was kept quiet and treated with acetate of lead. One week from the first faint, again while eating his dinner, he suddenly put his hand to his side and fell dead. On post-mortem examination it was discovered that the tumour was an aneurism growing from the left side of the abdominal aorta, and passing backwards between the left ureter and the descending colon. It touched, not the left kidney, but the ureter one inch below. The nerves were involved; the ureter was stretched like a fiddle-string. The aneurism was as large as the fist, and had burst into the descending colon.

Dr. HARE remarked on the difficulty of diagnosis in such cases.

Dr. CAYLEY inquired whether Dr. Dickinson attributed the cessation of pain after a time to a change in the direction of the growth or to atrophy of the nerves.

Mr. HULKE remarked that Broca had pointed out that the bursting of an aneurism on a mucous surface is often gradual, by several gushes; but on a serous surface, sudden. Here there was an illustrative case.

Dr. SOUTHEY inquired whether the left lumbar region of this patient had been examined. In his own experience murmur and thrill were not uncommon in the lumbar region posteriorly in such cases.

Dr. DICKINSON replied—to Dr. Cayley, that the pain diminished about the time that pulsation became evident through the wall: he had attributed this to rupture of the nerve or some other cause; perhaps it might have been due to nervous atrophy;—to Dr. Southey, that the lumbar region was carefully examined, and no thrill or other palpable sign, and no tumour, discovered.

CANCER OF THE TONGUE AS TWO SEPARATE GROWTHS.

Mr. JONATHAN HUTCHINSON exhibited a specimen of Cancer of the Tongue, removed from a gentleman by operation, along with the anterior two-thirds of the organ. The interest of the specimen lay in the fact that it presented two perfectly distinct growths of epithelial cancer, one on either side—the right being the larger. The patient, who was in excellent health at the time of the operation, had many white patches on the tongue: he had no warty growths otherwise. There was a very obscure history of syphilis. The diagnosis of epithelioma was verified by microscopical examination, and by the growth of glands in the neck six months after the operation. Mr. Hutchinson had never before seen two patches of primary cancer in the tongue. He had often seen cancer after syphilis. The patient had been subject to small sores on the tongue without evident cause. There was a slight cancerous history in the family.

Mr. Fairlie Clarke inquired whether the cancerous growths corresponded with the white patches.

Mr. Hutchinson replied that they did, but that there were many more white patches.

In reply to Dr. Hare, Mr. Hutchinson added that the cancerous tumours both grew from the edge of the tongue; that the patient is still alive with a sound stump (eight months after the operation), but that the cervical glands are enlarging, especially on the right side.

Intussusception of the Ileum.

Mr. Hutchinson also exhibited the Intestines of a Dog presenting Intussusception of the Ileum and Cæcum into the Colon. Eight inches were intussuscepted, the tumour reaching nearly to the anus. The dog was in excellent health previously, and when ill presented but slight, and not diagnostic, symptoms—he was not sick, and passed no blood. He died in eight days, having been jaundiced for forty-eight hours. Mr. Hutchinson demonstrated how simple it would have been to relieve the intussusception by operation. There was neither lymph to be seen nor any adhesion to be discovered, and simple pressure effected reduction. He believed that peritonitis in such cases is rare.

Dr. Hilton Fagge said that during the last six months he had twice witnessed operations for the reduction of intussusception during life. The first of these cases, a woman, had suffered for ten days with pain in the belly, and a tumour which was developed under observation, at first in the right iliac fossa and then in the left. Pain and hardening of the tumour were induced by manipulation. Sickness supervened; there was no constipation. Intussusception having been diagnosed, inflation was tried, but without success. On a second application, the tumour shifted to the umbilical region. Two or three days after, the abdomen was opened, and the intussusception discovered and relieved. The patient completely recovered. The second case was different in character. A patient was brought into Guy's Hospital with symptoms of sudden strangulation of the small intestine, but not of intussusception. The abdomen was opened; an intussusception was found, and reduced. The patient, however, never recovered from the original state of collapse, and died in two or three hours. Dr. Fagge remarked that the importance of a correct diagnosis in such cases was evident.

Dr. Hare said that he had once described a case at this Society where death occurred in three days, and adhesions were found post-mortem around an intussusception. There were evidently two sets of such cases—severe and mild respectively.

Dr. Goodhart had met with a similar condition to that just described. Post-mortem, it was impossible to reduce the intussusception without rupturing the bowel.

Dr. Leared said that he had exhibited a similar case from a child.

Dr. Douglas Powell inquired, in reference to the present specimen, whether peritonitis was not difficult to induce in the dog.

Mr. Hutchinson replied that this was certainly the case.

Aneurism of the Heart.

Dr. Southey showed a specimen of Aneurism of the Heart of unusual size. In October, 1872, a man previously a soldier came under Dr. Southey's care with pallor, cough, dyspnœa, and œdema pedum. He stated that in the previous month he had felt something give way in his chest while he was carrying a load, and that he fainted: ever since he had suffered with debility, dyspnœa, and cough. A diffused impulse was discovered over the præcordium, regular in rest only; the area of dulness was increased downwards; a double murmur and thrill were discovered over the ventricles. The symptoms were urgent, but they disappeared under rest and digitalis; and, about a month after, the man left the hospital; the double murmur remained at the apex. For the next two years he enjoyed fair health. In October last he returned to St. Bartholomew's Hospital with signs and symptoms of copious left pleurisy, and with a loud systolic apex-murmur: he had been ill for six weeks. Anasarca and ascites were also present. The left chest was aspirated, and four pints of pus removed from the pleural cavity, but air was admitted, and the patient died. Post-mortem the left chest contained pus. Connected with the heart was an aneurism as large as a cocoanut. The sac occupied the situation of the pericardial cavity, which it closely simulated. It contained masses of fibrine and disintegrated tissue. It communicated with the cavity of the left ventricle by means of a small opening near the apex. The left ventricle was dilated and atrophied rather than hypertrophied. The valves were almost healthy. The aorta was somewhat atheromatous, and the liver rather hard. Dr. Southey remarked that this aneurism of the heart had, like every other case on record, been not diagnosed during life.

Dr. Wickham Legg confirmed Dr. Southey's statement as to the great size of the aneurism compared with others on record.

Dr. Green said that the specimen was very remarkable, and proposed that it should be referred to the Committee on Morbid Growths.

Referred to a special Committee.

Solid Ovarian Tumour.

Dr. Murray exhibited a Solid Ovarian Tumour, probably a fibroid, which had partly become malignant. It was removed post-mortem from a woman of forty-eight, who had suffered for six years, and was greatly reduced when first seen. The patient was tapped five times at short intervals, and many pints of a fluid removed, which was generally clear. She gradually sank. The specimen was very large. The uterus presented fibroids—interstitial and sub-peritoneal.

Cancer of the Abdominal Viscera.

Dr. Dowse exhibited a rather unusual condition of kidney, removed post-mortem from a man sixty-five years of age, who had been under his care in the Central London Sick Asylum, Highgate. The clinical history, as well as the patient's previous history, was incomplete. He complained of severe abdominal pain, with constant vomiting, which towards the last days of his life became grumous in character. There was slight jaundice, but the urine was free from albumen or blood. Post-mortem the intestines were found displaced downwards and to the left; and upon raising the liver, which was slightly enlarged, a cancerous, cauliflower-looking mass was found in connexion with, and pervading the substance of, the Spigelian and right lobes. The cystic, hepatic, and common ducts were not compressed, neither was the portal vein. Extending from the upper third of the right kidney was a large cystic growth, which, when cut into, gave exit to a quart of clear, greenish-looking serous fluid. The lower half of the kidney was of fairly normal structure, but commencing with the upper half and increasing in size was an abnormal growth pervading the cortical and pyramidal portions. From this the cyst seemed to take its origin. The wall of the cyst was not of equal thickness throughout; it was partly composed of layers of thickened tissue, which had separated in places, forming loculi or smaller cysts.

OBITUARY.

DR. LOUIS-RÉMY AUBERT-ROCHE.

This eminent epidemiologist has just died in the sixty-fifth year of his age. Aubert, obliged to expatriate himself at an early period of the reign of Louis Philippe, repaired to Egypt, and after visiting Abyssinia with reference to forming a treaty of commerce with France, he became physician to the hospital at Alexandria. During the famous plague that broke out there he exhibited remarkable courage and devotion when all the other physicians except Rigaud, another Frenchman, fled the town. The French Consul, Ferdinand de Lesseps, since become so famous, also kept at his post. Aubert retired to France in 1838, and married the daughter of Dr. Roche, the eminent physician, whose name he added to his own in order to avoid the confusion caused by several other physicians bearing the name of Aubert. Aubert-Roche continued an energetic career, and published a work on Plague and Quarantine, which in its day exercised a great influence on public opinion, although now its ideas have been superseded. The French Medical Congress of 1845 (which has been called the "Etats-Généraux de Médecine") was organised by Aubert-Roche, Amadée-Latour, and Richelot, and seemed likely to bring forth good fruits, when the Revolution of February, 1848, put an end to it, as well as to many other useful works. Two years later the same three men founded the Union Médicale, which in reality was an emanation of the Congress of 1845. In 1857, Aubert-Roche was appointed Chief Medical Officer to the Suez Canal Company, which office he filled until 1869. In this position, armed with full powers, and freed from all administrative pressure, he was allowed to give a free career to his medical inspirations, which were not thwarted by any routinist, narrow, or incompetent control, and was enabled to

organise the medical service confided to his care in such a manner as to reach an insignificant amount of mortality, notwithstanding so many labours, such a multitude of persons employed, and so many causes of insalubrity as existed at the commencement of the enterprise. Our zealous *confrère* lavished every care in the installation of his hospitals: every consideration regarding them was most carefully investigated; their position, number of beds, ventilation, means of cleanliness, etc. His object was to keep away from these asylums of suffering all causes of sadness, and to render the sojourn of the poor patients within their walls as comfortable as possible. He supplied them with every distraction compatible with their well-being, and enlivened the wards by embellishing them with flowers. He quitted Egypt for France when the Canal was completed, and lived a quiet country life in the bosom of his family until seized with his fatal illness.—*Union Médicale*, December 29.

MEDICAL NEWS.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, December 31:—

Clarke, Henry, Penge-park, Anerley.
Crouch, Ernest John, Lewisham, Kent.
Grosholz, Frederick Hermann Varley, Walkden, Bolton.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

BLYTH, CHARLES, L.R.C.P., L.R.C.S.—House-Surgeon to the Manchester Unity of Oddfellows' Medical Dispensary, Hull.

CARSON, JAMES C. L., M.D., C.M., L.A.H.—Consulting Sanitary Officer for the Borough of Coleraine, Ireland.

SHAPLEY, H. T., M.R.C.S. Eng., L.R.C.P. Edin., L.S.A.—Resident Accoucheur at the London Hospital, *vice* R. R. Llewellyn.

BIRTHS.

FAIRBANK.—On January 1, at Gipsy-hill, Norwood, the wife of Thomas Fairbank, M.D., prematurely of a son.

GLYNN.—On December 31, at 1, Rodney-street, Liverpool, the wife of Thomas R. Glynn, M.B., of a daughter.

WOTTON.—On January 1, at 62, Bedford-gardens, Campden-hill, Kensington, W., the wife of Henry Wotton, F.R.C.S., of a daughter—Daisy.

MARRIAGES.

COMLEY—MOTT.—On December 29, at All Saints Church, Paddington, Captain William Guise Comley, R.N.R., of Penge, second son of the late John Comley, Esq., surgeon, to Mina Harriet, younger daughter of the late T. L. Mott, Esq.

DICK—GREEN.—On December 15, at St. James's, Paddington, William Dick, M.D., to Lucia Mary, only daughter of John Green, Esq., of Wallington, Surrey.

STALLARD—SPARROW.—On January 5, at St. Peter's, Notting-hill, John Stockdale, eldest son of J. H. Stallard, M.R.C.P., M.B., M.R.C.S. Eng., of 111, Holland-road, Kensington (formerly of Leicester), to Ellen Gertrude, second daughter of Thomas J. Sparrow, Esq., of 21, Tembridge-crescent, Bayswater.

VOYSEY—SALMOND.—On November 9, 1874, at St. Paul's Church, Rockhampton, Queensland, Annesley Wesley, eldest son of the late Henry Annesley Voysey, Esq., of Guilford-street, Russell-square, London, to Agnes Moncrief Short, youngest daughter of David Salmond, M.D., of Rockhampton.

DEATHS.

BEAMAN, CHARLES HULME, fourth son of the late George Beaman, M.D., of 3, Henrietta-street, Covent-garden, on December 31, aged 39.

BUTLER, JOHN, M.R.C.S., late of Seething-lane, Tower-street, London, and Beadonwell, Kent, at his residence, Latymer-villas, Hammersmith, on December 24, aged 74.

CROWDY, ELIZA, widow of the late Charles Whitton Crowdy, M.R.C.P., of Bath, at Trinity Parsonage, Bow-road (the residence of her son-in-law), on December 24, aged 78.

HARE, HENRY WOODROFFE, M.R.C.S., at Knysna, Cape Colony, on November 22, in his 50th year.

MADDEN, JANE, beloved wife of W. Harries Madden, M.D., at Gorton, Torquay, on January 1.

O'CALLAGHAN, P., LL.D., D.C.L., F.S.A., for several years Chief Medical Officer of the 11th (P. O. O.) Hussars, and subsequently President of the Leamington Philosophical Society for eight successive years, at Tunbridge Wells, on January 2.

MACDONALD, WILLIAM, M.D. Edin., F.R.C.P. Edin., F.R.S.E., F.L.S., F.G.S., Professor of Natural History in the University of St. Andrews, at St. Andrews, on January 1.

PHILLIPS, EDWARD, M.D., M.R.C.S. Eng., at his residence, 40, Harley-street, Cavendish-square, W., on January 5, in his 52nd year.

REED, ELIZA DORCAS, beloved wife of Dr. J. G. Reed, Surgeon 3rd Cavalry, Hyderabad Contingent, Deccan, at Jaulnah, India, on December 5.

ROWE, FREDERICK, youngest son of the late William Rowe, M.D., at Coldstream, N.B., on December 30, in his 22nd year.

STOLTERFOTH, MARIA AUGUSTA, beloved wife of Sigismund Stolterfoth, M.D., F.R.C.P., at Queen's-park, Chester, on January 4, aged 81.

WALKINSHAW, WILLIAM BURNLEY, S.D., son of W. Walkinshaw, M.D., of the Clydesdale Estate, Trinidad, West Indies, on December 22, at 5, William-terrace, Shepherd's Bush, aged 49.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made, and the day of election (as far as known) are stated in succession.

ALDEARURY UNION, SALISBURY.—Medical Officer and Public Vaccinator for the Workhouse at Britford and District No. 4. Candidates must be duly qualified. Applications, with testimonials, to Mr. T. Jesse, Clerk, on or before January 14.

DERBYSHIRE GENERAL INFIRMARY.—Assistant House-Surgeon. Applications, with testimonials, to the Secretary, Mr. Samuel Whitaker 4, Victoria-street, Derby.

ESSEX LUNATIC ASYLUM.—Second Assistant Medical Officer and Dispenser. Candidates must be L.S.A., and possess a surgical qualification. Applications, with testimonials, to Dr. Campbell, County Asylum, Brentwood, Essex.

METROPOLITAN ASYLUM.—District Medical Superintendent for the proposed temporary Asylum for Imbecile Children. Candidates must possess the double qualification required by the Regulations of the Local Government Board, and must not be more than forty-five years of age. Applications, with testimonials, to Mr. J. W. Jebb, Clerk, 37, Norfolk-street, Strand, W.C., by or before twelve o'clock on Wednesday, January 13.

NORTH-EASTERN HOSPITAL FOR CHILDREN, HACKNEY-ROAD, E.—House-Surgeon. Candidates must possess a double qualification. Applications, with testimonials, to the Secretary.

NORTH WALES COUNTIES LUNATIC ASYLUM, DENBIGH.—Assistant Medical Officer. Candidates must be duly qualified, and possess a knowledge of the Welsh language. Applications, with testimonials, to the Chairman of the Committee of Visitors, on or before January 13.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, MARYLEBONE-ROAD, W.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to Dr. Hope, at the Hospital, on or before January 9.

ROYAL FREE HOSPITAL, GRAY'S-INN-ROAD, LONDON, W.C.—Junior House-Surgeon. Candidates must possess a medical or surgical qualification. Applications, with testimonials, to the Secretary, on or before January 20.

SCARBOROUGH UNION.—Medical Officer. Candidates must be duly qualified and registered. Applications, with testimonials, to Mr. Woodall, Clerk to the Guardians, on or before January 13.

TRINITY COLLEGE, DUBLIN.—Professor of Chemistry. Applications and testimonials to the Registrar, on or before January 23, 1875. Further particulars may be obtained from the Rev. Dr. Haughton, Medical Registrar, Trinity College, Dublin.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Saffron Walden Union.—Mr. Edward Harley has resigned the Seventh District; area 14,981; population 5893; salary £86 10s. per annum.

APPOINTMENTS.

Dewsbury Borough.—Felix M. Rimmington, F.C.S., Mem. Pharm. Soc., as Analyst.

Gainsborough Union.—Frederick Sutton, M.R.C.S. Eng., L.S.A., to the Willingham District.

Headington Union.—Arthur Perigal, M.R.C.S. Eng., M.D. Edin., to the Wheatley District.

Kent.—Matthew A. Adams, F.R.C.S. Eng., Fel. Med. Soc., L.S.A., as Analyst for the County.

Leek Union.—Thos. E. Dakeyne, L.R.C.P. Edin., M.R.C.S. Eng., to the Leek District and the Workhouse.

Market Bosworth Union.—Robt. Cook, L.R.C.S. Edin., L.A.H. Dub., to the Desford District.

Richmond (Surrey) Union.—Wm. Yates, M.R.C.S. Eng., L.S.A., to the Richmond District.

Risbridge Union.—John E. Northmore, L.R.C.P. Edin., L.F.P. and S. Glasg., to the Fourth District.

West Derby Union.—Wm. Rowland, M.R.C.S. Eng., L.S.A., as Medical Officer for Infants and Children.

THE Boston Cottage Infirmary will soon be completed and opened for patients. Nearly the whole of the estimated expense of the building has been subscribed, but, owing to the loss of part of it, which was paid into Messrs. Gee and Co.'s bank, £250 is still required.

THE LATE MR. KIERNAN, F.R.S.—The funeral of this gentleman took place on Monday last, at the Roman Catholic Cemetery at Mortlake. In the first of the two mourning coaches which followed were Messrs. H. Francis and Edward Searle, nephews of the deceased; in the second Mr. E. Etty Sass, his late medical attendant Dr. G. P. Rugg, and Mr. T. M. Stone, old friends of the deceased gentleman. None of his late colleagues at the University of London or College of Surgeons were present, nor any representative of the Royal Society, of which he was not the least distinguished Fellow.

ROYAL COLLEGE OF SURGEONS.—The written portion of the examination for the Licence in Dental Surgery of this institution was commenced this day (Friday). The oral will take place next week; there are as many as sixteen candidates.

GLASGOW MATERNITY HOSPITAL.—The Annual Medical Report of the Glasgow Maternity or Lying-in Hospital for 1874 shows that 1291 women have availed themselves of the benefits of the institution, which is an increase of twenty-six in the aggregate number of cases as compared with that of last year. This increase is entirely in the number of out-door cases, there being, as compared with last year, a decrease of seven in the internal department. The percentage of fatal cases in the house is somewhat under 1 per cent. of the whole number treated. Comparing this result with that of the total deliveries in Glasgow for one year, it is found that during the twelve months ending October 31, 1874—a period almost conterminous with that over which the report extends, and, at all events, quite comparable with it—there were in Glasgow 19,814 births and 113 deaths of mothers registered as from "metria and childbirth." This gives a percentage of fatal cases of 0·57 for the whole city. The percentage of deaths in the reported out-door cases is nearly the same as that of those delivered in the house. As a school for instruction in practical obstetrics, the institution has during the past year been more largely taken advantage of by students of medicine, and women in training for midwives and monthly nurses, than in any former year.

THE UNIVERSITY OF VIENNA.—During the year that has just terminated the total number of students has been 7526. The law students were the most numerous—viz., 1619 in winter and 1571 in spring. Next come the medical students —1109 in winter and 1039 in spring. There were also in the winter 891 students in philosophy and pharmacy, and 822 in the spring. The Faculty of Theology numbered 194 students in winter and 184 in the spring. There were 194 new medical students, and 228 quitted the University. There were 140 medical students received at the examinations, and 13 were deferred. The following diplomas were conferred:—Doctors for the general Practice of Medicine, 187; Doctors in Surgery, 33; and Doctors in Medicine according to the old regulations, 20. Diplomas of Master were given as follows:—Pharmacy, 54; Obstetrics, 35; the Dental Art, 3; and in Ophthalmology, 2. There were 114 midwives who received diplomas. The following are the numbers of the pupils who attended the lectures of the various professors:—Professor Brücke had a class of 885, Hyrtl (in the summer only) of 680, Langer of 555, Bamberger of 540, Billroth of 509, Dumreicher of 495, Ducheck of 389, Rokitansky of 324, Karl Braun of 225, Artl of 218, Vogt of 157, Spath of 126, Sigmund of 94, and Meynert of 70.—*France Médicale.*

A PATIENT, a Buddhist priest, had both bones of his right leg broken by a cart passing over it a little above the ankle. He had the leg put up in splints, and his desire for some medicine to cause union of the bones was immediately attended to by one of the assistants, who, equal to the occasion, produced what he felicitously termed "the bone-uniting elixir pill." The priest was greatly pleased, and expected, from the efficacy of the pill, to be able to leave in a few days. In this, however, he was disappointed.—*Dr. John Dudgeon, in the Report of the Peking Hospital for* 1873.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

Dr. F. Montizambert, Quebec.—Enclosure received.

G. M. F. C.—Old Parr was, it is said, 152 years of age and in perfect health when he was presented to the King in 1635. He died in London on November 15 in that year. He was born in the reign of King Edward IV., and had lived in the reigns of eight kings and queens of England.

W. C.—The Prince Regent visited the museum of the Royal College of Surgeons on July 28, 1813. He was attended by Sir Everard Home, Sir William Blizard, and the Governors.

Perry.—The total receipts of the London Hospital Saturday Fund were £6462 0s. 3½d., and the expenses £1169 15s. 9½d., leaving a balance for distribution of £4892 4s. 6d.

G. M. P.—Dr. George Shaw, F.R.S., Keeper of the Natural History in the British Museum, died on July 22, 1813.

Mr. Welch, Stansted.—The "New Poultice," described in our "From Abroad," is not as yet an article of commerce; but after the approbation bestowed upon it by such high surgical authorities in Paris, it will doubtless speedily be obtainable in this country.

Mr. Campbell.—The Martin Van Butchell alluded to by Dr. Richardson was a successful quack; principally in the treatment of hæmorrhoids. The following is a correct copy of his curious advertisement from the *St. James's Chronicle*, just a century ago, viz.:—"Van Butchell (not willing to be unpleasantly circumstanced, and wishing to convince some good Minds they have been misinformed), acquaints the Curious, no Stranger can see his embalmed Wife, unless (by a Friend personally) introduced to himself, any Day, between Nine and One, *Sundays* excepted.—(Signed) Van Butchell."

Mr. H. M.—The late Mr. Pettigrew unrolled, several years ago, in the theatre of the Royal College of Surgeons, a mummy, which he stated to be that of Horsiesi, an incense-bearing priest in the Temple of Ammon at Thebes; it can be seen in the Hunterian Museum. The embalmed body of Mrs. Van Butchell, alluded to by Dr. Richardson last week, is also in the possession of the College.

F.R.C.S., Southampton.—The annual election of Fellows into the Council of the Royal College of Surgeons in 1871 took place on July 6. There were four vacancies and six candidates, when the following gentlemen were elected:—viz., Mr. T. Spencer Wells 131 votes, Mr. George Critchett 130, Mr. Le Gros Clark (now filling the President's chair) 127, and Mr. George Busk 117. The President will deliver the Hunterian Oration, probably, on Saturday, the 13th proximo.

Bibliopole, Southwark.—There is in the British Museum a manuscript of "John of Ardern," giving the case of John of Gaunt having a clap and retention of urine.

Manfred, Liverpool.—Why not substitute *verum* for *bonum*? Our contemporary the *Saturday Review* well observed that "there are occasions when adherence to the maxim 'De mortuis nil nisi bonum' is an idle as well as a foolish, and in some degree immoral hypocrisy."

H. S., jun.—Robert Fludd, the Rosicrucian doctor whose humour it was to style himself "Robertus de Fluctibus," just as the priestly buffoon, Andrew Boorde, whose name really signified "a cottager" (*bordarius*), used to sign himself, with a pen and a pun, "Andreas Perforatus."

Horatio.—Dr. Richard Brocklesby, F.R.S., died December 12, 1797. He was one of the oldest physicians on the staff of the army, and author of several medical works. He attended Dr. Johnson in his last illness.

*** The sherry referred to last week as sold by Messrs. Gideon, Welbeck-street, should have been described as "Blue" Seal, instead of "Green" Seal.

THE LATE MR. KIERNAN.

TO THE EDITOR OF THE MEDICAL TIMES AND GAZETTE.

SIR,—Allow me to rectify a stupid typographical blunder which occurred in my biographical notice of the above gentleman; as in the hurry of correcting the proof I had overlooked a well-known Latin quotation. As the error was literal, I trust I may be held excused, inasmuch as I only heard of the death (which took place the same day) just before you were going to press.

I am, &c., T. M. S.

CONGENITAL CEPHALIC TUMOUR.

TO THE EDITOR OF THE MEDICAL TIMES AND GAZETTE.

SIR,—I send you the undermentioned case should you deem it worthy of insertion in your valuable journal.

I was recently requested to visit a child, born the previous evening, having an extraordinary tumour attached to the back part of the head, in size about one-third larger than the head itself. At the lower third there was a transverse depression indicating internal division; there was likewise in the centre posteriorly a similar depression, extending from the upper part of the tumour as far as the transverse one, where it terminated. It was attached to the occipital protuberance by a pedunele two inches and a half wide and three-fourths of an inch thick, and perfectly movable in every direction. The colour was similar to the natural skin in some places, and in others mottled with various shades of red. As it was both translucent and fluctuating, I conceived it to be full of serum, and accordingly punctured the undermost and most depending part, which gave exit to a straw-coloured fluid. As soon as the lower compartment was emptied the divisional membrane protruded through the wound, which, on being punctured, drained the upper part. The amount of fluid withdrawn from the two compartments measured twenty-five fluid ounces. Through the loose and flabby walls of the sac I could now detect an opening in the skull, immediately beneath the occipital protuberance. I applied a suitable support, and did not see the little patient again for five days, when I found the sac had filled to the extent of half a pint; the child in the meantime had become very emaciated. I now laid the sac freely open, which brought into view the cranial opening above referred to, and through which protruded a gelatinous-looking substance about the size of a walnut; this, doubtless, was a protrusion of the cranial membranes through a preternatural opening in the occipital bone, the result of an arrest of development similar to that observed in cases of spina bifida. As regards further treatment, I merely applied a ligature round the base of the loose and pendulous skin, not with any hope, I confess, of its being of much service, but simply with a desire to do something. The child lived about eight hours after the operation, and died apparently from exhaustion. As the parents of the child resided ten miles from my residence, I much regret circumstances prevented my making a post-mortem examination.

Hatherleigh, December 23, 1874. I am, &c., JOHN GWYN.

COMMUNICATIONS have been received from—

Junius; Mr. Benjamin Vincent, London; The Registrar of Apothecaries' Hall, London; Dr. Ralfe, London; Dr. Sansom, London; Mr. Jonathan Hutchinson, London; Dr. Sparks, London; Dr. Dyce Davidson, Aberdeen; Messrs. Gideon and Co., London; Mr. German Reed, London; Mr. G. Gaskoin, London; Dr. McIntosh, Murthly; Dr. Wall, Fishguard; Mr. H. Boxall, Horsham; Dr. E. J. Longton, Southport; Mr. R. Walker, St. Andrews; Dr. A. Gibb, Edinburgh; Mr. W. Gurner, London; Mr. Waaen Tay, London; Mr. J. Goaham, Tunbridge; Mr. Tarrant, Manchester; Mr. Stansfeld, Bristol; The Rev. C. P. Cotter, Stony Stratford; Mr. W. Dobson, Reading; Mr. Macnamara, Corofin; Mr. J. H. Wells, Nailsworth; Mr. J. S. Webb, Blaminster; Mr. G. R. Cubitt, Stroud; Professor Macleod, Glasgow; Dr. Jayakar, London; Dr. J. Todd, Newtown Stewart; Dr. Easby, Darlington; Dr. M. Cockcroft, Masham; Dr. W. Andrew, Launceston; Dr. Ashton, Bursnough; Dr. J. M'Call, Dublin; Mr. Hamilton Pevror, London; Dr. Blood, Jersey; Mr. J. Ramskill, Leeds; Dr. J. Arthur, London; Messrs. Knowles and Foster, London; Mr. A. W. Knott, Worcester; Mr. O. Ternan, Enniskillen; Dr. D. Campbell, Alfreton; Dr. Lush, Weymouth; Dr. Symes, Kingstown; Dr. Wilson, Whitby; Mr. J. Speirs, Old Kilpatrick; Dr. Dalzell, Malvern; Mr. A. Pellai, London; Dr. W. Shepherd, Dunning; Dr. E. Long Fox, Clifton; Mr. J. Hill, Ennis; Dr. F. Churchill, London; Mr. F. Gordon Brown, London; Dr. J. Andrew, London; Mr. T. Annandale, Edinburgh; Mr. Andrew Duncan, Greenwich; Mr. J. Chatto, London.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Pharmaceutical Journal—Allgemeine Wiener Medizinische Zeitung—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—La Tribune Médicale—Le Mouvement Médical—La France Médicale—Le Progrès Médical—Bulletin de l'Académie de Médecine—British and Foreign Medico-Chirurgical Review—Monthly Microscopical Journal—Obstetrical Journal of Great Britain and Ireland—Irish Hospital Gazette—Popular Science Review—Science Gossip—Pacific Medical and Surgical Journal—American Practitioner—Yorkshire Post.

APPOINTMENTS FOR THE WEEK.

January 9. *Saturday (this day).*

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 9 a.m. and 2 p.m.; Hospital for Women, 9½ a.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

Royal Institution, 3 p.m. Prof. Gladstone, "On the Voltaic Battery: The Electric Telegraph." (Juvenile lecture.)

11. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

Medical Society of London, 8 p.m. Mr. Henry Smith, "On a Case of Cancerous Tumour involving the Tibia requiring Amputation." Mr. Thomas Bryant, "On the Lenst Sacrifice of Parts as a Leading Principle of Surgical Practice."

Odontological Society, 8 p.m. Anniversary Meeting.

12. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Royal Institution, 3 p.m. Mr. E. Ray Lankester, "On the Pedigree of the Animal Kingdom."

Royal Medical and Chirurgical Society, 8½ p.m. Dr. George Thin, "On the Pathology of Lupus Erythematosus." Dr Hayne, "On an Epidemic of Malarious Yellow Fever on Board Her Majesty's ship *Doris*, off Port Royal, 1873."

Anthropological Institute, 8 p.m. Meeting.

13. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Hunterian Society (London Institution), (Council Meeting, 7½ p.m.), 8 p.m. Dr. Hughlings-Jaekson, "On Mental Disorders after Epileptic Seizures." Mr. F. Corner will show a Patient the subject of a Primary Resection of the Ankle-Joint; and a case of Wound of the Spine, with Symptoms of Lesion on One Side.

Epidemiological Society, 8 p.m. Dr. William Squire, Secretary (for Dr. Arthur Ransome, "On the Relations between Diphtheria and Scarlet Fever."

14. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.

Royal Institution, 3 p.m. Prof. P. M. Duncan, "On the Grander Phenomena of Physical Geography."

15. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

Royal Institution (Weekly Evening Meeting, 8 p.m.), 9 p.m. Prof. Tyndall, "On some Acoustical Problems."

Medical Microscopical Society, 8 p.m. Annual General Meeting for the Election of Officers and other business.

VITAL STATISTICS OF LONDON.

Week ending Saturday, January 2.

BIRTHS.

Births of Boys, 1347; Girls, 1338; Total, 2685.
Average of 10 corresponding years 1864-73, 1875·1.

DEATHS.

	Males	Females.	Total.
Deaths during the week	1158	1281	2442
Average of the ten years 1864-73	785·5	779·0	1564·5
Average corrected to increased population	...	...	1721
Deaths of people aged 80 and upwards	...	...	140

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	3	7	1	11	1	2	1	3
North	751729	1	...	12	4	12	2	5	1	2
Central ...	334369	1	2	8	...	5	...	2	2	...
East	639111	...	4	28	1	13	...	4	2	3
South	967692	2	5	14	2	16	1	6	1	4
Total	3254260	4	14	69	8	57	4	19	7	12

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	30·004 in.
Mean temperature	28·8°
Highest point of thermometer	44·5°
Lowest point of thermometer	18·2°
Mean dew-point temperature	25·1°
General direction of wind	S.E.
Whole amount of rain in the week	0·55 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, January 2, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1874.*	Persons to an Acre. (1874.)	Births Registered during the week ending Jan. 2.	Deaths Registered during the week ending Jan. 2.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3400701	45·1	2685	2442	44·2	19·6	28·6	-1·89	0·55	1·40
Portsmouth ...	120436	26·8	64	78	...	20·7	...	...	1·77	4·50
Norwich	82257	11·0	54	59	41·0	10·0	22·0	-5·56	0·05	0·13
Bristol	192889	43·3	135	158	45·6	13·8	30·3	-0·94	1·16	2·95
Wolverhampton ...	70896	20·9	62	50	42·5	15·7	27·6	-2·44	0·62	1·57
Birmingham ...	360892	43·0	305	256	46·0	17·0	29·2	-1·56	0·58	1·47
Leicester	106202	33·2	105	83	41·0	9·8	24·8	-4·00	1·13	2·87
Nottingham ...	90894	45·5	76	77	36·7	12·0	23·1	-4·95	0·51	1·30
Liverpool	510640	98·0	372	504	48·2	17·5	29·7	-1·28	0·62	1·57
Manchester ...	355339	82·8	231	344	...	...	...	...	...	...
Salford	133068	25·7	97	127	42·3	7·3	24·7	-4·06	0·91	2·31
Oldham	86281	18·5	63	74	...	...	...	...	...	...
Bradford	163056	22·6	133	153	38·8	13·0	23·6	-4·67	0·54	1·37
Leeds	278798	12·9	333	295	39·0	12·0	25·9	-3·39	0·50	1·27
Sheffield	261029	13·3	228	167	43·0	11·9	29·8	-1·22	0·68	1·73
Hull	130996	36·0	106	90	37·9	5·0	22·1	-5·50	0·60	1·52
Sunderland ...	104378	31·6	98	59	49·0	11·0	27·5	-2·50	0·35	0·89
Newcastle-on-Tyne	135437	25·2	116	94	...	...	...	...	...	...
Edinburgh	211691	47·8	141	171	...	...	...	...	...	...
Glasgow	508109	100·4	334	581	45·4	11·9	26·7	-2·94	0·82	2·08
Dublin	314666	31·3	205	269	52·6	24·2	36·1	2·28	0·48	1·22
Total of 21 Towns in United Kingdm	7618655	36·6	5044	6020	52·6	5·0	27·0	-2·78	0·70	1·78

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 30·00 in. The highest was 30·14 in. on Wednesday morning, and the lowest 29·51 in. on Saturday morning.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1874 by the addition of three years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

LECTURES ON EXPERIMENTAL AND PRACTICAL MEDICINE.

By BENJAMIN W. RICHARDSON, M.D., F.R.S.

ON THE SCIENCE AND ART OF EMBALMING.

Lecture III.

I pass in the present lecture to explain the practical details of the modern art of embalming. In this study we must consider—

(*a.*) The solutions required for the preserving process.

(*b.*) The special instruments and other appliances.

(*c.*) The procedure in a simple case where no post-mortem is demanded.

(*d.*) The procedure in cases where a post-mortem has to be made, and embalming has to follow upon it.

(*e.*) The procedure in instances where there is much disease of structure, and where the steps of the process in its regular form are rendered difficult.

(*f.*) The modes in which the body should be left after embalmment, under various required conditions.

Embalming Solutions.

For preserving the body the operator requires three solutions only, according to our present best-known plan. The first of these is a solution of chloride of zinc and alcohol. This solution should be made before the embalming has commenced by adding the chloride of zinc to water at 50° Fahr. until the water is saturated. The quantity of solution required varies according to the weight of the body to be embalmed. I reckon that for a body weighing one hundred pounds weight, six fluid pints of the solution is required, and of this quantity five pints should be of chloride solution and one pint of alcohol. Owing to the circumstance that a solution so concentrated as the above has the effect, if it be long in contact with the arterial tubes, of causing them to shrivel and to resist the injection, some operators prefer to dilute the solution with an equal volume of water, and thus use double the quantity of injection of weaker strength. But if the transfusion be promptly effected the stronger solution can be thrown in, and the objectionable addition of an unnecessary supply of water is prevented.

The addition of colouring matters to the solution is not necessary, and, indeed, may be injurious. Vermilion, if added to it, will only fall to the bottom of the solution, and if forced into the arteries will not make any material difference of colour on the surface of the body. Some other colouring substances that have been used produce a change of colour of the body in a singular way, and are better, therefore, left out. One gentleman I knew thought of a soluble red matter or dye, which he believed would communicate a fleshy or pink hue; but, to his horror, next day after using it, he found that the surface of the injected body had turned blue-black. The chloride of zinc and alcohol solution leaves the surface of the body of almost pearly whiteness, and, on the whole, this is (if the expression be allowable) the most natural colour with which to invest the dead.

The second solution required is, what I have called, "zinc colloid." It is made by dissolving chloride of zinc in styptic colloid in the proportion of twenty grains of the zinc salt to one fluid ounce of the colloid. Two pints of the zinc colloid thus prepared should be at hand.

The third solution consists of silicate of soda dissolved in water to saturation. One pint is sufficient.

It is convenient to have ready a bottle of olive oil, scented with rosemary or with attar of roses. Except for the comfort of the operators, there is no occasion that the preserving solutions should be heated before they are used.

The Instruments required.

The instruments required for modern embalming are few and simple. An ordinary post-mortem case is necessary, an aneurism needle, a tube for insertion into an artery, and a long narrow-bladed bistoury. I use for the arteries this slightly curved tube which I introduced some years ago for transfusion of blood; it answers very well.

Another instrument required is one for throwing the preservative solution over the body, through the arteries. The old-fashioned flute-valved stomach-pump serves the purpose fairly, but a large graduated bottle which will hold six pints of fluid, and which can be fitted like a Wolff's bottle, is preferable. When this bottle is charged with the fluid, the short tube, passed through the cork, can be attached to a double-acting indiarubber hand-bellows, and a long indiarubber tube is connected with the exit-tube which comes from the bottom of the bottle. The long tube is armed at the other end with the artery-tube. After the artery-tube is fixed in the artery, the bottle is raised above the level of the subject, and then the fluid in the bottle will flow into the vessels by a gentle action of the bellows. By this method of infusing the fluid, one hand of the operator is left at liberty; the fluid flows easily and rapidly, and the quantity of fluid injected is measured with ease and precision. It is well to put the fluid in the bottle and attach the long tube before going to the house where the embalming takes place; then the different steps of the operation can proceed without the delay otherwise incidental to the preparation.

Embalming simply—without a Post-mortem.

Preparation of the Body.

Before commencing to inject with the preserving solution, the dead body should be divested of all clothing, and only covered with a loose cloth or robe. It should be laid on the back, on a table about two feet six inches wide, seven feet long, and two feet four inches high. A second smaller table, standing a foot or a foot and a half higher, for holding the bottle containing the embalming solution, is very convenient.

If the rigor mortis have not yet passed off, the limbs of the subject should be gently flexed and extended until relaxation takes place.

I am told that some of the American embalmers lay the dead body for some time in a hot bath before they commence to inject the vessels. This is often done here by those who inject subjects for dissection with solutions of wax; and for this latter purpose the plan is useful. In embalming, the bath is really unnecessary, and the additional trouble of it is very great. But it is not to be denied that the fluids run more easily through the vessels when the bath is used. Should the operator, therefore, not mind the trouble, he may place the subject in the bath, but he must be careful to keep the temperature of the water under 140° Fahr. Should that temperature be exceeded, he will produce so much muscular and vascular rigidity that the flexibility of the vessels he was seeking to secure will not be obtained. On the contrary, the vessels at their peripheral extremities will contract and resist the injection firmly, and it will be found difficult to force the fluids through the round of the circulation.

Mode of Injection.

The subject prepared, as above directed, the operator must determine on an artery through which to inject. In cases where the upper limbs are well developed, the brachial artery may be selected, the vessel on the right side being the most convenient. If the upper limbs be not large, it is a saving of time to select the femoral artery in Scarpa's space, for often under such circumstances the brachial is not found of a convenient size after it is exposed, and then the opening that has been made has to be closed, and the femoral artery has to be exposed afterwards. Should the brachial be the artery selected, it must be laid bare in the upper third of its course, in the same way precisely as if it were about to be tied there. It should be exposed for a full inch and a half, and should be well lifted up from the surrounding parts. A small opening should then be made in the line of the vessel, and the injecting tube inserted: the point of the tube should be pushed into the artery towards the heart for a distance of an inch and a half at least, and then it should be tied in two places an inch apart. The tube may, finally, be tied down to the arm with a portion of tape to keep it firm in its place. When the tube is thus inserted into the artery, and fixed there, it is advisable, as a preliminary step, to attach the double-acting bellows to the tube, and to inject into the arterial vessels a gentle current of air charged with vapour of ammonia. It is easy to effect this by simply drawing the air with which the bellows are filled from the neck of a bottle containing strong solution of ammonia. This injection of alkaline air renders the after injection of fluid easier,—I mean less resistant.

Disconnecting the hand-bellows from the tube that is in the artery, the operator proceeds to connect them with the

short tube of the Wolff's bottle, and next he connects the indiarubber tube that is attached to the long tube of the bottle to the tube that is tied in the artery. In this way the communication for the injection of the preserving fluid into the arterial system is completed.

By the action of the bellows we proceed, from this stage of the process, to press the fluid into the body through the arterial circuit. We can hardly press too slowly or gently; and if after the first pressure the fluid begins to run in of its own weight, so much the better. The most successful injections are those where the force employed is the least. If the fluid is entering the vessels properly, and filling them, the proof of the fact can be obtained by making a few strokes with the bellows, and feeling at the same time for the motion at some part of the body where an artery is near the surface. If the radial artery, for instance, be felt for at the wrist in the arm that is untouched, we can detect the motion with each stroke of the bellows precisely like the living pulse itself. Or if we put a stethoscope over the base of the heart, and listen, we hear, with each stroke of the bellows, the tension of the semilunar valves as they are driven down tense by the pressure of the fluid upon them. We hear, in fact, a sharp second sound. From either sign, pulse or heart-sound, if it be present, we may be sure that the injection is passing properly into the tissues.

When from a pint to a pint and a half of the fluid has been thrown into the arteries, it is well to make one or two punctures in the extremities at the fingers and toes, through which punctures a little of the injection may escape. This operation serves two purposes: it shows, so soon as fluid is presented at the openings, that the whole of the tissues are being charged; and by allowing for escape of a little fluid it prevents rupture of vessels within the cavities. The loss of an ounce or two of fluid from the punctures makes no difference in the success of the embalmment.

As the fluid completely charges the organs and structures of the body, a change begins to appear on the surface of the skin after from four to five pints have been introduced. The change usually commences in the face, but soon extends over all the surface of the skin; and it consists of a white mottling of the parts. The white-looking points run in irregular groups, each white spot being about the size of a split pea. The appearance very much resembles the eruption of small-pox when the pustules are white, only that there is no elevation of the skin, and the spots, when they are felt, are hard. They do not in any way disfigure, and after a time they disappear.

When the mottling is present in various parts of the body, the indication is given that almost sufficient injection has been introduced. A pint more may, however, be slowly injected, and then the process may cease—at all events for a time. To carry out all the steps of the embalmment so far, a period of two hours is required.

This stage of the embalming reached, an interval of six hours should be allowed in order to permit of the perfect diffusion of the preservative fluid through all the tissues of the body. I name six hours as the shortest time necessary, but there is no objection for the time to be prolonged nine or twelve hours. When it is quite convenient, indeed, it is as well to perform the injection at the close of the day, and to leave the body until the following morning. The arterial tube should be left in the artery, and the conveying tube should be left attached to the injection-bottle, so that fluid may continue to enter by its own pressure.

After the body has been left in the manner described, and for the period named, it will be found, if the embalming has succeeded, very white over the whole of its surface, and exceedingly hard. The mottled appearance will have passed away, and will have been succeeded by a general marble-like whiteness. The muscles will be rigid and the limbs fixed. The body, practically, will be turned into an almost stony hardness; but the features will be retained with wonderful perfection, and often the expression of the face will be considered singularly life-like. Usually the muscles of the face, by which expression is marked, set very firmly; sometimes the expression is that of a smile, at other times of sadness. Friends, as a rule, identify the expression as like one that was common to the face during the existence of life. In this state a cast is taken from the face with advantage.

The complete solidification of the tissues of the body makes perfect the process of injection; but it is not in every instance the fact that the diffusion is immediately completed. Many circumstances may interfere with the general distribution of the fluid. Some of it may have escaped by a rupture of vessel into the cavities, and so out of the tissues; and sometimes, from a cause I do not understand, the process of hardening of the muscular fibre and of the skin does not progress in the usual way, and the limbs remain flaccid. Under such circumstances the injection-bottle must be recharged with the preserving fluid, and the injection must be repeated in the same way as before. It is very uncommon for this second process to be called for.

Presuming, then, that the complete rigidity has been obtained, and no further injection is wanted, we may proceed to close up the artery through which the fluid was introduced. A very simple plan effects this object. Before removing the tube from the artery we disconnect it from the indiarubber tube that goes to the bottle, attach to it another and fresh piece of tubing, and then with a syringe inject into the artery a few ounces (four to six ounces are sufficient) of the saturated watery solution of silicate of soda. As the silicate comes in contact with the remaining chloride of zinc left in the artery it undergoes the most perfect coagulation, and leaves the arteries full, for several inches, with a firm colloidal plug. After this the arterial tube may be removed, the artery may be tied firmly, and the opening through the skin may be neatly closed with silk sutures. If the stitches be carefully made in the form of the common anatomical stitch, hardly a mark need be left to show the point where the artery had been exposed.

I have said that in some subjects, owing to the smallness of the upper limbs, the brachial artery does not answer for the injection. In such an instance the femoral artery should be chosen. The operation is precisely the same as that which is performed on the living subject, in Scarpa's space, for ligature in cases of popliteal aneurism. The femoral artery is found more easily than the brachial in the dead subject, and the arterial tube is more easily inserted into it. It is, I doubt not, from these facts that the femoral artery is most frequently selected by the professed embalmers. The arterial tube is directed into the artery with its point towards the abdomen; it should be inserted for the length of an inch or an inch and a half, should be tied with two ligatures, and afterwards firmly bound to the limb with a line of tape. The other steps of the process of injection are the same as have been described: the fluid is injected towards the heart, and after the body has hardened sufficiently, the vessel, plugged with silicate, is tied. The opening through the skin is closed neatly with the silken stitch.

After Procedure.

So soon as the embalmed body is sufficiently solidified by the hardening and preserving fluid, certain other minor but still important details have to be carried out. It will be found, usually, that the cavity of the abdomen is left somewhat distended with gas. To remove this it is necessary to insert a pointed hollow needle and make the gas escape through it. I have effected this always by pressing firmly on the abdomen until it is emptied, after inserting the hollow needle; but since the introduction of the aspirator syringe I should prefer to use that instrument for the purpose. The emptying is continued until the abdomen has fully collapsed, and if any difficulty is experienced in carrying this out it may be requisite to make an incision through the intestines. This is done by the use of the long-bladed fine bistoury, the blade of which can be introduced by the needle-opening into the cavity. A few movements of the blade of the knife, internally, across the intestine is sufficient to lay open the canal with freedom, for the escape of the gaseous matter.

When the abdominal cavity is in this manner emptied there should be thrown into it through the hollow needle six fluid ounces of the zinc colloid. The colloid, by diffusion, coagulates the mucous secretions and the intestinal fibre and membrane. The opening made into the abdomen with the needle or bistoury is closed with a stitch of silk.

From the abdomen it is necessary to proceed to the thoracic cavities, into each of which the hollow needle should be thrust in the anterior aspect, and between the third and fourth ribs. Through the needle four ounces of the zinc colloid should be injected into each cavity.

Lastly, from one to two ounces of the zinc colloid have to be injected into the cavity of the skull. This is best carried out by inserting a long fine hollow needle, shaped like a probe, into the cavity through the nasal canal. Very little force is required to reach the cavity of the cranium in this manner; and the injection of the colloid can be forced until a little resistance is felt to the passage of the fluid from the syringe.

When that resistance is found, the needle must be withdrawn; to force the liquid further would be to make posterior pressure upon the eyeballs and to push them forward, which is not desirable.

The last steps of the uncomplicated process of embalmment consist in closing the eyes and the outer cavities. The eyelids are brought gently and evenly together, and are secured in position by one or two fine stitches of silk; the nostrils are very carefully plugged with fine cotton-wool saturated with zinc colloid; the cavity of the mouth is brushed over with zinc colloid, and the lips are neatly closed by one or two minute stitches carried under the mucous membrane, if they be not so rigid as to remain in position without this support.

All the art belonging properly to the act of embalmment, based on a scientific method for the preservation of the dead, is now secured. The body can be retained in a closed casket for any length of time without undergoing change from decomposition.

(To be continued.)

ORIGINAL COMMUNICATIONS.

NOTES ON THE

PATHOLOGY OF PULMONARY PHTHISIS.

By T. HENRY GREEN, M.D., F.R.C.P.,
Physician to Charing-cross Hospital, and Lecturer on Pathological Anatomy in the Medical School.

VI.—Pathology of Phthisis (*continued.*)

Explanation of Differences in kind of Lesion which predominates in different cases of Phthisis—Certain Points in the Pathology of Textural Changes which occur in Inflammation—The Kidney—Mucous Membranes—The Lungs—Differences in kind of Textural Change depend upon Differences in the Intensity and Duration of the Inflammatory Process—Lesions in Acute and Chronic Phthisis—Secondary Changes occurring in the Phthisical Consolidation—Resolution—Fibroid Development and Retrograde Metamorphosis—Elements from which Fibroid Tissue originates—Causes of Caseation and Necrosis—Histological Peculiarities of Consolidated Tissue—Character of Cell-forms which fill Alveoli—Tendency to Stagnation of Blood-stream—Inherent Weakness of Lungs.

In order to explain the differences in the kind of lesion which predominates in different cases of phthisis, it will be necessary to bear in mind certain points connected with the pathology of the various textural alterations which accompany the process of inflammation. It must be remembered that the injury which is the starting-point of every inflammatory process appears to exercise its influence mainly upon the blood-vessels, and that upon alterations which are thus produced in the vascular walls the stagnation of the blood-stream, together with the emigration of leucocytes and exudation of liquor sanguinis, depend. Further, that the greater the severity of the initial injury the greater will be the damage inflicted upon the walls of the bloodvessels; and consequently, *cæteris paribus*, the more abundant the exudation and emigration. There are, however, in addition to these vascular phenomena, certain changes in the cellular elements of the inflamed tissue; and it is respecting the nature of these tissue-changes that I would now more especially speak.

In studying the alterations which take place in the cellular elements of inflamed tissues, it will, I think, be seen that they vary considerably, according to the intensity and duration of the inflammatory process. The relation which appears to me to subsist between the intensity and duration of the inflammation and the resulting textural changes, I would express in terms similar to those which I have employed in a previous publication—viz., the less intense and more prolonged the inflammatory process, the more do the resulting textural changes tend to be limited to the connective tissue which is immediately adjacent to the bloodvessels and lymphatics; whereas, in inflammations of somewhat greater intensity, more distant elements become involved. Further, the new elements originating in the tissue immediately adjacent to the bloodvessels and lymphatics have a special tendency to become developed into a fibroid structure; hence the induration of the organ, which is such a constant result of chronic inflammation. The truth of these propositions is more particularly manifest in those structures which possess epithelium—as, for example, in the kidneys, mucous membranes, and in the lungs. In the kidneys, the more severe forms of inflammation (excluding those which are the most severe, and which are attended by the formation of abscess) are characterised anatomically by swelling and proliferation of the tubal epithelium; and it is only when such inflammations become less severe, and pass into a chronic form, that the perivascular connective tissue becomes involved; whilst in the least severe and most chronic forms of inflammation, proliferation of this tissue is almost the only active structural change. In mucous membranes, also, the more severe inflammations are attended by epithelial proliferation; the less intense and more chronic, by an increase in the sub-epithelial connective tissue.

In the lungs, with which we are now more especially concerned, this relation between the intensity of the inflammation and the resulting textural changes is even still more apparent. Excluding those most intense and concentrated forms of pulmonary inflammation which lead to the formation of abscess, the most severe form of inflammation met with in the lung is what is commonly known as croupous pneumonia. In this form of pneumonia, although exudation and emigration play the most prominent part, there is more or less increased activity of the alveolar epithelium, whilst the connective-tissue elements in the alveolar walls remain unaltered. Further, I must state that there appears to be a relation between the amount of epithelial change and the intensity of the inflammation; for whereas in the most acute pneumonias—those occurring in previously healthy subjects—the epithelium usually only becomes swollen and granular, and perhaps loosened from the wall of the alveolus, in those secondary pneumonias which so frequently terminate chronic diseases, and in which the inflammation is presumedly of less intensity, the epithelial change constitutes a much more prominent part of the process, and the alveolar cavities often contain numerous large cell-forms, which are evidently the products of epithelial proliferation.

Of pulmonary inflammations, those which come next in order of intensity to ordinary croupous pneumonia are those constituting many of the more acute forms of phthisis. In some of those cases of phthisis which are the most acute, the pulmonary consolidation, as already stated, may consist almost entirely of exudation products, such cases being precisely similar histologically to primary croupous pneumonia. More commonly, however, epithelial proliferation plays a prominent part in the process, and in many cases it may constitute almost the only structural change.

If we pass on to consider those forms of pulmonary inflammation which are characterised by more or less chronicity—whether the pneumonic process was of slight intensity from its commencement, or is the sequence of a more acute attack—it will be found that they are invariably attended by some change in the walls of the alveoli. This change consists in that proliferation of the connective-tissue elements, and consequent thickening of the alveolar wall, which has been already described. Such proliferation occurs in those exceptional cases of basic croupous pneumonia which pass into a chronic stage, and in those other non-phthisical forms of pulmonary consolidation which are commonly described as chronic pneumonias. It is, however, in phthisis that this alveolar growth is so constantly met with; and here also its extent bears, for the most part, a direct relation to the chronicity of the disease. It is the histological change which is the most characteristic of phthisis. It occurs here much more readily than in other forms of pulmonary inflammation—being, indeed, only completely absent in some exceptional cases in which the disease is exceedingly acute; and, as will be seen presently, although the new growth frequently becomes fibroid, it has a great tendency to undergo retrograde metamorphosis.

Another result of chronicity in pulmonary inflammation is an increase in the interlobular connective tissue. Active changes in this tissue usually occur later in the course of chronic inflammation than do the changes in the alveoli, and they must be regarded as evidence of greater chronicity in the inflammatory process. In the most chronic cases of pneumonia, phthisical and non-phthisical, this tissue becomes considerably increased; and this increase is so marked in many of the most chronic forms of phthisis that these have been classified as a distinct variety of the disease under the name of "fibroid phthisis."

If these points in the pathology of inflammation be applied to phthisis, they will, I think, explain the differences met with in the kind of lesion which predominates in different cases of

this disease. In those cases of phthisis in which the consolidation of the lung is the most rapidly induced, the inflammatory process being of considerable intensity, exudation and emigration will occupy a prominent place. In cases of somewhat less intensity, epithelial proliferation will take a larger share in the production of the consolidation, and there will probably be commencing changes in the alveolar walls; whilst in those cases in which the inflammatory process is the least intense and most chronic, the growth in the alveolar walls and interlobular tissue will constitute the predominant lesions.

Thus far the consideration of the pathology of the pulmonary lesions met with in phthisis has been confined to an attempt to determine their nature, and to account for the differences in the mode of their association. It remains to consider the secondary changes which the several kinds of lesion may respectively undergo. It may be stated generally that the secondary changes which occur in the pulmonary consolidation of phthisis are of three kinds—resolution, development into a fibroid tissue, and retrograde metamorphosis. Much of that consolidation of the lung which is the most rapidly induced, and which is consequently due to the presence of intra-alveolar exudation matter, may become absorbed. The resolution of the consolidation may thus be complete, or after the absorption of the intra-alveolar products there may remain more or less small-celled growth in the alveolar walls. The two last-named kinds of change produce that induration on the one hand, and caseation and softening on the other, which, associated in such various degrees, make up the diverse physical characters of the phthisical lung.

Firstly, with regard to the development into a fibroid tissue. This, as has already been seen, may take place from the small-celled growth in the alveolar walls and interlobular structures, and also from the emigrant leucocytes. I have, however, only seen evidence of such development taking place from the last-named elements occasionally in phthisis; but in one case of chronic non-phthisical pneumonia I found that the leucocytes which filled the alveoli were universally becoming spindle-shaped, newly-formed capillaries were distributed amongst the exudation products, and the whole was undergoing a process of development into fibroid tissue. Whilst, therefore, the leucocytes and other exudation products which, in many cases of phthisis, accumulate within the alveoli usually undergo retrograde changes, it would at all events appear probable that they may, under certain circumstances, undergo progressive development, and so contribute towards the production of pulmonary induration. The amount of this induration, I would again repeat, is, *cæteris paribus*, in direct proportion to the chronicity of the disease.

The other kind of secondary change met with in phthisis is the retrograde metamorphosis of the consolidated lung. It is this kind of change which leads to that caseation, softening, and disintegration which is so characteristic of the disease, and which distinguishes phthisical from other forms of pneumonic consolidation. The progressive disintegration of the consolidated lung occupies a much more important position as a distinguishing feature of phthisis than do the histological characters of the new growth; and the causes of this disintegration are, I think, much more obscure than is the nature of the morbid processes which give rise to the consolidation.

A retrograde change in the inflammatory products is an invariable accompaniment of a pneumonic process. In ordinary acute non-phthisical pneumonia, the exudation matter and epithelial elements which fill the alveoli usually undergo complete fatty degeneration, and as the circulation becomes restored in the pulmonary capillaries the fatty *débris* is rapidly absorbed. In phthisical consolidation, however, this rapid absorption of the inflammatory products does not take place. The contents of the air-vesicles, amongst which large cell-forms usually predominate, together with the alveolar walls, undergo more or less fatty degeneration; but the fatty matters are not readily absorbed, and they consequently remain, and, becoming partially dried up, are often converted into that yellowish caseous substance which ultimately either softens or becomes calcified. In other cases the consolidated tissue undergoes a much more rapid process of disintegration, and large tracts of the lung quickly become completely softened and destroyed.

In studying the causes of this caseation and disintegration of phthisical consolidation, I think it is evident that these are mainly of four kinds:—

1. Certain histological peculiarities in the consolidated tissue, which, by interfering with the vascular supply, prevent absorption, and tend to produce caseation and necrosis.

2. The character of the cell-forms which accumulate within the alveoli. These being so frequently of an epithelial type, undergo complete fatty metamorphosis less readily than do the exudation products of a more acute pneumonic process, and consequently they are less capable of being readily absorbed.

3. That tendency to stagnation of the blood-stream which is the invariable result of every intense inflammation.

4. An inherent weakness of the lung (usually inherited), which not only renders it especially susceptible to injury, but, when injured, renders it abnormally incapable of recovering itself from the inflammatory process which has been induced.

In many cases of phthisis the pulmonary disintegration is probably due to the combined influence of all these causes; and in most I am inclined to believe that the last-named cause constitutes a very important factor in the production of this result.

I will speak, firstly, of those anatomical conditions in the pulmonary consolidation which interfere with the circulation. It is this interfereuce with the circulation which constitutes the most important cause of caseation and necrosis. These conditions consist, firstly, in the pressure which is exercised upon the pulmonary capillaries by the inflammatory products which have accumulated within the alveoli; and secondly, in the obstruction of these capillaries by the small-celled growth which is developed around them in the alveolar walls. Such conditions not only prevent the absorption of the fattily degenerated inflammatory products, but, by cutting off the vascular supply, ultimately lead to the necrosis of the consolidated mass.

The operation of intra-alveolar pressure in arresting the circulation is especially marked in those cases of phthisis which are the most acute; the development of the small-celled growth around the vessels becomes a more important cause of vascular obstruction in those cases in which the inflammatory process is of somewhat less intensity. The development of this growth has been seen to occur with unusual facility in phthisis; it is the change which, although not peculiar to this disease, must be regarded as its most distinctive histological feature. The part which it plays in the production of the pulmonary disintegration has lately been especially insisted upon by Professor Buhl and Dr. Wilson Fox. Both these observers appear to regard the obliteration of the capillaries by this growth as the essential cause of the caseation and necrosis. My own observations, as already stated, would lead me to believe that in some cases of phthisis—those which are exceptionally acute—this small-celled growth is entirely wanting; and yet it is just in these cases that the disintegration of the lung is so rapid and complete. Whilst, therefore, fully admitting the great importance of this growth as a cause of capillary obstruction and necrosis, I should be inclined to regard it as being merely one amongst other factors in the production of this result.

The other cause of the disintegration of phthisical consolidation which must be more fully alluded to is the inherent weakness of the pulmonary tissue. Of this inherent weakness I shall speak more particularly when considering the etiology of phthisis. In the present place I shall limit myself to an attempt to explain how far it is an auxiliary in the causation of pulmonary disintegration. That an inherent weakness of the lungs exists in a large proportion of the cases of phthisis will, I presume, be generally admitted. This weakness is usually inherited, and it renders the organs especially susceptible to injury; so that inflammatory processes are set up in them with abnormal facility. When an inflammatory process occurs in a previously healthy lung—a lung, that is to say, which is not constitutionally *weak*—the circulation is usually restored, and the inflammatory products become absorbed; and if the process be sufficiently chronic to cause active changes in the alveolar walls or interlobular tissue, the resulting small-celled growth almost invariably undergoes progressive development into a fibroid structure, resembling in this respect small-celled growth occurring under similar circumstances in other organs. In phthisis, on the other hand, the inflammation usually occurs in an organ which is constitutionally at fault. Not only is it abnormally susceptible to the initial injury, but it is less capable than the healthy lung of recovering itself from the effects of the inflammation which is induced. If the inflammatory process be severe, the tendency to stagnation of the blood-stream, which always results from intense inflammation, together with the pressure exercised by the products of exudation,

may be sufficient, quite irrespectively of any new growth around the capillaries, to prevent the restoration of the circulation, and a rapid disintegration of the consolidated lung consequently ensues. If the process be less intense, and cause changes in the alveolar walls, the new small-celled tissue has less power of progressive development than has the tissue produced in a previously healthy lung; the vitality of its elements is more easily destroyed; it has a greater tendency to undergo retrograde change.

The intensity of the inflammatory process will obviously, to a great extent, determine the destiny of the small-celled growth in the alveolar walls. The greater this is, the greater will be the impairment of the vitality of the young elements, and consequently the greater the tendency to retrograde change. It is in those cases of phthisis which are the most acute that the disintegration of the small-celled growth is the most marked; in those which are the most chronic that there is the greatest amount of development into a fibroid tissue.

(To be continued.)

CASE OF

CEREBRO-SPINAL MENINGITIS,

ALBUMINURIA, PERICARDITIS, AND MITRAL FIBROID THROMBOSIS ORIGINATING IN ULCERATIVE ENDOCARDITIS.(a)

By T. S. DOWSE, M.D.,
Medical Superintendent, Central London Sick Asylum.

E. K., AGED thirty-one, was admitted into the Central London Sick Asylum at Highgate on September 18, 1874, and died on October 15. It appears that she had been leading a profligate life for years, and some two years since suffered from a severe attack of gonorrhœal rheumatism, which left her broken down in constitution. When I first saw her she looked ill, and answered my questions with considerable reticence. There was no lividity of features; the eyes were bright, and the countenance intelligent; her pulse, temperature, and respirations were normal. The tongue was clean, and the urine free from albumen. There was no dyspnœa or objective signs of thoracic mischief. I prescribed a mixture containing the iodide and bromide of potassium, and for a week she went on well. But after this she complained of pain in the chest; the breathing was hurried; and, in addition to a fine markedly diastolic murmur at the apex of the heart, there was a pericardial friction-sound. The following are the notes from my case-book made at the time:—

October 4.—Respiration puerile all over the chest; breathing laborious; intellect dull; she is drowsy and listless, and for the past two nights she has been delirious. The tongue is perfectly clean; speech thick. There are bilateral twitchings of risorii and zygomatici muscles. Pulse full, 130; temperature in morning 99·2°, evening 103·2°.

5th.—In the same condition as yesterday.

6th.—Is drowsy, but when roused answers questions with evident consciousness. There is pseudo-paraplegia of the lower limbs, with cutaneous anæsthesia and muscular hyperalgia; when she attempts to move them the pain is intense. There is persistent diarrhœa and want of voluntary control over anal sphincter. The tongue continues moist and clean; no vomiting. Temperature in the morning 102°, evening 102·3°.

7th.—In the same condition as yesterday.

8th.—Her state is as it was on the 6th. The respirations are now tranquil, and no pericardial murmur is to be heard, neither is there dulness or evidence of effusion into pericardial sac. The diagnosis is difficult. One is inclined to look upon it as a case of blood-poisoning. There are no spots over the abdomen or elsewhere significant of typhoid, neither has she the sensorial defect of typhus. The urine is now albuminous, normal in quantity, and under the microscope it does not give evidence of blood-cells or desquamated epithelium. The tongue is moist and clean; pulse 100; respirations 16; temperature in the morning 100°, evening 103°.

9th.—In the same condition as yesterday. Pulse 100; respirations 16; temperature in the morning 102°, evening 104°.

10th.—There is no marked change in her condition. The clonic convulsive seizures of the facial muscles have been continuous with slight intermissions. Of the two she is rather more lethargic than hitherto, and the lower limbs are apparently quite powerless and devoid of sensibility. The tongue is now for the first time showing signs of becoming dry and coated. The body is quite free from anasarca. Pulse 100; respirations 16; temperature in the morning 104·4°, evening 101°.

11th.—No improvement has taken place, and it must be noted that there is a decrease in the evening temperature compared with that of the morning. Pulse 130; temperature in the morning 104·4°, evening 97·2°.

12th.—Is decidedly worse; more lethargic; passes both urine and fæces involuntarily; commencing sordes about the lips; subsultus; yet the facial aspect is good—there is no lividity, the lips are red, and there is total absence of that pasty appearance which is a marked feature of acute desquamative nephritis. Pulse 120; respirations 24; temperature in the morning 102·2°, evening 96·4°.

13th.—Temperature in the morning 100·3°, evening 97·2°.

14th.—Is fast sinking; almost comatose. Pulse 130; respirations 48; temperature in the morning 99·2°, evening 96·2°.

15th.—Dying; stertorous breathing, etc. Temperature in the morning 99°, evening 98·4°.

Post-mortem, twenty-four hours after Death.—Rigor mortis still persistent; body fairly well nourished. Upon removing the calvarium, the sinuses were unusually engorged, and the vessels of the dura mater. There was no especial adhesion between the arachnoid and dura mater, but the former was abnormally opaque, and contained an excess of fluid, whilst the pia mater showed evidence of vascular congestion. There was no excess of fluid in the ventricles of the brain, and the substance both of the hemispheres, central ganglia, and motor tract was of normal consistence. The vessels were carefully examined, but no plugging was detected. The pia mater of the spinal cord was hypervascular, but the substance of the cord itself was of normal consistence, except in the dorso-lumbar region, where commencing softening was apparent. The thorax being opened, the lungs were found to be fully inflated, and free from disease. There was venous engorgement at both bases; no pleuritic adhesions or fluid in pleural cavities. The pericardium was not distended or abnormally visible, but adhesions existed between its two surfaces, which easily broke down upon pressure. The heart was of average size; its muscular tissue was pale, but there was no especial hypertrophy or dilatation. The valves were competent, except the mitral, to the anterior cusp of which was attached a mass of highly organised fibrine of the size of a small walnut. In reference to the abdominal viscera, the liver showed signs of fatty and cirrhotic change, and the spleen was almost completely pulpified. The kidneys were of normal size; the capsules stripped off easily, without tearing the surface of the cortices. The substance of both kidneys was congested. The small intestine was carefully looked over, but no ulceration or congestive patch was discovered.

Remarks.—This is the clinical history of a diseased state, concerning the factor or origin of which I have my doubts. Yet one has sufficient rough evidence to lead to its being considered, in reference to its etiology, as a suppressed condition of acute rheumatism, resulting in an interstitial nephritis, secondary pericarditis, uræmic poisoning, and death. In fact, the cause and progress of the disease would tend in many ways towards this diagnosis. Yet it differs materially in the ordinary signs and symptoms of this disease. Again, if I had found ulceration of the bowel, I should have been quite content to have ascribed the *origi mali* to the poison known as typhoid. There was, it is true, the diseased condition of the arachnoid membrane, the hypervascularity of the pia mater, and some apparent change in the cord; but I look upon these conditions as truly and undoubtedly secondary to some primary morbific factor, as the pericarditis itself. It must be the practice of most to make a diagnosis in reference to all the varying phases of disease, and an approximation in this respect must be considered equal to a definition, for the reason that pathology is not always at our command for the verification (even if such were possible) of obscure diseased states. But now for a word or two in reference to the heart and spleen. The latter was what is usually termed pulpy: that is to say, there was complete disintegration of its parenchyma, whilst the trabeculæ stood prominently forward as a fine meshwork. The fibroid growth, which was attached to the mitral valve, is, as far as my pathological researches go (both practically and from the literature of the subject), unique. It was connected principally with the under surface of the anterior cusp of the valve, and although it was firmly adherent to it, I do not think that it originated from interstitial inflammation, like an ordinary vegetative excrescence. But what seems to me of considerable

(a) Read on November 23, 1874, at the Medical Society.

interest is the result which such an outgrowth must have produced upon the circulation. It is quite certain that complete closure of these valves was an impossibility, and hence arose the pure diastolic murmur which was heard during life, and which is by no means a frequent accompaniment of mitral valvular disease.

INFANTILE CONVULSIONS.

By Dr. H. B. CLARKE, of New Bedford, Massachusetts.

While looking through the pages of the *Medical Times and Gazette* for November 21, my attention was arrested by the article on Infantile Convulsions contributed by Sir John Rose Cormack,—the case he has described reminding me of one which came under my own observation somewhat more than a year ago, wherein the patient was apparently restored from a state of suspended animation by the touch of a finger thrust into the aperture of the larynx.

In order to call the attention of the profession to this means of exciting inspiration, I offer from memory a brief sketch of the case.

A rather delicate girl of seven years of age, after a day or two of slight indisposition, was seized with convulsions while playing in the garden. She was at once taken into the house, and as soon as preparation could be made was placed in a warm bath. On my arrival, nearly an hour after the time of seizure, she was still somewhat convulsed, but immediately afterwards she sank, pallid, relaxed, and apparently dead. With the aid of an assistant who accompanied me, artificial respiration was at once undertaken, and continued for from five to ten minutes, without any apparent effect. When about to abandon the case as hopeless, it occurred to me that possibly the tongue had not been drawn forward sufficiently to secure the passage of air through the larynx. In an attempt to ascertain the condition of the larynx in this regard, I passed my finger along the side of the tongue until I got the end within the laryngeal opening, which I had no sooner done than a gasping inspiration was made which soon developed into regular breathing.

There was some twitching of the eyelids and other convulsive motions after resuscitation; but, under the use of ether by inhalation, there was no further paroxysm at this time. Some two or three weeks later, however, another attack occurred. I was sent for; but not having been found, there was considerable delay before another medical man was called. Upon his arrival the child had been dead for more than an hour; and no attempt at resuscitation was made.

From the history of this case, both before and subsequent to the attack in which I saw the patient, it appeared to be one of reflex convulsions depending on undigested food (pieces of apples and pea-nuts having been voided at stool unchanged). Worms were suspected, but none were seen, though measures were taken to dislodge them, and they were carefully looked for.

Previously to this experience, I had seen a similar result from the touch of a finger within the opening of the larynx in the case of a woman apparently dead from chloroform. In that case I had only noted the fact as a coincidence. With the second experience, however, I was struck by the extraordinary effect of this touch when many other means to excite the reflex nervous functions had failed.

Since these experiences I have twice seen this method of exciting inspiration succeed—once in a case of suspended animation from convulsions depending on dentition; and again in a woman seventy years of age, who was partially asphyxiated by nitrous oxide gas administered by a dentist for an operation on the teeth.

I cannot leave the subject of this article without expressing the opinion that the hypodermic injection of morphia in children in such a dose as would suffice to control convulsive action would generally be extremely hazardous; though possibly, in such a condition as existed in the case reported, there may have been unusual toleration of the drug, like that which sometimes obtains in tetanus.

According to my experience much safer, and more efficacious remedies are found in ether and chloroform: even when the respiration is temporarily suspended by the spasmodic closure of the glottis, the administration of ether as in inhalation will hasten the relaxation of the spasm. It is also effective to prevent a return of the convulsive paroxysm when administered as indicated by the spasmodic movements which usually precede it. Opium and its derivatives, though often used in convulsive affections as antispasmodics, are comparatively inefficacious unless pushed to a degree that renders their use harmful if not dangerous.

REPORTS OF HOSPITAL PRACTICE
IN
MEDICINE AND SURGERY.

THE MIDDLESEX HOSPITAL.

CASES UNDER THE CARE OF MR. HULKE.

Strangulated Femoral Epiplocele concurrent with an Unsuspected Intrapelvic Strangulation of the Ileum—Herniotomy—Death.

The main interest of this case centres in the co-existence of a strangulated femoral rupture, and a constriction of the ileum in the pelvis. The latter was unsuspected, for before the operation the symptoms were sufficiently accounted for by the strangulated rupture; and afterwards, when this had proved an epiplocele, the presumption continued that its strangulation was their efficient cause, because, as is well known, strangulation of omentum does sometimes produce symptoms not unlike in kind, and occasionally as severe in degree as those of a strangulated enterocele. It is probable that the rupture was older than the internal constricting band, since this was a slip detached from the fan-like sheet of omentum gathered down to the internal crural aperture. If the internal obstruction of the ileum had preceded the external strangulation by a distinct interval, this might have afforded a clue to its existence, but it is doubtful whether such an appreciable interval of time ever existed. Most likely the two strangulations occurred almost simultaneously, and that the vomiting, etc., which directly supervened upon the one, occasioned those disturbances in the relations of the viscera which effected the other. Had the existence of the internal constriction been diagnosed with sufficient probability to have warranted abdominal section, it might have been easily reached through an incision in the linea alba, the band divided, and the ileum released. With the fatal complication of the internal obstruction, the abscision of the strangulated omentum could not have had any influence in averting a fatal issue; but its subsequent gangrene, and the greater intensity of the marks of peritonitis around it, show that its retrenchment would have been preferable to its replacement in the belly.

A housekeeper, aged sixty-four, was brought into Bird ward at 8 o'clock p.m. on December 30, 1873, with a strangulated rupture. It was an oblong swelling in the right groin, about two inches in its long axis, not particularly painful nor tender. She retched repeatedly. The rupture, she said, had existed for seven years, and it had always been reducible until two days before, when it came down and she could not get it back. This was followed directly by severe pain in it and in the belly, and shortly after by vomiting. Since the accident her bowels had not acted. A medical man called to see her had repeatedly tried the taxis. Under chloroform the taxis was gently tried for a few minutes, when, reduction being impracticable, herniotomy was done without more delay. The cellular tissues and the sac were found very congested and ecchymosed. Some bloody serum and a small piece of omentum were the sole contents. An old and limited adhesion of the omentum to the sac near the neck showed that the patient must have been mistaken in supposing that she had always been able to completely reduce the contents. The adhesion was detached, and as the omentum seemed to be but very slightly changed, it was returned into the belly after the constriction had been divided. As no gut was discovered in the sac, the precaution was taken to ascertain that none was entangled in the omentum at the inner surface of the femoral aperture, by passing the finger through this into the belly. The wound was dressed antiseptically, and a drainage-tube was placed in its lower angle, because, from the congested and ecchymosed state of the sac and surrounding cellular tissue, suppuration of the wound was considered inevitable. She was ordered opium, and to have her belly covered with a linseed poultice. She passed an easy night and morning, but at midday complained of sharp pain in the belly. For this leeches were applied, after which she was easier. In the evening the belly became distended with wind; she had a troublesome hiccough; and retching, which had diminished, but never wholly ceased, became more

frequent and persistent until her death, in the fourth night after the operation.

On examining the body, the piece of omentum which had been strangulated and replaced in the belly was found gangrenous, lying at the inner side of the crural ring. The mass of the omentum was drawn down in a fan-like manner towards this aperture, and from it a small band passed downwards and backwards into the pelvis, where, at the right side, its distal end was attached. This little band crossed and bound down the ileum at about twelve inches from the cæcum. At the constricted spot the ileum was deeply indented and superficially ulcerated. Between the constriction and the cæcum it was empty, and so contracted as to be not very unlike an inordinately long vermiform appendix, whilst above the constriction it was immensely distended with fluid fæces. There were slight marks of general peritonitis, which had its focus at the gangrenous piece of omentum. Both kidneys contained cysts.

Strangulated Femoral Rupture—Herniotomy—Multiple Spurious Sacs—Death from Gangrene of Intestine and Peritonitis.

The exceptional presence of more than one hernial sac is best known in the modification of congenital hernia to which Hey, who first recognised it, gave the name "infantile,"—a variety where the peritoneal sac, which immediately encloses the protruded viscera, lies inside the bag of the tunica vaginalis testis. A second, and even a third peritoneal sac have been also very exceptionally observed in acquired herniæ, where the neck of the inguino-scrotal hernia had become obliterated during the use of a truss, and, this having been laid aside, a fresh protrusion, bringing with it its own peritoneal sac, had descended into the unobliterated body of the earlier sac. Probably, in some of these cases the first sac had been constituted of the vaginal process of peritoneum which was obliterated for a short space above that lowest part which becomes the tunica vaginalis. F. Dieffenbach mentions having operated upon several such cases. Multiple spurious sacs have been met with less infrequently in femoral ruptures than in scrotal. Their origin is probably not invariably the same, and at present it is little understood. In the following case three distinct cystiform spaces, each containing a serous fluid, were superposed upon the true peritoneal sac.

A maid-servant, aged forty, was admitted into Bird ward on July 10 last, with a femoral rupture four days strangulated. The strangulation began, she said, with pain in the belly, which was soon followed by vomiting. For this, as her bowels were bound, she took purges, which were thrown up again. Becoming worse, the family medical attendant was called in to her; finding a rupture, he tried to reduce it by taxis, and, not succeeding, recommended that she should be taken to the hospital.

When admitted (on the fourth evening), she had in the right groin a pear-shaped swelling, the larger end of which was over the crural canal, and the lesser end reached nearly to the anterior superior iliac spine. The surface of this swelling was uneven, and its consistence was not uniform, which gave the impression that the sac contained coarse pellets of indurated omentum, or that it was overlaid by a cluster of swollen lymphatic glands. The rupture was not tender; she did not flinch when it was handled, nor was it particularly painful. Her belly was very tympanitic, but not painful nor tender. She retched frequently; nothing stayed on her stomach. Her bowels had not acted since the onset of these symptoms. The pulse was 100, and temperature 99° Fahr.; the tongue moist and clean.

The taxis was repeated with the assistance of chloroform unavailingly, and, delay seeming dangerous, the hernia was operated on. The customary single straight incision was made at the inner end of the swelling, and, when the subcutaneous fatty tissue had been divided, a glistening membranous bag came into view. It was so like a hernial sac that neither Mr. De Morgan (who was present) nor I myself doubted that it was the sac. The upper falciform edge of the saphenous opening and Gimbernat's ligament were successively notched, and reduction without opening the sac was attempted, but ineffectually. The supposed sac was next opened, upon which a little serum escaped, which confirmed the supposition. The opening was enlarged; it led into a smooth cavity, of the capacity of about one ounce, in which, besides the serous fluid just named, nothing was found except a little stalked cystiform body, of the size of a small bean, which hung from the posterior or deep wall of the space. This wall was quite smooth, convex, tense, elastic; in some parts blue and thin, in other places glistening white and tendinous; and it was overrun by a net of large veins. The appearance was deceptively like that of a small ovarian cyst. However, on tracing the convex surface, it seemed everywhere to be adherent at its periphery, whereas ovaries found in hernial sacs have mostly been unattached to the sac. The quasi-sac was therefore opened: it contained only a few drachms of clear serum. Deeper still was a third distinctly limited sacciform space, which also contained serum only, and this less colourless than that in the two more superficial spaces, and somewhat turbid. Deeper yet through the posterior wall of this (third) space a small, very tense, globular body of the size of a large grape was felt. It proved to be the true peritoneal sac enclosing a little bloody serum, and a very small knuckle of dark purple bowel, which was easily returned into the belly after a tight thread crossing it at the neck of the little sac had been divided. The wound was antiseptically dressed, and opium was ordered in doses of one grain, at first every two hours, and afterwards at longer intervals to be regulated by pain.

Shortly after the chloroform-anæsthesia passed off she vomited twice. She had some sleep, and next morning felt easy, but very thirsty. Tongue white. At 1 p.m., through a misunderstanding, she was injudiciously allowed to drink freely of lemonade, and soon afterwards milk. Almost directly vomiting followed; it could not be controlled. In the evening three stools were passed; rapid collapse set in; and she died at seven o'clock on the 12th.

Gangrene of the strangulated piece of gut and signs of a severe and extensive peritonitis were found at the inspection of the body.

THE LONDON HOSPITAL.

CLINICAL REMARKS ON A CASE OF DEAFNESS IN CONNEXION WITH HEREDITO-SYPHILIS.

(By Mr. HUTCHINSON.)

THE case which elicited the following remarks was that of a young woman, aged seventeen, who exhibited the teeth and physiognomy characteristic of inherited syphilis. She had, in the course of about two months, became absolutely deaf in both ears. There had been no otorrhœa and no pain, but tinnitus had been very troublesome.

Mr. Hutchinson remarked that the case was a good example of the more severe form of deafness from hereditary syphilis. He had seldom known the hearing lost so rapidly, but in all other respects the facts of the case fitted exactly with those of many others.

The failure of hearing is usually somewhat sudden, and is unattended by any evidences of inflammation; the patient has neither pain nor discharge, and otoscopic inspection usually reveals nothing abnormal. He believed that the opinion which he had first advanced, as to the disease being connected with the nerve itself, was the correct one. In the case of the eye it is not at all uncommon for heredito-syphilitic patients to become almost blind from choroiditis disseminata; and in some comparatively rare cases almost complete amaurosis is produced by neuritis of the optic nerves. Both these lesions are most distinctly and positively to be associated with inherited syphilis. In the cases in which they occur, very usually there is a history of an attack of keratitis having gone before; and in both the function of sight is either much damaged or wholly lost without the occurrence of any pain or external evidence of inflammation. It is probable that parallel diseases occur in connexion with the nerve apparatus of hearing. Opportunities for obtaining positive knowledge by post-mortem examination have as yet not occurred. The subjects of inherited syphilis who have advanced past the period of childhood are, Mr. Hutchinson added, remarkably tenacious of life. He had only on two or three occasions had the opportunity of making a post-mortem in such a case, and in none of these was the symptom of deafness present. His belief in the nerve origin of the deafness must therefore, he said, be considered for the present as a matter of inference, and not of proof; but the facts certainly point very clearly in that direction. As regards treatment, Mr. Hutchinson stated that he was sorry to be obliged to admit that the knowledge of the true cause of the malady does not help much. In a majority of cases no very definite improvement takes place under either iodides or mercurials. In some cases—a minority—the patients become absolutely and permanently deaf; in others the function is very

much damaged; and in a third group almost perfect recovery results. There is not usually much reason for believing that the recovery is in connexion with the treatment; still it is probably the safest plan to use mercurials, but they should be employed with careful attention to the patient's health, so that no depression may occur.

The first description of this form of deafness, and the first statement as to its connexion with inherited syphilis, is, we believe, that given by Mr. Hutchinson in 1863. In Mr. Hinton's edition of Toynbee's work on Diseases of the Ear a very interesting note respecting it has been introduced. Mr. Hinton states that, at Guy's Hospital, of his aural patients one in twenty is affected with it, that it usually makes its appearance between the tenth and sixteenth years, and that the great majority of the cases which he has seen have been in females. He adds, "Patients suffering from this disease may, as a rule, at least when young, be at once distinguished by the *amount of deafness which they exhibit*. I know no other affection except fever which, in a person under twenty, brings on a deafness so rapid and so nearly complete. In the course of a few weeks a girl previously hearing well will, without pain or known cause, become unable to distinguish words." It will be seen that this latter statement fits exactly with the facts of the case which we have recorded.

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Medical Times and Gazette.

SATURDAY, JANUARY 16, 1875.

"EARTH TO EARTH."

Last year, after the appearance of Sir Henry Thompson's paper advocating cremation or incineration as the only right and safe method of disposing of our dead, we on several occasions discussed the subject in our pages, and pointed out the arguments that could be brought forward in favour of burning instead of burying the dead. But, while we admitted that by perfect cremation some of the worst and most prominent evils and dangers that accompany modern modes of burial would be avoided, we were careful to point out that those dangers and evils arise from the existing system of sepulture in common use, which cannot be truly called interment of the dead. Thus, in our number for May 8, in one of our "Letters from Madras," it is observed that, "With burial at a proper depth and proper distances, in a proper soil, and with the honest purpose to insure complete and speedy decomposition, and not to hinder this by means of metallic or oaken coffins, embalming, and vaults, all contamination of earth, air, and water is avoided. The offensive gases are absorbed by mother earth, and stored up for the nutrition of coming broods of organised beings." And again, July 18, when speaking of the various modes of dealing with the dead, we wrote, "The next method is that of burial—true burial,—so as to fulfil the Almighty's sentence, 'Dust thou art, and unto dust shalt thou return;' 'Then shall the dust return to the earth as it was.' This implies that the body shall be really 'committed to the ground,' to undergo the process of dissolution which nature ordains, with every circumstance of reverence and decency, but with nothing to hinder the return to dust. But, to render burial perfect, the soil must be qualified to absorb and retain the gases of decomposition, not to allow them to escape into the air; moreover, it must be such as not to oppose the decay of the coffin and its contents." And we remarked, "It must not be forgotten that burial, in the case of most well-to-do people, is not burial at all, but mere deposition in a brick grave, vault, cellar, or other receptacle made to imitate a catacomb"; and that every care is taken by the way in which bodies are coffined to protect them from all contact with the earth, instead of committing them to it. As we have thus pointed out what is true burial of the dead, and insisted on its advantages, it will be easily understood that we welcome with great satisfaction Mr. Seymour Haden's powerful advocacy of real committal to the earth, and his defence of this against the Cremationists. As is well known, Mr. Seymour Haden is a great artist, and his letter to the *Times* on "Earth to Earth" shows that he can use the pen with the same power and eloquence as he handles the etching-needle, and represents with deep shadows and high lights all the miseries and evils attendant on "non-effective," and the perfectness for all purposes of "effective" burial. He sets out for consideration the six following propositions, which include, indeed, all that we have before said on the subject, but expressed with a clearness and force that we cannot pretend to:—

"1. That the natural destination of all organised bodies that have lived, and that die, on the earth's surface, is the earth.

"2. That the evils which they (the Cremationists) would have us believe to be inseparable from the principle of interment are independent of that principle, and wholly of our own creation.

"3. That the source of these evils is to be found—not in the burial of the dead, but in the unreasoning sentiment which prompts us to keep them unburied for as long as possible, and then to bury them in such a way that the earth can have no access to them.

"4. That the burial of the body supposes its resolution by the direct agency of the earth to which we commit it, and, again, that the earth is fully competent to effect that resolution.

"5. That to seek to prevent this beneficent agency by enclosing the dead in hermetically sealed coffins, brick graves, and vaults is in the highest degree unphilosophical, since it does but engage us in a vain resistance to an inevitable dispensation, and since it has led us to accumulate in our midst a vast store of human remains in every stage and condition of decay.

"6. That the remedy for such evils is not in cremation, but in a sensible recognition of, and a timely submission to, a well-defined law of nature, and in legislative action to enforce the provisions of that law."

Mr. Seymour Haden describes the powerful and wonderful properties with which "the soil at our feet and everywhere at our disposal" has been endowed, saying that it "is the most potent antiseptic known, and the readiest of application, and that, by a combination of forces inherent in it which might well appear contradictory but for the wonderful purposes they

are destined to effect, it is resolvent and re-formative as well; that what under the influence of the air was putrefaction, in the earth is resolution: that which was offensive, becomes inoffensive; that which was decay, a process of transmutation." And then he tersely and shortly points out the main conditions of burial as it is, and as it ought to be: "When the body dies, putrefaction sets in at once, and, for as long as it is allowed to remain exposed to the air, continues. The air excluded, the process is arrested. The air readmitted, the process goes on. If the body have been dead some days, and putrefaction be well advanced before the adoption of measures to protect it from the influence of the air, the process will be arrested at the point it has then attained, and, for as long as the physical conditions are permitted to last, will remain at that point. Two methods of excluding the air from a dead body present themselves in practice—the direct and natural method of placing it in the earth; and what may be called the evasive and unnatural method of enclosing it in an air-tight case or coffin. By adopting the first method, inasmuch as we both exclude the air and invoke the resolvent action of the earth, we fulfil all the conditions of effective burial. By adopting the second method we fulfil only one of these conditions, and, for the sake of keeping the body by us for a few days, prevent the other. In the first case, resolution at once takes the place of decay; in the last, the state of decay is perpetuated. In the first case, if we look for that body at the end of five or six years, we shall not find it, or, rather, we shall be unable to distinguish its tissues from the earth, with which by that time it will have become assimilated. In the last, if we look for it after fifty years, we shall find it as we left it, *plus* the action upon it of the air and of the fluids of the body which we have included with it in the coffin—that is to say, in a state of advanced but unprogressive decay." No one, we imagine, can question the truth of all this; and Mr. Seymour Haden has rendered good service by putting it thus plainly and simply before the public, and in further illustrating and enforcing, as he does, the danger and unreasonableness of our present system of burial. But there are some parts of his "propositions" and his letter which, though equally true, cannot be expected, we fear, to meet with general acceptance.

In his third "proposition," Mr. Seymour Haden states that one main source of the evils attendant on our system of burial of the dead is "the unreasoning sentiment which prompts us to keep them unburied for as long as possible." On the wrong done by this "irrational practice" (concerning which we have, we must confess, lacked courage to speak) to the dead and the living he strongly insists; and he draws, with a master's hand, a picture of the discomforts and miseries it entails on those living in the house where the dead body is kept "unburied a few days longer than nature intended." It is this delay, moreover, that necessitates the "hermetic enclosure" of the body before burial, and so prevents the natural process of the resolution of the contents of the coffin; and this again entails the perpetual alienation of burial-grounds. While, "were the dead only properly buried," not one of the evils produced by the present system would have any existence; "not a single dead body would remain to infect the soil; and a quantity of land of incalculable value, now hopelessly alienated, would be liberated for purposes of utility." To insure all this, Mr. Seymour Haden suggests the use of "a coffin of some light, permeable material, such as wicker-work, open at the top," and filled-in above and below with fragrant herbs and flowers, and that the interval between death and interment should in no case exceed thirty-six hours. An Act of Parliament should be passed forbidding longer delay, and requiring the "abolition of the permanent tenure of the ground by the dead, and the use of imperishable coffins, brick graves, vaults, and every impediment to the resolution of the body." With such a method of burial as this, bodies would be resolved in five or, at the most, six years, and, at that interval, or at intervals as much longer as we please, we might "bury again and again in the same ground with no other effect than to increase its substance and to raise its surface." The necessary ground, moreover, is near at hand. "Along the course of our great river from London to the sea, for instance, have we not vast lowland tracts of rich alluvial soil deposited by that very river, and capable of being drained, planted, and beautified, in which, with equal benefit to the land and to ourselves, we may bury our dead for centuries?" And "with the silent river for our Appian Way, and the fresh salt breeze from the sea to ventilate it and to swell the many-coloured sails which, as long as we remain a nation, will continue to traverse and enliven it, what better or more natural burial-place can we have?" Eloquently and poetically put, though we fear that the "utilitarian" element introduced will jar on the feelings of very many.

The truth of the principles for which Mr. Seymour Haden contends is indisputable, but it will be a long time before we arrive at the possibility of enforcing their practice by law. And the greatest amount of objection and opposition to his plan will be excited by the proposal to require burial within thirty-six hours after death. Mr. Seymour Haden's details are, of course, suggestions only, but his principle of early burial will certainly not allow much more than the thirty-six hours' delay that he mentions. Reason and common sense are on the side of this change, and the custom of foreign nations may be adduced in support of it; but with us the "irrational practice" of a delay of at least four or five days is intrenched within the triple fortress of prejudice, feeling, and custom: many things have probably concurred to form it, as for instance, the need of time for the manufacture of the coffin or coffins, for the formation of the brick grave or vault, for the summoning of relatives and friends, and for the preparation of "proper" mourning; and these causes of delay will disappear with improved modes of burial, and with the growing taste for greater simplicity of funereal ceremonies; but the very root and strength of the "irrational practice" lie in the dread of premature burial—the haunting idea that death may be apparent only, instead of actual. Mr. Seymour Haden's Act of Parliament would enact the appointment of officers, one of whose duties would be "to verify the fact and cause of death"; and the scientific verification of actual death in every case would be absolutely necessary. But we take leave to doubt whether science has yet discovered any test of death that is simple, unobjectionable, easy of application, comprehensible to the common mind, and indisputably certain; and such a test must be found before very early burial can be made compulsory with us. If indeed the verifying officer is to verify the *cause* as well as the fact of death, we do not see how he can do without a post-mortem examination in an immense number of cases, and that would of course fulfil all the verification requirements; but it is not to be supposed that Mr. Seymour Haden really means literally that the Visiting Officer is to verify for himself both "the fact and cause of death." Education, the universal panacea for evil and wrong in these days, and the example of the educated and reasonable, may, and we trust will, gradually bring about the reforms for the necessity of which Mr. Seymour Haden so ably argues; but the process must be a slow one; and we are quite sure that till the public mind has been very much more educated in the practical acceptance of the dictates of reason and common sense, no English Government will dare to propose Mr. Seymour Haden's Act of Parliament to the Houses of the Legislature. Mr. Seymour Haden is absolutely opposed to cremation, which could only be carried out, he thinks, at a needless cost and infinite waste, and with injurious effects on the atmosphere; but into his remarks on this we will not enter,

nor into his own demands for the perfect utilisation of the dead; but it is rather remarkable that the two members of our profession who, before all others, are artists, and great artists—Mr. Seymour Haden and Sir Henry Thompson—should advocate with all their might such opposite modes for the disposal of our dead, and should each insist so strongly on, as the *Times* puts it, "the extreme utilitarianism which would turn to the best account the last ounce of departed humanity."

THE HAMPSTEAD HOSPITAL.

It would seem that the struggle between the Hampstead Committee and the District Asylums Board is about to be brought to a close. At all events, at the meeting of the Board held on Monday last, a resolution was passed by a majority of twenty-eight to four, to take steps forthwith for the erection of the proposed hospital. It was stated that the Board had acted on the suggestion of the Local Board, and had, of course, the support of its President. If this be so—and there is no reason to doubt it—there is virtually an end of the agitation; for a local committee, however influential, and a cause, however ably and strongly supported, will have no chance under such circumstances of obtaining redress from Parliament. It is curious to observe the line adopted by the combatants in this controversy: how advantage is taken on either side of any weak point in its adversary's argument, and how much has been made of even the slightest advantage, real or imaginary, that either of them has possessed. It may safely be said that the question has been thoroughly sifted, and all that can be said on either side has been said. To an impartial observer it is clear that much that has weight and importance has been said on either side. Did the District Asylums Board act wisely and in the interests, not only of the inhabitants of Hampstead, but of the Metropolis generally, in fixing on the present site for the erection of a permanent hospital for infectious diseases? Certainly, if another site equally good in all respects could have been found, in a place free from buildings, and away from the gatherings of holiday people and the visits of those who repair to Hampstead as a health resort, the Board were bound to have abandoned their present plan. It is asserted, on one side, that numbers of such places are to be found, and with equal vehemence on the other that none such exist. The District Board have this advantage over the Committee: that they have already used the temporary buildings as hospitals for small-pox; that no organised objection was then made to them, and, according to the Board, no cases of disease could be fairly traceable to them. This is unquestionably a strong point, but it is answered by the Committee that it is only of late they have discovered the deterioration of property which has taken place in the neighbourhood, and which threatens to bring ruin on the landowners and the householders; and this is by no means a slight matter, and in the controversy deserves to be treated with due respect. The argument used by the Board is, that wherever the new hospital may be placed, the same objections would hold good, and the same dissatisfaction prevail. But Hampstead is altogether an exceptional locality; it is one of the chief health-resorts and holiday resorts of Londoners, and it is therefore to be regretted that the permanent hospital is to be erected. With respect to the question of the extension of disease from the wards of the hospital, much has been said on both sides, and each party, we think, has taken a somewhat one-sided view of the matter. At all events, disease might spread from the hospital, though, we think, under judicious management it would not be likely to do so. But to contend absolutely to the contrary betrays a want of judgment and impartiality scarcely excusable.

We have not so many places of public resort that we can afford to injure or ruin them, and all persons, not blinded by party or prejudice, nor committed to an opinion, must regret if our most beautiful suburban "village" is to some extent sacrificed to what is not an imperative necessity.

EXPERIMENTS ON COUGH.

Dr. O. Kohts (*Virchow's Archiv*, 1874, lx.) has lately published the results of some experiments made to determine the exact regions of the respiratory tract which when irritated give rise to cough. He used dogs and cats for his purpose, and drew his conclusions from the presence or absence of the characteristic sound of coughing when a particular part was irritated, and not from the form of the glottis or the position of the diaphragm.

He found that the larynx is the part where coughing can be most easily excited, and with the greatest intensity. The free edges of the vocal cords are not sensitive, but the inter-arytenoid notch is so to a high degree. The other most sensitive parts connected with the larynx are the glosso-epiglottic folds, the aryepiglottic folds, especially on their epiglottic surface, and the edge of the epiglottis, where it passes over into the aryepiglottic ligament.

Cough can be excited by irritating the mucous membrane lining the trachea and bronchi, especially at the bifurcation of the former. Irritation of the costal pleura excites cough, but no such result occurs when the pulmonary pleura is irritated. Irritation of the substance of the lungs and of the pericardium gives indefinite results, and irritation of the pharynx is sometimes followed by cough and sometimes not. If the œsophagus be pulled or squeezed, or electrically stimulated, a rather harsh cough is the result, but no cough can be produced by irritating its mucous membrane, or the mucous membrane or peritoneal covering of the stomach. The existence of the so-called stomach-cough is, therefore, not experimentally confirmed. It was found that the nerves whose irritation gives rise to cough were the pharyngeal, superior laryngeal, and the trunk of the pneumogastric, but the recurrent laryngeal gave a negative result. The larynx loses its sensibility on section of the superior laryngeal nerves, and the trachea and bronchi theirs after the pneumogastrics are divided. It must, however, be borne in mind that, when the lungs are diseased or irritated, a much less degree of stimulation or a much wider surface may suffice to set up a cough.

It seems probable, from some experiments made on the medulla oblongata with electrical and other stimuli, that the centre through which the act of coughing is excited lies somewhat higher in the medulla than that for the muscles of inspiration.

We may here subjoin a brief account of some experiments which have been made by Dr. A. von Wolkenstein, of St. Petersburg, to determine what remedy is scientifically the most likely to succeed in the treatment of whooping-cough. (*Centralblattder Med. Wiss.*, November 21, 1874.) Starting with the assumption that the spasmodic cough in this affection is set up by an irritation acting on the superior laryngeal nerves, he has endeavoured to find a remedy which diminishes the sensibility of the part supplied by this nerve. He narcotised animals (dogs, cats, and rabbits) by the injection of the drug either into the rectum or into the subcutaneous cellular tissue until reflex excitability appeared to be abolished, and then irritated the parts to which the superior laryngeal nerve is distributed, through the openings made by a double tracheotomy, above the thyroid cartilage, and below the cricoid cartilage. It was then found that whereas under the influence of some drugs closure of the glottis and violent coughing were excited by irritating these parts, under the influence of others reflex excitability was either entirely or to a considerable extent abolished; and in the latter category morphia was found to have the most

powerful action. Next to morphia, chloral hydrate and bromide of potassium diminished the reflex excitability the most. The preparations of hydrocyanic acid were found not to act so quickly or effectually as those of morphia, while belladonna proved completely useless; even when the animal was most deeply narcotised with it, cough could still be produced by reflex irritation. Chloroform, aconite, hyoscyamus, absolute alcohol, calomel, and bichloride of mercury were also tried, and found to have no effect. Dr. Wolkenstein considers morphia to be the best drug to use in whooping-cough, and next to it he ranks chloral hydrate and bromide of potassium. Full details of the experiments will shortly be published; in the meantime it is interesting to observe the apparent discrepancy between experiment and clinical observation in regard to the value of belladonna in whooping-cough.

THE WEEK.

TOPICS OF THE DAY.

THE Admiralty has decided recently the question as to the right of naval medical officers to practise their profession on shore when borne on the books of one of Her Majesty's ships. They have determined that when a medical officer is on full-pay he should confine his professional attendance to those placed under his charge officially, and should not seek to obtain a private practice.

The Manchester Poor-law Guardians have resolved that information of sudden deaths within the hospital shall be sent to the police authorities, and not to the Coroner. Whether or not the circumstances require investigation by a jury will thus be left to the decision of the police authorities. This interference with the duties of the Coroner cannot be defended. His inquiry is a preliminary one, but of vast importance as to determining whether or not proceedings shall be taken against a supposed criminal.

In another column will be found a curious account, which comes to us from Sicily, and adds one to the many other inducements to visit that island at the present time. A woman had for a time suffered very peculiar symptoms suggestive of consumption, of which, however, she had no other signs. Further and more careful examination, however, including the use of the laryngoscope, showed a leech firmly adherent by both extremities to the walls of the air-passages at their upper portion, and so the difficulty of breathing and speaking, cough, etc., were easily explained. The question now was, how to get rid of the intruder; but this was not so easily done. At last, however, by dint of cunning forceps he was got out, and proved to be a fine large horse-leech. The only way in which to account for his presence was through the medium of some lettuces placed near the drinking-water. But if taking a drink of water is to be accompanied by such risks, perhaps the best thing will be to avoid the region where they are most apt to occur.

No class of men suffer more from exposure to the vicissitudes of weather than the poor cabmen of the metropolis. Day or night they are on the stand or engaged for hours without the slightest shelter or comfort. Diseases of the respiratory organs are consequently very common amongst this class of men. It has been long felt that their condition might be considerably ameliorated by the establishment of "shelters" in various parts of the metropolis. At a late meeting of the Vestry of St. Marylebone, a resolution was carried sanctioning the erection of a "shelter" close to the Langham Hotel. A similar building is also about to be erected at the Knightsbridge cab-stand, at the northern end of Sloane-street. These erections will be of modest dimensions, taking up about the same space as one cab and horse, and will be placed so as not to interfere with the traffic; but, even of such limited dimensions, they will afford protection to the cabman while waiting for hire, and so may keep them from the public-houses—their only shelter at present.

Of late the public papers have been teeming with letters and articles on the subject of flogging as a punishment. The writers of course differ in opinion. The truth is more likely to be arrived at by taking a medium course. The real question to be asked and answered is this—Is flogging a culprit, under certain circumstances (such, for instance, as in cases of garrotting), deterrent of the commission of that crime? In such exceptional cases it has seemed to have had a beneficial effect on the criminal classes, for garrotting is much less frequent than it used to be. It is contended, on the one hand, that the punishment of the lash is merely brutalising to its recipient, and to the criminal class in general; that it does not deter the commission of crimes with violence. These writers have evidently in view the humane efforts of Sir Samuel Romilly and others, to dispense with flogging altogether. But it must be remembered that in the time of Romilly the "lash at the cart tail," in a public thoroughfare, was a very common mode of punishment for the most trivial crimes. The disciples of Romilly saw—at least, some of them did—that the entire suppression of flogging as a means of punishment, and for the prevention of crime, was a mistake, and that it should be resorted to in some exceptional cases. It must be remembered that there is a class of criminals of such a brutal nature that they are sensitive to nothing short of physical suffering. Cowards, as they always are who attack you behind your back, or kick their wives to death, care not for imprisonment, for they are well clothed and fed; but they shrink from bodily pain as the cur shrinks and howls under the infliction of the whip. These are the men on whom the lash has a beneficial effect, not only as regards themselves, but also their companions, who hear of and dread the suffering caused. Flogging in cases like these should certainly not be abolished; the real question is whether its use should not be extended.

Mr. F. Le Gros Clark, President of the Royal College of Surgeons, has been appointed to deliver the Hunterian Oration on the 13th of February next, as the 14th falls on a Sunday.

DWELLINGS FOR THE WORKING CLASSES.

THE designs for improved dwellings for the working classes which were sent in to compete for the two prizes offered by the Improved Industrial Dwellings Company (Limited), were on view in the great hall of St. Bartholomew's Hospital until Thursday last. The competition had reference to the buildings to be erected on an irregularly triangular piece of ground which abuts upon the Goswell-road; and the several architects, although they were of one mind with regard to the erection of blocks along the three sides of the triangle, differed widely in their proposals for treating the interior space. Some of the designs showed interior blocks of building arranged in various ways, while others made provision for ornamental planting and even for flowers. The brief catalogue supplied to visitors contained little more than the names and addresses of the competitors, and gave no information concerning the cost or the characteristic features of their designs, in which there was so great a superficial resemblance that it was not easy to arrive at any conclusion about their respective merits without some aid from descriptions and estimates. The first prize, of £250, has been awarded to a design which is stated in the catalogue to be by Mr. Henry Macaulay; and the second, of £150, to a design which is stated to be by Mr. Banister Fletcher. Of these, the former gives 133 dwellings, and eleven shops with thirty-two rooms attached to them, or a total of about 650 rooms; while the latter gives 240 dwellings, and twenty-two shops with sixty-six rooms attached to them, or a total of

1044 rooms. According to the *Times*, from which this account is taken, it is not apparent, in the absence of information about relative cost, in what respects the design for 650 rooms is superior to that for 1044; especially as it would seem to be eminently desirable to provide the largest amount of accommodation which could be rendered compatible with the requirements of health, decency, and comfort. Mr. Macaulay's design, however, is conspicuous for the kind of wall with which he proposes to build, and which consists of a casing of brick, filled in and formed into a solid mass with concrete. This would probably be excellent, and is well worthy the attention of builders of all classes. One of the most desirable qualities which a house can possibly possess is that it shall be so constructed as to harbour no vermin—no rats, mice, crickets, cockroaches, or bugs,—and to offer no chinks for the accumulation of dirt to attract flies. The substitution of solid walls for the prevailing methods of building, the use of concrete or some similar material for all interstices, and of stoneware or cement in lieu of wood for skirtings, would go a very long way towards the realisation of this particular kind of excellence. The absence of places to lodge in, moreover, would tend to the extinction of the domestic rodents and other house parasites—an advantage which cannot be hoped for so long as our dwellings are built as much for their accommodation as for that of the apparent owners. The directors, in a resolution appended to the catalogue, express the opinion that the cost of construction of any one of the designs would much exceed that to which they have hitherto felt themselves restricted by the means of the classes from which the tenants are to be derived. The designs were originally twenty in number.

EXTRACTION OF A LEECH FROM THE LARYNX.

In the *Gazzetta Medica Italiana*, No. 48, 1874, Prof. Vanzetti, of Padua, reports for Dr. Gesualdo Clementi, of Caltagirone, Sicily, the following remarkable case:—On August 15, 1874, the latter was called to a patient who had been suffering for a fortnight from cough and hæmoptysis. She was a woman of fifty-eight, who had always enjoyed previous good health, and had never had anything the matter with her chest before. She was now quite aphonic, and had repeated attacks of severe dyspnœa. On examination of the pharynx nothing was found which would account for the symptoms, and with the exception of slight recession of the lower intercostal spaces during inspiration, and a few râles at the bases of the lungs, nothing abnormal could be discovered in the chest. As the paucity of physical signs rendered it improbable that the hæmoptysis was due to a tubercular process in the lungs, or the aphonia to tubercular ulceration of the larynx, the throat was at once examined with the laryngoscope, in the hope that the diagnosis might be cleared up by its means. It was then found that the opening of the glottis was occupied by a leech, which was attached to the superior extremity of the right arytenoid cartilage by its oral disc. Only the first few rings of its body could be seen during tranquil respiration, since the remainder was hidden beneath the vocal cords; and later observations rendered it probable that the posterior sucker was fixed to the hinder wall of the trachea, a little above the cricoid cartilage. Numerous attempts were made on the same day to remove the animal with a pair of laryngeal forceps, but they all proved futile,—partly because the body of the leech so nearly filled the opening of the glottis that there was not space for the passage of the forceps; and partly, and to a still greater degree, on account of the tenacity with which the leech adhered to the interior of the larynx. On the next day, August 16, Dr. Clementi again made an effort to extract it, and this time with success. By using a pair of forceps with small recurved teeth, and by making the patient expire deeply, he was able, as the leech had not changed its position since the previous day, to seize the middle of its body, and to draw it upwards as high as the base of the tongue, and at a second trial to detach the oral disc from the arytenoid cartilage, and to draw the animal up into the mouth. An assistant then seized it with a pair of nasal polypus forceps, and at last succeeded, by twisting the body on its axis, in detaching the posterior sucker, and freeing the larynx of its dangerous tenant. The patient was immediately able to speak out loud and to breathe freely. In answer to the question how the leech could have entered the larynx, she stated that she remembered one day having placed some lettuces near a vessel containing drinking-water, and that the leech had probably fallen out of the lettuces into the water. The leech was found to be the *hirudo sanguisorba*, commonly known as the horse-leech, which differs from the medicinal leech in adhering firmly for many days after it is gorged with blood. Dr. Clementi points out, in commenting on the case, that it completely negatives the ordinary idea that the continued presence of a foreign body in contact with the mucous membrane of the larynx will produce spasm of the glottis intense enough to suffocate the patient. He calculates that a force of more than two kilogrammes was required to detach the leech. This is the third case in which a leech has been discovered in the larynx, and extracted by the help of the laryngoscope. Dr. Trolard reported the first case in *L'Algérie Médicale*, 1870, No. 29; and Dr. Massei the second, in the *Morgagni*, October, 1874, p. 750.

A MISTAKEN DIAGNOSIS.

A lengthened inquiry was held at Woolwich this week, before Mr. Carttar, coroner, respecting the death of a soldier's child, daughter of Corporal McLeod, of the Royal Artillery. A great deal of interest was manifested in the case, and a number of military surgeons and other medical men were present. Mr. Franklin, barrister, watched the case on behalf of Dr. Jennings, a surgeon attached to the Royal Artillery, whose conduct in the case was called into question.

The mother of the child (a girl three years of age) deposed that her daughter was taken ill with measles on December 31, and on January 3 Dr. Jennings ordered its removal to the Herbert Hospital under a certificate that it was suffering from scarlatina. She was convinced, from her own experience, that the case was only measles, and she called in a private practitioner, Dr. Purland, who confirmed her opinion, stating that it would be highly improper to have the patient removed. A military ambulance waggon, however, came, and the child was taken to the Herbert Hospital, Shooter's-hill, where it was placed in the scarlet fever ward with six other children; but when Surgeons-Major Lewis and Smith, who were on duty at the hospital, saw the case, they pronounced it to be measles. The child was accordingly given over to the mother, who was allowed to take it home in a cab; but when she arrived there, she found that the family and furniture had been turned out, whilst the men of the Army Hospital Corps fumigated the place, and it was nearly an hour before she was able to obtain shelter. Corporal McLeod confirmed his wife's evidence, and said that the ambulance, though covered at the sides and top, was open back and front, and that he did not ask to have the curtains drawn. The day was cold, though fine. A sergeant of the Army Hospital Corps proved sending the child to hospital, and also having the quarters disinfected, acting in all under the orders of Dr. Jennings. The order stated that the case was pressing, and the horses were to trot. Surgeon Crowe, who was originally called to see the child, said it was a well-marked case of measles. It was advisable to keep the patient warm in measles. He passed the case over to Dr. Jennings, as the child's father was attached to his brigade. Surgeons-Major Lewis and Smith proved seeing the child at the Herbert Hospital, and removing it from the scarlet fever

ward. They both described the case as a well-marked one of measles; but Dr. Smith said there were sometimes hybrid cases, running from one disease into another, for which this might have been mistaken. The man who was taken in the ambulance with the child was only suspected of having scarlatina, but after being watched his case was found to be bronchitis. Dr. Lewis said he thought Dr. Jennings had erred by an excess of caution in his anxiety to check contagion. Dr. Purland said that there was not the slightest symptom of scarlet fever, and that it was a most unwise proceeding to expose the child to the cold air. He saw the child the morning before it was taken away, and was of opinion at that time that the child would die; and it was no worse when it came back from the hospital. Dr. Jennings was then called, and said that he was persuaded by the swollen state of the child's throat that it had been attacked by fever, and that he acted for the best. Dr. Fuller, who had been selected to perform the post-mortem examination, said that the child had died of measles and congestion of the lungs—an opinion in which most of the other medical men who had been present at the operation concurred. Dr. Fuller said, in answer to the jury, that he had never known a case of measles develope into scarlet fever: he had heard of a case in which the one had been mistaken for the other by a young surgeon, who was much relieved when an old monthly nurse had set him right. The jury returned a verdict that the child died from measles and congestion of the lungs, and that they thought great blame was attributable to Dr. Jennings in not being able to discover the difference between measles and scarlet fever. They did not impute criminal blame, but regretted that through his not having read the case aright the child should have been subjected to unnecessary exposure. The surgeon undoubtedly made a mistake, but the authorities seem to have proceeded on the idea that measles by themselves are neither infectious nor dangerous. Why was the child sent back from the hospital?

THE OUTBREAK OF SMALL-POX IN JERSEY.

The outbreak of small-pox in the Island of Jersey has not yet been checked—in fact, may be said to be increasing. Since the publication of the reports on this outbreak in November last the epidemic has assumed an alarming aspect. The number of fatal cases is rapidly on the increase, in spite of the recent extreme cold. The principal amount of mortality is in St. Helier's, which, with a population of 29,000, is suffering severely. Several deaths have also occurred in the country-parishes, chiefly in St. Ouen, St. Peter, and St. Mary, in the north-west part of the island, and the most elevated spots. In St. Helier's the majority of fatal cases have been in the quarters inhabited by the poorer class of inhabitants, and many instances have come to light of sufferers dying without the least medical attendance, as no person is appointed to visit the sick poor. A subscription is now being raised to secure the services of a medical man to attend upon the poor patients who prefer remaining at home to being removed to the hospital. The returns of the country registrars are so irregularly collected that it is difficult to obtain information that can be depended upon as to the progress of the epidemic. From the St. Helier's registry, however, it appears that the first fatal cases in the town occurred in September, when two were registered; in October there were no deaths; and up to November 23 only seven. To December 9, nine were registered, and it was then hoped that the disease had abated; from the 9th to the 31st of that month, however, not fewer than thirty-one deaths from small-pox were registered. This large proportion was soon exceeded, the new year bringing with it an alarming increase up to the 7th inst., by which date twenty-two deaths had been registered. There is no Compulsory Vaccination Act in Jersey, and as a consequence large numbers of the population are unvaccinated. Of the thirty-seven deaths that occurred in December, only eight were reported as having been vaccinated, and of these there is reason to believe that at least one-half had not been; and of the twenty-two registered up to the 7th inst. only four were reported as having been vaccinated. Information on this point is supplied to the registrar in the ordinary way by any person who reports the death, and is unsubstantiated by any medical certificate, the laws making no provision for this security of the register being a correct record of the cause of mortality. Of the thirty-seven deaths recorded up to the 7th inst., thirty-one were under ten years of age. The authorities of the island, never very celebrated for bestirring themselves under emergency, appear to have been too supine to adopt vigorous measures for stamping out the disease; hence its rapid spread. All necessary precautions have, however been instituted by the medical officers in charge of the troops quartered in Jersey to ward off infection, and it is to be hoped that the military will escape all the ill effects of this outbreak, which up to the present time has been entirely confined to the civil population.

THE EPIDEMIC AT OVER DARWEN.

It is announced that the official report on the outbreak of fever at Over Darwen will shortly be made public. So long ago as October last, Dr. Stevens was despatched by the Local Government Board to institute inquiries into the cause of the epidemic, and it is the result of his investigations which will in a little time be published. Meanwhile, there appears every reason to suppose that the outbreak, as usual, was the result of pollution of drinking-water. Rumour has it that the first case of typhoid fever imported into Over Darwen occurred in a house at some considerable distance from the town: the sufferer contracted the disease, came home, and died from it. The distance of this house from the town, and the circumstance that its sanitary arrangements were held to be good, also that there was apparently no communication from the house with the water drunk by the sufferers in the subsequent epidemic, diverted attention from this important case, which nevertheless, it is said, will be found to have been the cause of all the illness which followed. On first inquiry, it was stated that the town derived its water supply from a distant and unpolluted source, and that the water was brought by covered channels into the town, and could by no means be polluted by the excreta from this first case. A minute investigation which was presently instituted revealed a startling contradiction of this statement. The drain of the closet into which the excreta of the first patient passed, emptied itself into a neighbouring field for agricultural purposes; through this field also passed the water-main conveying the water supply of the bulk of the inhabitants of Over Darwen. At the point of supposed contact of the pipe with the drains, special precautions had been taken to prevent any infiltration of sewage into the water; but when the earth was dug up to ascertain how far these precautions were efficient, it was found that just above the spot where the cement had been placed there was a leak, which allowed the contents of the drain to be freely sucked into the water-pipe; and thus, as the typhoid poison was thrown down the drain, it passed into the water-main, and was constantly mixed with the drinking-water on its way to the town.

The epidemic in Over Darwen, which has caused such universal attention to be directed to it, attacked no less than 2035 persons within a very short period, and occasioned the return of 104 deaths as its result.

THE ALLEGED OUTBREAK OF ENTERIC FEVER AT THE GUARDS' BARRACKS, DUBLIN.

We are happy to say that the accounts of an outbreak of enteric fever at the above-named barracks have no foundation in fact. We have made careful inquiries in the

proper quarter, and have been informed on the highest authority that so far from an epidemic prevailing at present, the health of the troops stationed at Beggars' Bush—the 3rd Battalion of Grenadier Guards—never was better. The facts are simply these. Early in December last, Captain Langham, who had recently returned from a sojourn in Glasgow, was attacked with symptoms of enteric fever while residing in the Barracks at Beggars' Bush. After an illness of a fortnight or three weeks he succumbed to the disease. About the same time that Captain Langham became ill, Captain Van de Weyer left the barracks, and proceeded on a visit to friends at Kingstown. He subsequently went to Windsor, and was shortly afterwards attacked with fever, which unhappily proved fatal on December 23. A third officer had a mild attack of fever, not of the enteric type, and in no way connected with the other two cases. With the most commendable promptitude, Surgeon-General J. D. McIllree, Principal Medical Officer in Ireland of the Army Medical Department, instituted an inquiry into the sanitary state of Beggars' Bush Barracks. In this inquiry he had the able assistance of Colonel Murray, of the Royal Engineers. The result was to prove that the occurrence of enteric fever was in no way to be attributed to causes within the barracks. The site of the buildings is no doubt objectionable, but the drainage and water-supply are in every respect satisfactory.

As we have said, the health of the troops never was better than it is at present—a fact which is the more striking in a notoriously unhealthy season in Dublin, when zymotic diseases of various kinds—scarlatina, erysipelas, and cynanche—are especially rife amongst the civil population. It is not improbable, in the face of these facts, that Captain Langham contracted the disease in Glasgow, and Captain Van de Weyer either at Kingstown or at Windsor.

THE WORTHING INFIRMARY.

For some five months past the management of this Institution has been freely discussed in the local and medical press. Owing to the pressure brought to bear upon the Committee, this body has decided to admit medical cases, and to carry out several other much needed reforms. The admission of medical cases has given rise to a discussion as to the advisability of appointing an honorary physician to attend to these cases, in addition to the three surgeons which at present constitute the Honorary Medical Staff. Dr. Goldsmith, who for a long time has been anxious to give up his surgical work at the Infirmary, applied to the Committee for permission to do so under the new rules. This application was successfully opposed by his colleagues, Messrs. Collett and Harris, who base their opposition on the ground that no person shall be appointed honorary physician to the Infirmary who does not undertake to practise pure medicine, and to abstain from general practice altogether. We need hardly point out that if Dr. Goldsmith undertook to follow such a course, unless he had a considerable private fortune, he would simply have to starve, as, of course, a small place like Worthing, within easy distance of Brighton and even of London, leaves no scope for a consultant; and no medical man, however clever, could get a fair living as such by his profession. The difficulty in other small towns where infirmaries are established is surmounted by appointing, as honorary physicians, general practitioners who are graduates of some British university, and who undertake not to practise pharmacy. Dr. Goldsmith asks the Governors of the Worthing Infirmary (to whom he has appealed, by resignation, against the decision of the Committee) to sanction this arrangement at that institution. We wish him success. We hope that the Governors will show by their votes that they recognise the true interests of the Institution, by throwing on one side such futile objections as have been raised, which if recognised would strike at the root of hospital work in all save the largest towns in the country. We ought further to state that Mr. Cleveland Smith, who has considerable interest in Worthing, has issued an address to the Governors, declining to offer himself as a candidate for the vacant surgeoncy because he feels that it is their duty, in the interests of the profession and the public, to reappoint Dr. Goldsmith.

ARTERIAL TENSION AND THE VOLUME OF THE BLOOD.

A curious discovery has lately been made by Dr. J. Worm Müller in experimenting on the connexion between arterial pressure and the quantity of blood in the vessels. When blood was injected in large amount into the jugular vein of healthy dogs, he found that the pressure was scarcely, if at all, increased in the carotid artery, and sometimes was actually diminished. It was also made out that there was no special accumulation of blood in the veins to prevent a rise in arterial tension. On the other hand, even if a quantity of blood equal to a fiftieth part of the weight of the animal's body was removed by bleeding, the blood-pressure was not affected by it, and animals into whose vessels blood had been previously transfused were found to bear the abstraction of even a greater absolute quantity without alteration of tension. To explain the remarkable phenomenon that the vascular system can take up large quantities of blood without alteration of tension, it was at first thought that the excess of blood or plasma might have transuded through the walls of the vessels, and post-mortem examinations showed that transudation of serum into the lymphatic spaces had actually taken place to an appreciable extent, but not to a degree sufficient to compensate for the excess of the injected fluid. It was, moreover, found that the vascular system was actually over-filled, the blood being distributed equally among all the organs of the body, but in such a way that the main stress was laid upon the capillaries. Further observations showed that there was no diminution in the force of the heart, and that the blood was not subjected to increased friction in passing through the lungs; so that the constancy of the blood-pressure after the injection could not be explained in that way, nor could it be due to paralysis of the nerves supplying the walls of the bloodvessels, or to the loss of irritability in the muscular coats of the walls themselves, for in curarised animals interruption of the respiration at once caused a very considerable rise in the blood-pressure. It therefore appeared that the only explanation of the constancy of tension was that the walls of the vessels were stretched beyond the limits of their elasticity (*Elasticitätsgrenze*), so as to accommodate the increased amount of fluid thrown into them; and this hypothesis seems best to agree with all the phenomena observed.

A PESTIFEROUS MIDWIFE.

A verdict of manslaughter has been returned against Elizabeth Ingram, a midwife, after a protracted inquiry, by the Coroner for Coventry. She had attended a large number of confinements, and had conveyed puerperal fever to patients. She was cautioned on the 18th ult. by the Coroner, to cease from practice, but did not do so. Two inquests had since been held on fatal cases she had attended. She was censured on the first inquiry, and on Monday she was committed for trial on a charge of manslaughter. Four other cases of puerperal fever have proved fatal.

CITY OF DUBLIN HOSPITAL.

We announced last week that Mr. Joliffe Tufnell, President of the Royal College of Surgeons, Ireland, had resigned the surgeoncy to this institution. To fill the vacancy this caused Dr. Henry Fitzgibbon was, on Saturday week, selected out of several candidates. Dr. Fitzgibbon is a Doctor of Medicine and Master in Surgery of the University of Dublin. The appointment is one which gives great satisfaction.

DEATH FROM THE SELF-ADMINISTRATION OF CHLOROFORM.

On the morning of the 8th instant, a young gentleman who resided at Woolton was found dead in bed under the following circumstances :—The deceased had suffered from "asthma and toothache," and it appears that he had been in the habit of inhaling chloroform for the purpose of inducing sleep. On the morning mentioned he did not make his appearance as expected, and, on the room being entered through the window, he was found dead in bed. The body was on the left side ; the bedclothes were "up about" the face, though not covering it ; and a pocket-handkerchief was over the mouth. Dr. Little, who was summoned, found the body in the posture just described, the limbs rigid, and the lower side "rather congested." A handkerchief was on the bed, and under the bolster was a small bottle containing about a teaspoonful of chloroform. The deceased had, in Dr. Little's opinion, been dead for several hours before he saw him, and had died from an over-inhalation of chloroform. The verdict of the jury was to the same effect.

CONVERSAZIONE AT THE HARVEIAN SOCIETY.

The annual meeting and *conversazione* of the Harveian Society was held at their rooms in Tichborne-street on Thursday, January 7, when a large number of visitors and members assembled to hear the address of the President, J. R. Lane, Esq., and to inspect a very interesting collection of objects of art and science. By the aid of Mr. Lennox Browne, an admirable series of paintings and etchings by members of the medical profession had been arranged ; among the chief contributors to which may be mentioned Sir Henry Thompson, Mr. Rilleau (Deputy Inspector-General of Hospitals), Dr. Buzzard, Mr Propert, Dr. Evershed, Mr. Leaf, and Mr. Lennox Browne. Pathological drawings were lent by Dr. Hughlings-Jackson, Mr. Jonathan Hutchinson, Dr. Burdon-Sanderson, Mr. Fairlie Clarke, and Dr. Westmacott ; microscopical preparations by Mr. Henry Romer, Dr. Cheadle, Dr. Shepherd, and Dr. Carter (of Leamington) ; and some beautiful porcelain by Dr. Braxton Hicks. Surgical instruments, drugs, scientific appliances, china, and photographs were exhibited in large profusion by Messrs. Kröhne and Sesemann, Meyer and Meltzer, Pratt, Cooper, Savory and Moore, Tisley, Phillips, the Watcombe Terra-Cotta Company, Messrs. Morice and Haigh, and Messrs. Fradelle and Marshall, and much satisfaction was expressed with the successful labours of the Arrangement Committee.

CLINICAL SOCIETY OF LONDON.

On Friday evening last, the annual meeting of the Clinical Society took place, the retiring President in the chair. Office-bearers, as given below, were elected for the new year. We cannot but congratulate the gentleman who retires from the exalted post of President on the kindness and urbanity shown by him on all occasions, some of them requiring both tact and vigour ; nor can we fail in our congratulations to the Society on securing such a successor to Mr. Prescott Hewett. The following is a list of the officers and Council for the year 1875 :—*President :* *Sir William Jenner, Bart., M.D., K.C.B., D.C.L., F.R.S. *Vice-Presidents :* George Johnson, M.D., F.R.S. ; *Henry Thompson, M.D. ; Hermann Weber, M.D. ; George W. Callender, F.R.S. ; Timothy Holmes ; *Jonathan Hutchinson. *Treasurer :* E. Headlam Greenhow, M.D., F.R.S. *Council :* Thomas Buzzard, M.D. ; William Cayley, M.D. ; William Selby Church, M.D. ; William Howship Dickinson, M.D. ; *Dyce Duckworth, M.D. ; *Charles Hilton Fagge, M.D. ; *John Harley, M.D. ; *J. Braxton Hicks, M.D., F.R.S. ; Walter Moxon, M.D. ; R. Douglas Powell, M.D. ; Henry Arnott ; *Edgar Barker ; Richard Barwell ; R. Brudenell Carter ; John C. Langmore, M.B. ; George Lawson ; Arthur Treherne Norton ; *James Rouse ; *J. Soelberg Wells ; Alfred Willett. *Honorary Secretaries :* Reginald Southey, M.D. ; Thomas Pickering Pick. The gentlemen whose names are marked with an asterisk (*) did not hold the same office during the preceding year.

OBSTETRICAL SOCIETY OF LONDON.

The following is a list of the officers for 1875 :—*Honorary President :* Sir Charles Locock, Bart., M.D. *President :* *William Overend Priestley, M.D. *Vice-Presidents :* *William Frederick Cleveland, M.D. ; Edward Copeman, M.D. (Norwich) ; *Thomas F. Grinsdale (Liverpool) ; Alfred Meadows, M.D. ; W. S. Playfair, M.D. ; Charles H. F. Routh, M.D. *Treasurer :* Gustavus C. P. Murray, M.D. *Honorary Secretaries :* Alfred Wiltshire, M.D. ; Arthur W. Edis, M.D. *Honorary Librarian :* James H. Aveling, M.D. *Honorary Members of Council :* Henry Oldham, M.D. ; Robert Barnes, M.D. ; John Hall Davis, M.D. ; Graily Hewitt, M.D. ; John Braxton Hicks, M.D., F.R.S. ; Edward John Tilt, M.D. *Other Members of Council :* George Granville Bantock, M.D. ; John Bassett, M.D. (Birmingham) ; *William Bloxam, M.D. ; George B. Brodie, M.D. ; Thomas Chambers, M.R.C.P. Edin. ; William Henry Day, M.D. ; James Ellison, M.D. (Windsor) ; John H. Galton, M.D. ; *William Chapman Grigg, M.D. ; William Newman, M.D. (Stamford) ; John Baptiste Potter, M.D. ; *George Roper, M.D. ; *Henry Cooper Rose, M.D. ; Heywood Smith, M.D. ; Arthur B. Steele, L.K.Q.C.P.I. (Liverpool) ; *Thomas Taylor, F.R.C.S. (Birmingham) ; *John Williams, M.D. ; *J. Lucas Worship (Sevenoaks). Those gentlemen to whose name an asterisk (*) is prefixed were not on the Council or did not fill the same office last year.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.

The following members have been recommended by the present Council as officers and councillors for the year 1875 :—*President :* John Tomes, Esq., F.R.S. *Vice-Presidents :* Resident—Alfred Coleman, Esq. ; Samuel Cartwright, Esq. ; John W. Elliott, Esq. ; Non-resident—S. Clifford Gibbons, Esq., Brighton ; T. R. M. English, Esq., Birmingham ; G. W. Buchanan, Esq., Glasgow. *Treasurer :* James Parkinson, Esq. *Librarian :* Thomas A. Rogers, Esq. *Curator :* C. S. Tomes, Esq. *Honorary Secretaries :* Henry C. Sewill, Esq. (Council) ; J. Smith Turner, Esq. (Society) ; J. Oakley Coles, Esq. (for foreign correspondence). *Councillors :* Resident—Aaron G. Medwin, Esq. ; T. C. White, Esq. ; C. J. Fox, Esq. ; Edwin Saunders, Esq. ; Charles Vasey, Esq. ; G. A. Ibbetson, Esq. ; Henry Moon, Esq. ; W. G. Ranger, Esq. ; Thomas Edgelow, Esq. ; Non-resident—F. J. Clouston Scott, Esq., Swansea ; George Henry, Esq., Hastings ; G. W. Smith, Esq., Manchester ; E. P. Bromley, Esq., Southampton ; Frank Petty, Esq., Reading ; J. E. Rose, Esq., Liverpool.

LONDON ANTHROPOLOGICAL SOCIETY.

The annual meeting of this Society was held on the 8th inst., Dr. Charnock, F.S.A., President, in the chair. After reading the report of the Council, the President delivered the annual address, which dwelt on the following subjects :—Language of Geranás and Chanés ; supposed Sanskrit roots in the Qquichua ; geographical distribution of Basque language ; Phœnician inscription in Brazil ; Celtic etymologies ; old Slavonic alphabet ; human skeleton of diluvial age at Ventimiglia ; skull found in peat at Kiel ; relics in Norway ; skeletons found in the Pyrenees ; pile dwellings near Biel ; ancient remains in South Arizona ; human remains at Solutré ; skeletons, etc., in siliceous deposits in Würtemberg ; ante-diluvian caverns in Dalmatia ; prehistoric station at Stregda ; Mortillet's theory on Dolmens ; the races of the North of France after the Polished Stone Age ; the Stone Age in Finland ; origin of Celts and Gauls ; ethnic differences between Celts and Belgæ of Cæsar ; female types of Antwerp and Furfooz ; pre-Roman civilisation in England ; antiquity of man in Brazil ; types of Indian races ; wild races in Borneo :

pigmies of Central Africa; cremation; Etrusean inhumation; affinity between Philippine Negritos and Papuans of New Guinea: brachycephalism of Negritos; the permanence of anatomical characters of the human race; the exaggerated importance of philology in regard to migration; autopsy of Siamese brothers Eng and Chang; Broca's instruments for examining the skull cavity without intersection; abiogenesis; Heath's material brain-film and Magendie's cephalo-rachidian fluid; dilettante science; Oriental Congress; conscious automata; atomic theory. The following is a list of the office-bearers for 1875:—*President:* Dr. Charnock, F.S.A. *Vice-Presidents:* Captain Burton, F.R.G.S.; Dr. Barnard Davis, F.R.S.; H. B. Churchill, Esq.; Dr. T. Inman; Prof. G. W. Leitner; C. Staniland Wake, Esq. *Council:* J. Gould Avery, Esq.; Dr. Beddoe, F.R.S.; C. H. E. Carmichael, Esq., M.A.; Dr. G. Harcourt; G. Harris, Esq., F.S.A.; Dr. J. Sinclair Holden, F.G.S.; Dr. Kelburne King; A. G. Lock, Esq.; Rev. P. Melia, D.D.; Dr. J. Barr Mitchell; Philip Sayle, Esq., F.S.S. *Honorary Secretary:* A. L. Lewis, Esq. *Honorary Foreign Secretary:* Dr. Carter Blake. *Treasurer:* Dr. Kaines.

HOSPITAL SUNDAY, DUBLIN, 1874.

An official statement has been published in the Dublin newspapers, from which it appears that the gross receipts for 1874 amount to £3309 3s. 2d. The statement is signed by the Earl of Meath (Treasurer), and Lord Brabazon, Dr. T. W. Grimshaw, and Mr. T. Pim, jun., honorary secretaries to the Fund. No distribution has yet been made to the hospitals.

HEALTH OF LONDON.

The deaths in London last week numbered 2296, showing an increase on the average of 615. The annual death-rate from all causes, which in the five preceding weeks had averaged 31·5 per 1000, rose last week to 35. There were 61 deaths from scarlet fever. These included 17 which occurred in the North, 17 in the South, and 13 in the East groups of districts.

INDIAN MEDICAL SERVICE.

An examination of candidates for twenty appointments as surgeons in Her Majesty's Indian Medical Service will be held on February 15 next and following days. Copies of the regulations for the examinations, and other information, can be obtained on application at the Military Department, India Office, London.

FROM ABROAD.

The Prize Questions of the Paris Academy of Sciences. Among the prize questions proposed are the following:—

1. The Great Prize in the Physical Sciences for 1875 of 3000 fr.: "Describe the Changes which take place in the Internal Organs of Insects during Complete Metamorphosis." The changes which take place in the external conformation of insects passing from the larva to the perfect state have formed the object of numerous publications; but entomologists have paid little attention to the transformations undergone by their internal organs—with the exception of two species, both belonging to the *lepidoptera*, which have been investigated by Herold and Newport. The Academy, in calling the attention of naturalists to this subject, does not ask for a general view of the interior metamorphoses in this class of animals, but for a thorough investigation of the changes undergone by the principal physiological apparatus in one or more insects after complete metamorphosis, not belonging to the *lepidoptera*. The work should describe the intimate structure of these parts as well as their general conformation, and is to be accompanied by figures representing all the anatomical dispositions indicated by the author.

2. The Great Prize in the Physical Sciences for 1876: "The Distribution of Marine Animals on the Shores of France." The depths and nature of the bottoms, the direction of currents, and other circumstances which may influence the manner of the distribution of marine life should be indicated. In this point of view, it is of interest to compare the fauna of the shores of the Channel, of the Ocean, and of the Mediterranean, going out into the open sea as far as possible. Still, the Academy will not exclude from the competition a thoroughly good work that is only concerned with one of these regions.

3. The Lacaze Prize. In 1875 the Academy will, for the second time, adjudge three prizes of 10,000 fr. each to three authors of works or memoirs which may appear to it to have contributed most to the progress of Physiology, Physics, and Chemistry.

4. The Jecker Annual Prize, of an undetermined value. One or more prizes will be given to the author whose work seems most to have accelerated the progress of Organic Chemistry.

5. The Barbier Annual Prize of 2000 fr., to be conferred on whoever makes a valuable discovery in Surgical, Medical, or Pharmaceutical Science, or in Botany in relation to the art of healing.

6. The Alhumbert Prize of 2500 fr. for 1876: "The Mode of Nutrition of the Fungi." The Academy requires that exact experiments shall determine the relations of the mycelium of fungi to the medium in which it is developed, and the relations of this mycelium and of the completely developed fungus to the surrounding air—so that in this way the origin of the different elements entering into the composition of the fungi submitted to experiment may be determined.

7. The Desmazières Annual Prize of 1600 fr., for the author of the best or most useful publication in the course of the preceding year on the whole or part of the Cryptogamia.

8. The Thore Annual Prize of 200 fr. for the author of the best memoir on European Cellular Cryptogamia, or on the habits or anatomy of some species of European insect.

9. The Great Prize in Medicine and Surgery of 5000 fr. for 1876: "The Application of Electricity to Therapeutics."

10. The Bréant Prize of 100,000 fr. for the discoverer of the means of curing the Asiatic Cholera, or the discoverer of the causes of this scourge.

11. The Chaussier Prize of 2500 fr. for 1875, for the author of the book or memoir, which has appeared during the last four years, that has led most to the advancement of Medicine, whether legal or practical.

12. The Annual Montyon Prizes in Medicine and Surgery. Several prizes of undetermined value will be awarded to the authors of works or discoveries that are regarded as most useful to the art of healing; or to those who have discovered the means of rendering an art or an occupation less insalubrious.

13. The Serres Prize of 7500 fr. for 1875, for the best work on "General Embryology," applied, as far as possible, to Pyhsiology and Medicine.

14. The Godard Annual Prize of 1000 fr., for the best memoir on the Anatomy, Physiology, and Pathology of the Genito-Urinary Organs.

15. The Montyon Annual Prize in Experimental Physiology of 764 fr., for the book or manuscript which may appear to have contributed most to the progress of this branch of science.

16. The Cuvier Prize of 1500 fr. for 1876, for the most remarkable work that has been published during 1873-75, whether on the Animal Kingdom or Geology. The various essays must be written in the French or Latin language, and they, as well as the printed works, must be delivered in before June 1 of the respective years.

Medical Women.

It must not be inferred, because the Paris Faculty of Medicine is the only one which confers the doctor's degree on women candidates, that their introduction into our body is regarded with approbation or complacency by the profession at large in France. Very far from it: they seem to disapprove of the movement, certainly the educational portion of it, when conducted in company with men, even more strongly than ourselves. The sub-editor of the *Union Médicale*, in a recent number of that influential journal, speaks in no uncertain tone upon the subject. He, however, wonderfully exaggerates the progress made in this country when he alludes to the small female medical college now attempting to be set up in London; and we suppose that its officers would hardly claim the influential position which he attributes to them.

"No legislation, no moral power," he says, "intervenes to arrest this deplorable tendency. It is an infatuation; a disease of our epoch. In more than one country, schools of medicine have been opened for the use of women. Quite recently in London an establishment of this kind has been inaugurated. The most renowned practitioners of the capital of England—masters who are teaching in the hospitals of that great city—have accepted the titles and functions of professors in this feminine school, where ladies have entered their names in large numbers,[!] and where, independently of medicine, properly so called, they are also taught chemistry, botany, and comparative anatomy. With ourselves, women are officially admitted for examination, and may attain the *internat* of our hospitals. To allow women and young girls to follow the lectures of our schools of medicine, and penetrate into our dissecting-rooms amidst the subjects, is to place ourselves in violent contradiction to our manners; and to admit them to official examinations, accord to them grades in our schools, and concede to them complete professional titles, is on the part of the superior administration an act of weakness or of negligence, which we may even term an abandonment of an important part of social direction. This, they say, is only liberty. Alas! how many less dangerous and more fertile liberties are wanting to us!"

After dwelling on the repulsive unfeminine character of the scenes which women have to face during their education, and testifying to the disgust that seeing them so employed usually excites in the minds of men who are witnesses of their work, the writer goes on to consider some of the inconveniences the fact of their sex must entail upon them when launched at once into practice and matrimony:—

"And, during the practice of her art, suppose the *doctoresse* having reached her eighth month of pregnancy—a circumstance that will naturally be very frequent, if these *doctoresses* are numerous. Behold this woman penetrating into the chamber of the invalid, preceded by an enormous abdomen, hardly able to approach her patient to feel his pulse, auscultating in front and behind, an object herself of repulsion to the patient, whether man or woman, and of terror, by reason of her awkward mass, if the patient be a little child! The spectacle, were it not deeply sad, would be a grotesque one. I sometimes meet with persons who, judging of the disinterestedness and delicacy of doctors according to what they observe in other professions, in commerce or trade, and, in a word, amongst the majority of men, figure to themselves that medical practitioners condemn the establishment of medical women from a feeling of envy and fear of the rivalry they may give rise to. Nothing is easier than to reply to this thankless and unjust accusation. We must start from this double point of view—first, that the medical body cannot in any manner be assimilated to a caste jealous of its privileges and desirous of transmitting them to its descendants; and that, in fact, a large number of practitioners are neither the sons nor the fathers of practitioners. That admitted, what matters it to medical practitioners that a swarm of women come to increase their numbers? It must be admitted that the *étudiantes* of to-day will require some years before they can become practitioners with practices; and by that time how many of the present doctors will have retired from practice or quitted the world! And what will happen if the number of *doctoresses* become considerable? The number of doctors will diminish in proportion. That would take place on a large scale throughout the profession which is occurring in a minor degree at the present time in a part of Brittany, where educated practitioners are disappearing, to the great detriment of the public health, in face of the mischievous invasions of charlatanism and illegal practice (especially, we may remark, on the part of the various nuns and sisterhoods of that province). The medical body would become recruited only in the proportion requisite to supply the demands of patients who required to be assisted by real and capable practitioners. Young men, who, in the normal conditions of society, would have embraced the medical career, made aware that it is no longer sufficiently remunerative, would direct their attention to other avocations. The interests of the medical body are therefore not in question, and the opposition of practitioners is beyond suspicion. But what are the interests that would be menaced? Evidently those of society and those of the public health.

"Here is a sad example that I advance amidst a thousand others. A young lady, belonging to one of the most respectable families of Paris, refused in her third confinement, by reason of a perverted feeling of modesty, the aid of a doctor, and was attended by a midwife. After the delivery she was seized with hæmorrhage, which rapidly became formidable. Seeing her impotence, what did the medical woman do? Why, she fainted away! It was a mode of relieving herself of all responsibility certainly, but during her syncope the poor young mother succumbed. I ask, do we ever see accoucheurs, when in presence of flooding, fall into syncope, instead of arresting the bleeding? But syncope is in the very nature of women, and will necessarily form one of the attributes of the medical woman. The study and practice of medicine exact virile qualifications. To form an efficient practitioner, there should be open and ready intelligence, solid and varied instruction, a serious yet firm disposition, great coolness, a mixture of kindness and energy, a complete empire over all the sensations, moral vigour, and, in case of necessity, muscular strength. Are such qualities and such aptitudes, save in very rare exceptions, likely to be found united in women? Are they not precisely the very contrary of the feminine nature? . . .

"I remember having seen at a hospital in one of our large towns a young woman of about twenty-five, of agreeable appearance, who fulfilled there the functions of *externe*, a post she had attained by the *concours*. She accompanied with the other students the surgeon of the hospital in his rounds. In the men's ward, whenever it became necessary to uncover the patient more or less, she left the group of students and retired into the recess of a window. Evidently, here was a false and almost ridiculous position. How did she manage in the dissecting-room? When the surgeon reached the women's ward she displayed her pocket-case, and, armed with her dressing forceps, set to work. I learned that she was the wife of a doctor, and had three little children. I avow that the information produced a painful impression on me: I represented to myself the father of these children visiting his patients day and night, and the mother of the family passing her days at the hospital, at the Ecole de Médecine, and the dissecting-room, and the poor little children abandoned to the care of some servant . . . I said to myself, while contemplating the immense scale of medial studies—No; woman is not made for these studies. She is not intended to meditate on a skeleton, to explore our viscera by percussion and auscultation, or to plunge her little hands into the abdomen of the corpse in search of the cause of death. She has another mission in society."

Death after Intravenous Injection of Chloral.

The success which has attended a small series of some twenty cases of intravenous injection of chloral seems to have rendered some practitioners over-bold; and the worst is that they do not always perceive the cause of fatal results when these have been produced. In a note to Prof. Oré, of Bordeaux, the originator of this practice, Dr. Lande relates a case of ovariotomy in which sleep was induced in the space of thirteen minutes, after twenty-five grammes of an aqueous solution of chloral, containing five grammes of chloral, had been injected. The insensibility produced was absolute, and the operation, owing to adhesions which had to be ruptured with the hand, lasted about half an hour. The patient soon began to sink, and she died in little more than an hour after the operation had been commenced. There was a moderate amount of hæmorrhage, which, in the anæmic condition of the patient, the reporter considers sufficient to account for death. Such a conclusion, however, M. Jeannel observes, reporting on the case in the *Union Médicale*, will certainly be disputed, since it is far more probable that death arose from the influence of the anæsthetic directly introduced into the circulation, the effects of which could be neither modified nor arrested. "The whole therapeutical history of chloral," he adds, "should teach us to employ it with the greatest caution. If intravenous injections of this redoubtable agent can be justified up to a certain point for the treatment of diseases against which medicine up to the present time remains unarmed, such as tetanus and hydrophobia, we refuse absolutely to admit that these injections should replace inhalations of chloroform, the effects of which can be prudently controlled, increased, or interrupted, according to the indications furnished by the great organic functions."

From the Report of the Peking Hospital for 1873, by Dr. John Dudgeon, we learn that the aged, infirm, and debilitated generally are recommended by Chinese physicians to drink urine to restore health!

REVIEWS.

Clinical Medicine: Lectures and Essays. By Balthazar Foster, M.D., F.R.C.P., Professor of Medicine in Queen's College, Physician to the General Hospital, Birmingham, etc. London: J. and A. Churchill. Pp. 364.

In our critical capacity it is our lot to meet with very various kinds of books; not all of which are either profitable or pleasing. Certain groups of books must from their very nature be for the most part *réchauffés*, containing only a grain of personal experience, not easily picked out of the mass of material which they contain. But when we encounter a work which consists mainly of personal experiences, simple records of success and failure, it is rare that we do not profit by it. For this reason such books as Dr. Foster's are always peculiarly welcome; the work of a well-known and skilled physician—learned in the medical learning of the day—is sure to contain something worth bearing in mind, if only to tell us where success is unattainable under certain conditions. All the essays and lectures here collected are worth reading; each man, according to his tastes, will select which pleases him most; but all contain much matter for thought, for all are eminently of the quality which excites thought.

The substance of the volume consists of ten lectures or essays, the first dealing with the treatment of ulcer of the stomach. The main idea here is the importance of giving perfect rest to the disturbed organ. To do this effectually, so as to keep the stomach perfectly quiet, the author advocates the use of nutritive enemata. The lecture is a very interesting one, and the process of cure as described in it may be said to be perfectly successful; but it is not absolutely free from objection. It should, we hold, be employed only in cases where there is considerable risk of perforation, excessive hæmorrhage, or the like: the ordinary plan suffices in ordinary cases. The great difficulties in dealing with cases of gastric ulcer are, to avoid over-distension, and so separation of the healing walls of the ulcer, and to enable the new tissues to resist the gastric juice. But these ends may usually be accomplished by taking care of the kind and quantity of food administered. Undoubtedly, the treatment by nutritive enemata alone will enable us to overcome the gastric mischief in many cases, but it is not every case which needs such means. The best nutritive enemata are those proposed by Leube, as already frequently noted in our columns. We should not forget to say that all the other remedies and adjuncts used in the management of ulcer of the stomach are commented on by Dr. Foster.

Article II. takes the form of an essay rather than that of a lecture. It deals with cyanosis from persistent foramen ovale, which seems in this instance to have prevailed in several members of the same family. There was no obstruction to the flow of blood through the heart, yet the open foramen gave rise to the cyanosis and to a loud bruit. The bodily temperature was markedly lowered.

The next article is on a much more practical subject—viz., the use of ether in the treatment of phthisis. Dr. Foster begins with the consideration of the state of digestion, especially as regards fat, during the early stages of phthisis, and points out that this is in great measure due to interference with the functions of the pancreas. If, therefore, this organ can be stimulated so as to give rise to an increased flow of pancreatic juice—and this may be done by the administration of ether,—the difficulty, as regards fat digestion, may be overcome, and the proper digestion of fat restored. To this end the author gives small doses of ether, either by itself or in mixture, sometimes along with the cod-liver oil. Experience in such cases is better than theory, and the fact that many patients have benefited by the plan is far more satisfactory than any amount of argument. We need hardly say that, with the ether, the basis of the treatment is good cod-liver oil; and cod-liver oil to be good should be quite transparent, nearly colourless, and with but a slight fishy taste, which to many is only agreeable. Every trace of colour is a trace of impurity.

Article IV. takes the shape of a capital lecture on digitalis in heart disease. We say capital, although we ourselves do not entirely agree with it; for when we come to discuss the true effects of digitalis, almost every man has a view of his own. Nevertheless, this paper is very well worth reading. Dr. Foster holds that digitalis diminishes the number of heart-beats, but increases the force of each, at the same time regulating and steadying the heart if disordered; it also, he says, increases vascular tension. This digitalis does by virtue of its action on the sympathetic. As to the maladies in which it is to be given, Dr. Foster begins by saying that it is not to be given in aortic insufficiency. We decidedly differ. Whence the difference arises we cannot here, for want of space, explain. In mitral obstruction Dr. Foster would give digitalis; and in many cases it undoubtedly does good; but in this connexion he makes a statement which we can hardly allow to pass unchallenged. The statement is this: speaking of a female patient he says, "Like most women suffering from chronic valve disease before marriage, she had never conceived." Had he said that chronic valve disease was an obstacle in the way of marriage, and so of conception, that we could understand; but we hold that common experience is against the doctrine as advanced by Dr. Foster. The use of digitalis in mitral regurgitation, and the absence of any necessity for it in pure aortic obstruction, are duly recognised.

The fifth of the series consists of a lecture on accidental rupture of the aortic valves. Situated as Dr. Foster is—physician to a large hospital in a town like Birmingham,—cases of a rare kind are probably more likely to come under his notice than where such accidents are less common. He has, however, fully discharged his duty to his professional brethren by the care he has taken in reporting them, for in his pages we find these rare accidents well described in every way, and even a suggestion which may prove valuable as a new means of diagnosis. Many of us are familiar with the fact that certain bruits of aortic origin are best heard straight downwards along the line of the sternum; others better more to the left. If the indications given by Dr. Foster hold good, this would indicate that the site of rupture or other lesion in the latter instance was probably in the posterior segment of the aortic valves, and that the regurgitating fluid was thence driven on to the upper segment of the mitral valve, and so again directed to the left.

Article VI. is devoted to the subject of the generation of acute rheumatism by lactic acid. In one particular case the author was endeavouring to treat a diabetic patient by giving him lactic acid, but this mode of treatment had again and again to be stopped owing to the appearance of true articular rheumatism. This has strongly impressed the mind of the author with the feasibility of lactic acid being the immediate cause of rheumatism. The theory is undoubtedly held by many; but we cannot think that it is sufficient to give a theory validity merely to demonstrate the coincidence related in a single case, when again and again the same kind of experiment has been made with purely negative results.

Lecture VII. is devoted to some account of pseudo-hypertrophic paralysis, as derived from cases under the care of Dr. Foster and Dr. Russell. It would be hard to point to a publication where a clearer and more succinct account of this curious malady is given. A very good history and the results of a long and accurate knowledge of the progress of one of the cases are here recorded, and the condition at various times contrasted. It will well repay careful perusal.

Article VIII. is devoted to the consideration of diabetes and its treatment, and is to our thinking the best in the volume. Indeed, we hardly know where to put our fingers on one equal to it, and this, too, though the positions taken by Dr. Foster are far from unassailable. We do not always agree with his theory, especially in what he calls "glycocrypsis," but the article contains good sound work, and shows what drugs have been used with advantage or the reverse. Peroxide of hydrogen was tried, with little advantage as far as itself was concerned, though the ether in which it was given may have had some effect. Ergot did good in some cases; alkalies were useless; opium, and especially codeia, were of great value; bromide of potassium did some good; lactic acid varied in effect, sometimes doing good, especially in certain cases with skim milk.

The final articles in this most suggestive volume are devoted to certain sphygmographic and cardiographic researches, and to an exceedingly interesting case of aspiration of the pleura followed by embolism, formerly narrated in our columns.

Tumour of Lateral Portions of the Lower Jaw Removed without External Wound. By C. F. Maunder, Surgeon to the London Hospital; formerly Demonstrator of Anatomy in Guy's Hospital. London: J. and A. Churchill, New Burlington-street. 1874. Pp. 27.

This is a small pamphlet, containing the notes of two cases in

which Mr. Maunder has removed large portions of the lower jaw through the aperture of the mouth, and without making any incision whatever through the skin of the face. The operations which had previously been performed by surgeons for the removal of any part of the lower jaw in its whole depth had been attended with wounds of the surface, followed by more or less disfigurement of the face. Mr. Maunder has succeeded in proving that any such proceeding is not necessary. The first case described was that of a little girl, ten years old, the subject of a myeloid tumour of such a size as to require the removal of the symphysis, the whole of the body, and part of the ramus of the left side of the lower jaw.

The second case was that of a woman thirty-five years old suffering from fibrous epulis,—for the second time recurrent. The growth occupied that portion of the bone which had been the site of the molar teeth, and it left free only a small portion of the outer surface and the mere line of the base of the jaw. The portion of bone removed at the operation included all between a line dropped vertically from just behind the second bicuspid tooth of the right side, and an obliquely transverse line directed backwards and downwards a little above the angle of the jaw on the same side. The little patient in the first case was recumbent during the operation; in the second case the woman was seated in a dentist's chair. In the first case, the operation was, the author says, somewhat experimental and tentative; the question was how to lay bare the bone for the cutting forceps without serious injury to the soft parts.

Having ascertained this point in the first case, the chief difficulty in the woman's case was how to divide the ramus of the jaw, which, as may be supposed, offered much more resistance than the bone of the child.

The steps of the operation were reversed in the two cases. In the child, the soft parts and periosteum were first freely separated, and then the bone was cut; in the woman, the bone was first divided along the two lines mentioned above, and the dissection of the soft parts from it was reserved till afterwards. By this latter plan the operator was less embarrassed by bleeding, although in neither case was there more than very slight hæmorrhage, nor were any artificial measures required to check it.

With regard to the size of a tumour of the lower jaw which might be removed in this way, Mr. Maunder thinks that all such "as do not prevent depression of the chin so that the mouth can be opened, or do not fill the cavity of the mouth so as to prevent the finger and instruments from reaching the ramus, may be so treated."

In neither cases did a reproduction of any considerable portion of new bone follow, although the whole of the periosteum was saved, it is supposed. In both cases some necrosis occurred at the cut margin of the *body*, not of the ramus of the jaw. To obviate this a freer use of the saw and a less free use of the cutting forceps is recommended. If any abscess should form in connexion with necrosis, every method should be made to induce discharge through the mouth and to avoid any scar in the skin. The great and leading advantage to be looked for from this method of operation is the prevention of deformity by scars or injury to nerves supplying the muscles of expression.

Sulla Medicatura Antisettica alla Lister in Chirurgia. Pel Dr. Gesualdo Clementi.

Lister's Antiseptic Treatment. By Dr. Gesualdo Clementi. Catania. 1874.

This is a short account of the origin and development of Professor Lister's views on antiseptic surgery, written for the benefit of his countrymen by an Italian who has visited Edinburgh and seen for himself how the antiseptic treatment is employed by its author and elaborator. Dr. Clementi is as strongly in favour of Lister's method as most other foreigners are who have had an opportunity of studying it in all its details on the spot; and the following remark, which occurs at page 46, may be of value to many in this country who condemn Lister's system because they have only half tried it, or else hesitate to use it at all because of the attention it requires to apparently trivial minutiæ. Dr. Clementi says—"I have seen the same plan adopted by other surgeons in Edinburgh and in several London hospitals, and I am bound to confesss that Lister was right when he affirmed that if all the other surgeons did not obtain the same splendid results as he did, it was because they did not all accurately follow the rules he had laid down." No doubt Dr. Clementi's testimony will contribute largely to a right appreciation of the value of antiseptic surgery in Italy.

Della Cura Lattea. Per C. Dott. Vivante, Medico-Chirurgo in Venezia.

The Milk Treatment. By Dr. Vivante, of Venice. 1874.

In this pamphlet the author has collected together, and conveniently arranged, the principal opinions and experiences of those who have made the medical administration of milk a special study. The chemical properties of milk, and the diseases in which it has been found most valuable, are discussed pretty fully, considering the small amount of space at the writer's disposal, and he has accumulated a large number of interesting facts. As, however, he has very little, if anything, original to offer, it will be unnecessary for us to review his work at any length; and we need simply say that those who wish for a summary of what is at present known about milk treatment, will find in his pages just what they want.

GENERAL CORRESPONDENCE.

ARMY MEDICAL GRIEVANCES.

[To the Editor of the Medical Times and Gazette.]

Sir,—Prominent among the advertisements in your issue of to-day is one stating that an examination of candidates for commissions in the Medical Department of the Army will be held at Burlington House on February 15 next. It would be well that all intending candidates should clearly understand the terms on which they will serve if they are passed into the service—first, that they are no longer regimental officers, and that, though compelled to live with, they are no longer members of, the regiment to which they are "attached," not gazetted; and secondly, that Royal Warrants are no longer the arks of security they have always been thought to be, but that their provisions may be set aside, as those of the Warrant of October, 1858, have been by Mr. Cardwell. I recommend them to read the pamphlet just published by Dr. Edward Hamilton, Vice-President of the Royal College of Surgeons in Ireland (Messrs. Longmans, Green, and Co.), in which all the merits of the case are most fairly stated by one who, while he has an evident liking for the service, yet feels himself compelled, by his position as a teacher, to advise students not to enter the army in the present unsatisfactory state of the service. I, an old army medical officer, fully endorse all that he has written, and would say with him—Do not go up for examination until Mr. Hardy has reversed the acts of Mr. Cardwell, and given us back, first, our social position as regimental officers, and secondly, the rights guaranteed to us by the Warrant of 1858, by her Most Gracious Majesty by the advice of the late Lord Herbert of Lee. I am, &c.,

January 7. A (late) Regimental Surgeon-Major.

MEDICAL CERTIFICATES OF HEALTH.

Letter from Dr. William Wilson.

[To the Editor of the Medical Times and Gazette.]

Sir,—An incident has occurred, connected with a trial recently, which is of great interest to the profession; I therefore take the liberty of sending you the particulars.

In this case application for a postponement of trial, based on a medical certificate, was refused on the grounds that the physician granting it was not at the time in continual attendance on the applicant: such was the statement contained in the public papers. Now, like most other medical men practising abroad, I have given scores of certificates to parties under parallel circumstances. For instance, a man who is the subject of brain, lung, or heart disease, who is a bad railway traveller—either from inability to sleep, or owing to the perpetual vibration incidental to that mode of locomotion affecting him injuriously,—and who, moreover, even in the calmest weather, suffers with exceptional severity from sea-sickness, is summoned to make a long and harassing journey during an inclement season of the year, when the sea he must cross is notoriously tempestuous; such a man calls upon a physician who is not in actual attendance on him, to decide whether he is in a

condition to undertake such a journey as that described above: it is ascertained from physical examination that he is labouring under disease, and there are unquestionable grounds for believing that both his condition and that of the weather would be improved within three months, thereby diminishing the risk, reducing it to a minimum,—would any medical men hesitate for an instant in granting a certificate recommending a postponement of the journey; and should such a certificate be rejected because the medical man had only once seen the applicant? The instance to which I refer has a great similarity to the above. A lady, at a critical period of her pregnancy, who solemnly declared that an hour's drive in a carriage produced great fatigue, and that she suffered severely from sea-sickness in the calmest weather, was called upon, in the month of December, to perform a long and harassing journey to Ireland from Florence. She applied to me for a certificate recommending a postponement of the trial till after her confinement, and testifying that I believed that, if undertaken at the present moment and circumstances, it would be attended with serious risk. I granted it without hesitation. A lawyer had sent out a written form, which I was to sign. I declined signing it in its entirety, as it stated that I was at the time in attendance, which was incorrect; that paragraph was consequently expunged. The substance of the certificate was as follows:—"I have this day examined Mrs. ——, and find her to be in an advanced stage of pregnancy. She solemnly declares that an hour's drive in a carriage causes her great fatigue, and that in the calmest weather she suffers intensely from sea-sickness. I am therefore of opinion that a long and fatiguing journey would be attended with considerable risk, and that it should be postponed until after her confinement." This was refused; another of a similar nature, couched in still stronger terms, and endorsed by the Professor of Midwifery in Florence, met with a similar fate.

In giving a certificate a medical man must be guided by contingent possibilities, as well as probabilities, in drawing conclusions from the examination of a person offering himself for insurance. He calculates, from a consideration of certain phenomena, what may probably happen within a given time, and on that he bases an opinion. He must take a wider latitude in my case than in the question of life insurance, as the rejection of a proposal does not tend to curtail the life of the proposer, which my refusal to give a certificate might have done. Offers for insurance are frequently declined, which, if accepted, would have proved remunerative to the company, but which the medical adviser was perfectly justified in not recommending. So in the present instance this lady may arrive with safety at her destination, but only after being subjected to a serious risk, which no conscientious medical man would sanction her encountering. It has occurred to me repeatedly to give certificates for prolongation of leave of absence from India or elsewhere, without being in attendance on the parties, and to the best of my belief none of them were rejected. A man on sick leave from India may be in tolerable health, but still carrying the seeds of malaria, for instance, about him; he is not under continued medical treatment, but no medical men for that reason would hesitate in recommending him not to return to a malarious locality till the tendency to a relapse had been removed.

I was once in England called to see in consultation a lady who was suffering from a masked form of intermittent fever, common in Italy, but rare in England. Dr. D., who was in attendance, begged me to see his son, who, he said, was suffering from certain anomalous symptoms. He brought him at our next meeting. He was apparently in tolerable health, going about like other people, and quite fit to travel, but with strong evidence of a deep-rooted obscure malarious affection, which to me appeared serious. He had been superintending a mine in Sardinia as engineer. I strongly discouraged his return, as the disease, though then apparently trifling, would on fresh exposure probably assume alarming proportions. He had, however, a contract with the Company, which he felt bound to fulfil. I strongly recommended him to take three grains of quinine with strong black coffee and brandy every morning before leaving home. In less than three months I was summoned to Leghorn, and found him in the fatal coma of congestive intermittent—the "*febbre perniciosa*" of the Italians. As he could just swallow, by patience and perseverance I gave him a dose of thirty grains of quinine, and made three subcutaneous injections of two grains and a half each; but it was useless, and four hours after my visit he died of a form of fever, the third accession of which is generally fatal. He was on his way to consult me. Here was a case in point: the patient was not too ill to travel; there was no medical man in continual attendance; but, nevertheless, I considered the risk he ran in returning would justify me in giving him a certificate, and I believe the company would have respected it. He might have resumed his occupation without detriment, but he incurred great danger in so doing, as was fully proved by the event. I am, &c.,

William Wilson, M.D., F.R.C.P. Lond.

REPORTS OF SOCIETIES.

THE PATHOLOGICAL SOCIETY.

Tuesday, January 5.

Sir William Jenner, Bart., M.D., President, in the Chair.

Annual Report and other Business.

The Surgical Secretary read the report of the Council for the past year. Reference was made to the discussion on cancer, the Committee on Morbid Growths, the Chemical Committee, the purchase of instruments, the transmission to Rokitansky of a congratulatory address, the numerical and financial condition of the Society, the proposal to alter the hour of meeting from eight to half-past eight, and the liberal gift to each member of a copy of an Index to the last ten volumes of the *Transactions* by a former President of the Society, at whose expense it had been compiled.

It was unanimously resolved that the report should be received, adopted, and printed.

It was then unanimously resolved that the hour of meeting should in future be half-past eight instead of eight; and that of adjournment ten instead of half-past nine.

Scrofulous Disease of the Kidney.

The report of the Morbid Growths Committee on Mr. Lucas's specimen of diseased kidney (see *Medical Times and Gazette*, 1874, vol. ii., p. 619) was then read. The pathological process was a compound one, consisting of (1) a destructive change spreading from the calyces, and identical with "scrofulous" disease; and (2) a development of fibrillated tissue.

Aneurism of the Mitral Valve.

Dr. Wickham Legg exhibited two specimens of aneurism of the mitral valve; one in an early stage, and the other more advanced. In both the bulging was on the auricular surface; in the one on the large, and in the other on the small flap. The change was due to endocardial ulceration with consequent weakening. The first specimen was small; it occurred in a man of fifty-four, who was in the hospital only three days. Nothing could be ascertained about the cardiac sounds. The second, or large specimen, was taken from the body of a youth of twenty-two, who died in the fourth attack of acute rheumatism. At first a double aortic murmur was heard, then a mitral regurgitant murmur, and thereafter a presystolic murmur at the apex with thrill. The second sound at the base afterwards cleared up; and so, with an obstructive aortic murmur and a double mitral murmur, the boy died. The character of the murmurs, however, changed from time to time. Before death there also occurred right hemiplegia, from plugging of the left middle cerebral artery, and plugging of the brachial artery.

The President inquired whether there was a history of syphilis, and for what time, in these cases.

Dr. Legg replied that there was a syphilitic history in both cases—certainly in the boy who was suffering at the time from a node: probably only in the man. He did not know the duration of the syphilis.

Hypertrophied Bursa Patellæ.

Mr. Nunn showed a specimen of Hypertrophied Bursa Patellæ, which he had removed by operation from a woman of fifty. The condition had commenced early in life, and had been partly due to injury. The swelling was as large as a fairly sized mamma: it proved on examination to be a thickening of the ordinary fibrous envelope, and within this a cyst with contents, which when recent resembled fat.

Mr. Maunder spoke on the surgical aspect of the case.

Disease of the Musculi Papillares.

Dr. Burney Yeo exhibited a heart which presented a morbid growth affecting the musculi papillares of the left ventricle.

A man of twenty-seven was brought to the hospital dead; he had been found sitting on a doorstep, where he had probably fallen. It transpired that he had been subject to attacks of dyspnœa, and occasional faintness. Post-mortem the only important morbid change which was discovered was that in the left ventricle; in the right mass of the musculi papillares, within the muscle, was a morbid growth, which projected into the cavity. The chordæ tendineæ were quite free. The growth had probably caused obstruction, and no regurgitation. The left ventricle was somewhat dilated: the walls were otherwise healthy. Dr. Cayley had examined a portion microscopically, and found that it was composed of rounded nuclei and fibrillar material—not unlike syphilitic gumma.

The PRESIDENT inquired whether there were any traces of syphilis in the body; to which Dr. YEO replied in the negative.

Dr. COUPLAND referred to a very similar case shown by Dr. Cayley on October 27 last.

Dr. CAYLEY said that his case was very different: the growth was in, and not from, the wall.

Dr. GREENFIELD referred to the case of a woman of twenty-one who died with symptoms of heart disease and blood-poisoning—as if from ulcerative endocarditis. Post-mortem a growth was found near the mitral orifice projecting into the ventricle, and a second on the opposite wall; the two had probably at one time been connected; the surfaces were ulcerated. There was no probability of a syphilitic cause in this case. The patient had had rheumatism six months previously. The growths were composed of cells and indefinite fibrillar material. There were many smaller growths; some on the right side.

Dr. DOUGLAS POWELL asked Dr. Yeo the condition of the blood, the state of contraction of the cardiac wall, and as to the presence of clots.

Dr. YEO had not been informed on these points.

Epithelioma of the Colon.

Mr. NUNN showed a specimen of Epithelioma of the Colon. A gentleman of seventy-five was perfectly healthy until a week before his death, when he was seized with symptoms of obstruction of the bowels. When seen he was almost moribund. There were many warty growths upon the skin, and, combining these symptoms and signs, Mr. Nunn arrived at the diagnosis of obstruction from epithelioma of the colon. Death speedily followed. Post-mortem the bowel was found extremely contracted twelve inches below the cæcum. The case was remarkable as showing that a man might live till seven days before his death without symptoms while he had a cancerous stricture of the colon not admitting more than a No. 3 catheter.

Mr. BRYANT inquired whether there had been no history of chronic obstruction or of constipation. How had the bowels acted?

Mr. NUNN replied that there had been no previous symptoms whatever.

The PRESIDENT asked whether there was fæcal accumulation above the stricture; and

Dr. HILTON FAGGE whether a microscopical examination had been made of the diseased bowel.

Mr. NUNN replied to the former question that he did not know; to the second in the negative.

Complete Cancerous Occlusion of the Rectum (Colotomy).

Mr. BRYANT exhibited a specimen of Rectum which presented complete Occlusion, from the body of a girl of eighteen. He described the case as perfectly unique in his experience. There had been complete obstruction of the bowels for seven weeks, and constipation for a much longer period. Colotomy was performed in the ascending colon. The patient rapidly recovered, and went about; but she failed again, and died after a month's illness. On examination after death it was found that the rectum was completely occluded, probably by cancerous disease. The growth at the seat of stricture was very cellular, and the peritoneum was covered with many tubercles. The benefit of the operation had been immense. The ascending colon was chosen, as the exact seat of stricture could not be certainly discovered at the time, and because there was more fulness in the right loin. The disease seemed to have been of long duration. There were no secondary deposits in any organ. There were certain other facts against the cancerous nature of the disease. There had been no history of previous disease of the bowel, such as dysentery.

In reply to Mr. THOMAS SMITH,

Mr. BRYANT said that the anus in the right loin did quite as well as one in the left.

Mr. NUNN suggested that the patient may have been the subject of congenital syphilis. He had never heard of a cancerous stricture being complete; that was contrary to its nature.

Mr. BRYANT replied that there was no history of the kind in the family.

The PRESIDENT said that the specimen had the appearance of a chronic stricture.

Mr. BRYANT said that the dilated and thickened bowel pointed to this.

Dr. HARE said that as there had probably been obstruction for years, and yet symptoms for but a shorter time, the case was probably one of cancer following on a simple stricture.

Extreme Ulceration of the Rectum cured after Colotomy.

Mr. BRYANT also showed a specimen illustrative of this result. A woman of twenty-four, married, previously immoral, was admitted into hospital last August in a very feeble condition with a narrow stricture of the rectum and ulceration running downwards to the anus; there were also sinuses into the vagina; the tip of the finger could just be pushed into the stricture. Colotomy was performed; the patient rallied rapidly. In the eleventh week the finger could be readily introduced through the stricture; ulceration had ceased; but there was burrowing in the neighbourhood, and an incision had to be made into the buttock. In the nineteenth week acute suppuration of the hip-joint supervened and carried off the patient. Probably the stricture was of a syphilitic nature. No iodide of potassium was given. Post-mortem neither stricture nor ulceration remained to be seen. There was a large abscess behind the bowel. Death had been caused by an unfortunate complication, and its occurrence did not disprove the advantage of the operation, which had been strikingly great.

Mr. CHRISTOPHER HEATH remarked that it was not his experience that operation cures or relaxes stricture when the surrounding ulceration heals.

Mr. BRYANT replied that the case was on that account interesting. The ulceration did heal, and yet the contraction was inconsiderable.

Internal Stricture with Rupture of the Cæcum.

Dr. WAY exhibited a portion of bowel presenting these conditions. The patient had suffered from the ordinary symptoms of intestinal obstruction for three weeks, when he was suddenly seized with intense abdominal pain and a sense of something giving way and collapse. Post-mortem the cæcum was found ruptured, with ulceration in its lateral aspect. The right colon was dislocated to the other side of the abdomen. The sigmoid flexure was the seat of scirrhus, which caused a stricture; in this there was also found a small seed resembling a peppercorn.

The PRESIDENT remarked, in regard to the "seeds" and "foreign bodies," which are sometimes described as impacted in the vermiform appendix, etc., that in his experience none of them are seeds or anything of the kind; but one and all fæcal masses infiltrated with calcareous matter.

Dr. HILTON FAGGE said that it was a well-recognised fact that ulceration occurs in the cæcum along with obstruction at a lower point. He referred to a case in his own practice where a woman had obstruction in the lower part of the bowel, and who suddenly died of rupture of the bowel during defæcation.

Mr. MARSH described a somewhat similar case in his experience. There was malignant disease of the descending colon, and the bowel, which was greatly distended above, gave way near the seat of a femoral hernia, which complicated the other disease.

Mr. BRYANT referred to a case where rupture of the cæcum occurred secondarily to obstruction in a small umbilical hernia. Death followed from extravasation.

Business Proceedings—Address by Sir William Jenner.

A vote of thanks was then passed with acclamation to the retiring President.

Sir WILLIAM JENNER then delivered a short valedictory address.

OBSTETRICAL SOCIETY OF LONDON.

WEDNESDAY, JANUARY 6.

Dr. E. J. TILT, President, in the Chair.

THE following gentlemen were elected Fellows of the Society:—Alex. Hampton Brewer, M.R.C.S.; Angus Fraser, M.D. (Aberdeen); William Owen, M.R.C.S. (Ebbw Vale); and Walter Alfred Satchell, M.R.C.P. Edin. (Kew).

CASE OF HYDATIDIFORM MOLE.

DR. JOHN WILLIAMS exhibited a specimen of Hydatidiform Mole. The case was that of C. D., aged thirty, married two years. Never pregnant before. Suffered from dysmenorrhœa previous to marriage. Has passed clots since at the periods. Last catamenia June 28, 1874; morning sickness ensued, and occasional sickness after food. During August she nursed an invalid, frequently exerting herself in lifting the patient, especially on the 17th, after which the sickness became worse, and the feet and ankles swelled, the œdema gradually extending upwards to the lower abdomen and labia, which were enormously swollen. There was no œdema of face or lower limbs. The abdomen was symmetrically enlarged. A tumour having the character of the distended uterus was felt, soft and elastic, but not fluctuating. No fœtal heart sounds were audible, but a placental bruit was once heard a little below and to the left of the umbilicus. Per vaginam, the tumour could be felt filling the pelvis; the os uteri high up and tilted forwards close to the pubis, not characteristic of pregnancy. The tumour was softish, as if it contained fluid, and a small triangular swelling filled the hollow of the sacrum. Taken together, they had the characters of a retroverted gravid uterus. The breasts were enlarged, and the areolæ darker than usual, but not characteristic of pregnancy. On the night of November 10 she was taken in labour, and was delivered the following morning of a hydatid mole, which consisted of a ruptured bag having the shape of the uterus, containing the vesicles forming the mole. The bag was evidently formed by the decidua, and was about a quarter of an inch in thickness. At one part it was thick and fleshy. Though a section of it presented many cysts, this thickened fibrin was doubtless the imperfectly formed placenta. Slight hæmorrhage occurred once, some days before the onset of labour, and severe hæmorrhage at the time of labour, due to placenta prævia. The case is unusually interesting, as the decidua was expelled almost in its entirety, and thus the mode of attachment of the vesicles to that structure was shown. They were arranged like beads on a string, which string was attached to the inner surface of the decidua. This fact favours the view that the hydatidiform moles were formed by degeneration of the chorion villi, and in this case the degeneration commenced probably soon after the formation of the placenta had begun.

Dr. ROUTH inquired if there had been any alternation of a watery and sanguineous discharge; to which

Dr. WILLIAMS replied that there had been no discharge of blood at all till the patient came to the hospital.

ASCITIC FŒTUS.

Dr. J. ASHBURTON THOMPSON exhibited a specimen of this. The head presented, and as the labour was tedious the forceps were applied and the head delivered,—but, as was subsequently found, at the expense of the tissues of the neck. The arms were brought down, but still delivery could not be completed. Whilst he was absent with the object of obtaining the assistance of his partner, Dr. Brunton, two immoderately forcible pains served to eject the fœtus. There were two points of interest in the case. One was the frequency with which little expulsive power existed when the uterus was over-distended; and secondly, that the pressure from above diminished the circumference of the abdomen by forcing a part of the fluid into the thorax, but the traction, exerting pressure in the contrary direction, increased the circumference by thoroughly extending the lower part of the abdomen, even preventing the whole of that cavity from being utilised in spreading out the fluid.

Dr. BARNES inquired whether the placenta was pale and pliable; to which

Dr. THOMPSON replied that it was.

Dr. JOHN WILLIAMS suggested that the specimen should be examined, as it was not a common one, and was of much interest.

The PRESIDENT requested Dr. J. Williams and Dr. Hayes to examine it in conjunction with Dr. Thompson.

ON THE PREVENTION OF MAMMARY ABSCESSES BY THE APPLICATION OF THE PRINCIPLE OF REST.

Dr. W. BATHURST WOODMAN read a paper on this subject. The author had been struck with the rarity of mammary abscess in animals, notwithstanding the forced abstinence from suckling which cats and dogs undergo from the drowning of their progeny, and in spite of the great distension of the udders of cows, mares, and other animals when driven to market, or for other reasons separated from their young. Acting upon this suggestion, he carefully abstained from those manipulations and questionable "gentle" frictions which have so long been customary in such cases, and with the most satisfactory results. Where an abscess was threatening, in place of employing liniments he enjoined perfect rest, the avoidance of all frictions and rough handling, and of suckling for a time—if possible from both breasts, but at all events from the one most implicated; the horizontal position, careful application of strips of isinglass, soap, or lead plaster, or of an air-cushion with a hole in its centre, or of bandages taking their purchase from the opposite shoulder. In addition to these measures he employed preparations of opium, belladonna, or chloroform, applied in compresses, or ice, moist warmth, and leeches; the local congestion being also relieved by diaphoretics, diuretics, and aperients—belladonna, iodide of potassium, and sedatives being given if requisite. Illustrative cases of this method of treatment were given, exemplifying its advantages.

Dr. BARNES observed that the principle of rest had long been applied to the treatment of inflammation of the breast. He himself had learned the value of it from Trousseau, when a student in Paris thirty years ago. That admirable physician taught and illustrated it with great earnestness. He placed the breast at perfect rest by carrying straps of leather spread with *emplâtre de vigo* all round it, so as to lift it well up and exert constant support on the vessels. Thus œdema was prevented, and engorgement soon subsided. It must, however, be remembered that this form of pressure was ill borne in the first inflammatory stage. It was chiefly serviceable when suppuration had taken place and the abscess had been opened; the sac was then rapidly closed. In the earlier stage he had seen leeches do excellent service. The pressure then must be lighter.

Dr. ASHBURTON THOMPSON said there were two modes of treatment not referred to in the paper—the administration of tincture of aconite, and total abstention from fluids during the necessary number of days. By giving minim doses of aconite every hour he had succeeded in cutting short inflammations of the breast which there was no doubt would otherwise have run on to suppuration very frequently; indeed, in three cases out of four. In cases of stillbirth he had hitherto found abstention from fluids sufficient in every case to avoid every kind of mammary disturbance. Ice was allowed in moderate quantity, and no other fluid, from the time of delivery until the fourth or fifth day, when the breasts generally return to their normal state of quiescence. He had had two cases recently in which this method of treatment had been perfectly successful. The deprivation of fluid caused but little distress.

Dr. BRAXTON HICKS thought the principle of rest had been gradually coming upon us for years, friction only being resorted to among the poor and ill-educated. Surgery at the present day was all tending to quietude. Manipulations only led to suppuration, and often produced the extra amount of stimulation required to set it up.

Dr. MURRAY observed that the application of a belladonna plaster was of great service, keeping the arm at the same time fastened to the side. In some instances a slight process of friction upwards was productive of good.

Dr. MATTHEWS, whilst heartily assenting to Dr. Woodman's views, thought that the public also had largely endorsed his practice, since he had observed that it was a very common proceeding to apply a large lead plaster (spread upon leather) to the breast in cases where it became necessary to get rid of the milk; this of course rendered friction and all meddling impossible. He had found two large and soft handkerchiefs suitably applied—one by way of sling around the neck under the breast, the other in exactly the reverse way, over the breast, and tied around the body so as to include the breast

between them, interposing a large pad of cotton-wool,—to constitute a very efficient mode of applying pressure.

Dr. Edis remarked that the chief thing to be remembered was to limit the supplies, to act on the bowels, and to insure perfect rest to the mammæ. He was accustomed to order a belladonna plaster to be applied to the mammary region within twenty-four hours of delivery, thus exercising pressure as well as arresting the secretion of milk. Abstinence from fluids and great moderation in diet were enjoined for the first few days, an aperient mixture of sulphate of magnesia and iodide of potassium being given twice or thrice daily to relieve the bowels. The shoulders should be raised, and the arms kept perfectly quiet; the upper part of the chest being only lightly covered; any friction or drawing of the breasts being strictly prohibited. Where this method had been adopted he had never seen a single instance of mammary abscess. An evaporating lotion continuously applied to the mammæ was in some instances sufficient to prevent the secretion of milk; but the pressure obtained from the plaster was of great service, and effectually prevented the employment of any friction.

Labour complicated by Pelvic Tumour and by Convulsions.

Dr. Henry M. Madge brought forward the particulars of a case of this nature, similar in some respects to two other cases he had brought forward, which were recorded in the Society's *Transactions*, vol. iv., p. 129, and vol. xiv., p. 227. The patient, aged twenty-four, short and stout, primipara, when nearly advanced to full time, slipped and fell forwards. Labour pains commenced next day. On examination, the posterior wall of the vagina was pushed forward by a tumour about the size of a large orange, having apparently a smaller mass attached to it. It was hard but yielding to the touch, and non-fluctuating. The fœtal head was arrested at the brim. Several ineffectual attempts were made to push the tumour above the brim. Turning was rejected, as the liquor amnii had escaped. Labour went on slowly for four days, when convulsions occurred. Chloroform was administered by Mr. Bailey, and the long forceps applied by Dr. Wells, but without avail. Craniotomy was then performed, and after considerable difficulty delivery was accomplished. The tumour, during the passage of the child's head and body, had become forced up above the pelvic brim, and could no longer be felt; it was probably a fibroid attached to the posterior surface of the uterus by a pedicle sufficiently long to enable it to drop into the pelvic cavity. The chloroform acted admirably in arresting the convulsions and keeping the patient quiet. There was no albumen in the urine. The patient made a good recovery.

Dr. Murray inquired if the tumour had been removed subsequently.

Dr. Cumberbatch asked what was the supposed therapeutic value of lemon-juice in convulsions.

The annual meeting for the election of officers, etc., then commenced. Dr. George Roper and Dr. J. C. Hayes, the scrutineers of the ballot, declared that the list of names recommended by the Council had been unanimously approved of. The Treasurer's (Dr. Murray's) report, which showed that the finances were in a flourishing condition, was read and adopted. The report of the Honorary Librarian (Dr. Aveling) was also read and adopted. The President then delivered his annual address. Votes of thanks were accorded to the retiring officers. Dr. Hicks proposed, and Dr. Routh seconded, in most complimentary terms, a special vote of thanks to the retiring President, which was carried by acclamation.

Prussian Medical Statistics.—At the close of the year 1873 the number of physicians and *Wundärzte* of the first class was 7408, as compared with 7265 of the previous year. The number of *Wundärzte* diminished from 332 to 319, and that of the *Zahnärzte*, or dentists, increased from 241 to 245. The number of apothecaries' or druggists' establishments increased from 2327 to 2344, and that of midwives from 16,484 to 16,673. In Berlin there were 719 physicians, as compared with 699 of the previous year. The Medical Faculty of the University consists of sixty-two members, of whom fourteen are professors-in-ordinary, fourteen extraordinary professors, and thirty-four *Privat-docenten*. The number of *Privat-docenten* of the other eight Prussian universities amounts altogether to fifty; so that Berlin alone employs more than two-fifths of the entire number. Breslau comes next with thirteen, and Bonn is last with two.—*Berlin. Klin. Woch.*, December 21.

LEGAL INTELLIGENCE.

ADULTERATION OF MILK WITH WATER.

At the Northern Divisional Police-court, Dublin, Charles Byrne, of 6, Island-bridge, milk dealer, was on January 7, 1875, summoned at the instance of her Majesty's Principal Secretary of State for the War Department, for having on Saturday, November 14, 1874, at the Military Prison, Arbour-hill, sold to the complainant as unadulterated a quantity of milk which was in fact adulterated. From the evidence it appeared that in October last there was an outbreak of typhoid fever in Arbour-hill Prison, and that, with the view of tracing the origin of this, Surgeon Tufnell had the water and milk supplies analysed. On November 14, Mr. Byrne, who was the contractor for milk, delivered his morning supply. One of the chief warders in his (defendant's) presence put a small quantity of this in a sample bottle and delivered it to Surgeon Tufnell, who took it to Professor Cameron's laboratory, where it was found to be adulterated to the extent of 100 per cent. A sergeant of the Army Service Corps proved the contract under which the defendant sold the milk, and by which he bound himself to supply "milk" neat as it came from the cow. His Worship said that milk-dealers varied in the proportion of water which they applied to their milk, and he had drawn up a graduated scale to meet that variation, commencing with £3 for 10 per cent., and increasing to the maximum penalty of £20 for 100 per cent. adulteration. In this case that proportion had been reached, and he imposed the penalty—£15 fine and £5 costs. He might add that he never made an order for costs with so much pleasure; the case had been so admirably brought before him.

OBITUARY.

FRANCIS L'ESTRANGE, A.M. Dub., F.R.C.S.I.

We much regret to announce the death, on January 6, of this widely known and estimable member of the profession. Mr. L'Estrange for many years enjoyed a lucrative practice in Dublin as a surgeon-dentist, and his mechanical genius secured for him well-earned fame amongst all ranks of the profession. "L'Estrange's Patent Truss" and his "Screw Lithotrite Tourniquet" are too well known to require any description on the present occasion. Some two years ago, Mr. L'Estrange retired from the active practice of dental surgery. He subsequently resided at Landour, Raglan-road, Dublin, where he died, at the age of seventy-two years, from an organic affection of the heart.

MEDICAL NEWS.

Royal College of Surgeons.—At a quarterly meeting of the Council on January 14, the motion of which Mr. Erichsen had given notice—viz., "That a Committee of the Council be appointed annually in April to superintend the arrangements of the 'Fellows' Dinner,' in conjunction with the secretary of that dinner,"—was, in our opinion, wisely withdrawn, as it is a subject exclusively for the consideration of the stewards of that festival. We defer for consideration next week Sir James Paget's motion for appointing examiners under the Conjoint Scheme for an examination for practice in England. A letter from Mr. J. de Styrap, and a report from the Shropshire Ethical Branch of the British Medical Association on the subject of medico-chirurgical tariffs, were also discussed; these we shall also notice next week. The following gentlemen were admitted Fellows of the College, viz.:—

Starling, Thomas John, L.S.A., of Higham Ferrers, Northamptonshire, diploma of Membership dated July 19, 1841.
Waite, Charles Derby, M.B. Cantab. and M.R.C.P. Lond., of Old Burlington-street, October 2, 1829.

At the same meeting of the Council the following gentlemen were elected Fellows, viz.:—

Lawford, Edward, M.D. Aber. and L.S.A., of Oriel House, Leighton Buzzard, diploma of Membership dated July 1, 1842.
Thomas, Benjamin, L.R.C.P. Edin. and L.S.A., Llanelly, Carmarthenshire, May 26, 1836.

Apothecaries' Hall.—The following gentleman passed his examination in the Science and Practice of

Medicine, and received a certificate to practise, on Thursday, January 7 :—

Catford, George Pine, Pemberley, Bedford.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

Meadows, Henry, M.B.—Public Analyst for the Borough of Leicester.

Mills, J., M.R.C.S.—Administrator of Chloroform at St. Bartholomew's Hospital.

Smith, Roland D., M.R.C.S.—Junior Resident Medical Officer to the London Hospital, *vice* H. T. Shapley, L.R.C.P. Edin., M.R.C.S. Eng.

MILITARY APPOINTMENTS.

War Office—Medical Department.—Deputy Surgeon-General Robert Keating Prendergast to be Surgeon-General, *vice* John Bent, deceased; Surgeon-Major Thomas Moorhead, M.D., to be Deputy Surgeon-General, *vice* Robert Keating Prendergast, promoted; Surgeon Edward Harford Lloyd, M.B., to be Surgeon-Major, *vice* Thomas Moorhead, M.D., promoted; Surgeon James Young Donaldson, M.D., to be Surgeon-Major, *vice* Alexander Reid, retired upon temporary half-pay; Surgeon Samuel Doake, M.D., from half-pay, to be Surgeon, *vice* James Young Donaldson, M.D., promoted; Surgeon-Major John Copeland Knipe, on half-pay, resigns his commission; Surgeon-Major Joseph Gray retires upon temporary half-pay; Surgeon-Major Thomas Blatherwick retires upon half-pay; Surgeon Christopher Armstrong, M.B., retires upon temporary half-pay.

Brevet.—Surgeon-Major Thomas Blatherwick to have the honorary rank of Deputy Surgeon-General on retiring upon half-pay.

BIRTHS.

Althaus.—On January 9, at 18, Bryanston-street, Portman-square, W., the wife of Julius Althaus, M.D., prematurely, of a daughter, stillborn.

May.—On January 5, at Fritwell House, Crayford, Kent, the wife of Thomas May, M.R.C.S., of a son.

Ross.—On January 5, the wife of J. Tyrrell C. Ross, Deputy Surgeon-General, of a daughter.

Sadler.—On September 29, at Barnsley, the wife of Michael Thomas Sadler, M.D., of a daughter.

Turner.—On December 29, at High Wycombe, Bucks, the wife of Fredk. Harry Turner, M.R.C.S. Eng., L.S.A., of a daughter.

Watson.—On December 31, at Tottenham, London, N., the wife of W. Tyndale Watson, M.D., of a son.

MARRIAGES.

Brodribb—Williamson.—On January 7, at St. Luke's Church, Chelsea, Charles Aikin Brodribb, M.R.C.S., L.S.A., to Harriot Eleanor, youngest daughter of the late Edward Williamson, Esq., solicitor, of Chelsea, and The Glade, Bentley, Hants.

Richardson—Duff.—On January 5, at St. Bartholomew's Church, Gray's-inn-road, W. W. Richardson, Head Master of St. Bartholomew's Grammar School, to Emily Jane, eldest daughter of W. H. Duff, M.R.C.S. Eng., L.S.A., of Gray's-inn-road, W.C.

Stevens—Maclean.—On September 30, at All Saints, Southampton, George Morton Stevens, Lieutenant Royal Artillery, younger son of the late Richard George Stevens, Esq., of Southampton, to Mary Eliza, youngest daughter of W. Campbell Maclean, C.B., M.D., Surgeon-General, Professor of Military Medicine, Army Medical School, Netley.

DEATHS.

Blacklock, Archibald, Surgeon R.N., at his residence, 31, Castle-street, Dumfries, on January 6, in his 85th year.

Blackmore, Jane Mary, widow of Samuel Blackmore, M.D., at her residence, 74, Pulteney-street, Bath, aged 86.

Burrowes, George Philip, eldest surviving son of Mrs. Burrowes, of 74, Elgin-road, St. Peter's-park, W., and of the late Philip Burrowes, M.R.C.S., at Sydney, New South Wales, on September 27, 1874, aged 24.

Cobb, Eleanor, beloved wife of Frederic Cobb, M.D., at Frensham, Surrey, on January 11, in her 74th year.

Conquest, Jane, widow of the late J. T. Conquest, M.D., F.L.S., at The Oaks, Plumstead, Kent, on January 8, aged 83.

Challice, Annie Emma, widow of the late John Challice, M.D., of Southwark, and Great Cumberland-place, Hyde-park, W., at her residence, 7, Upper Wimpole-street, Cavendish-square, W., on January 11.

Fairbank.—On December 27, at Doncaster, Lynton R. S. and (January 7) Gertrude Jeanefrid, twin children of F. Royston Fairbank, M.D., M.R.C.P., aged six months.

Harris, Henry, M.R.C.S. Eng., L.S.A., at Reigate, Surrey, on January 7, aged 59.

Hunt, Caroline, wife of Thomas Hunt, F.R.C.S., at Sea View House, Herne Bay, on December 29, aged 58.

I'on, John Launcelot, M.D., M.R.C.S. Eng., L.S.A., at 2, Chester-villas, Teddington, on January 11, in his 74th year.

Jones, John Ellington, M.R.C.S., at Stonehouse, Gloucestershire, on December 30, 1874, aged 58.

King, Thomas Kirwan, M.D., M.R.C.S. Eng., L.S.A., at 2, Portland-place, Camberwell, S.E., on January 11, in his 72nd year.

Lemprière, Alice Maud, second daughter of Charles Lemprière, M.R.C.S., of Melbourne, Australia, at Half Moon-street, Piccadilly, W., on January 8, aged 21.

Leonard, James, M.R.C.S., suddenly, at Princes Risborough, Bucks, on January 7, aged 74.

Spackman, Frances Mildred, youngest daughter of Frederick R. Spackman, M.D., at Harpenden, Herts, on January 7, aged 6.

Spasshatt, S. Percy, M.D., at Armidale, New South Wales, of typhoid fever, aged 43.

Stephens, Daniel Wells, M.D., L.R.C.P. Edin., M.R.C.S. Eng., L.S.A., at White House, Emsworth, Hants, on January 7, aged 43.

Vinter, John Henry, M.R.C.S., of Guy's Hospital, elder son of the Rev. F. W. Vinter, late of the Royal Military College, Sandhurst, at Walton-on-Thames, on January 4, in his 23rd year.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made, and the day of election (as far as known) are stated in succession.

Birmingham General Dispensary.—Resident Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before January 20.

Derbyshire General Infirmary.—Assistant House-Surgeon. Applications, with testimonials, to the Secretary, Mr. Samuel Whitaker 4, Victoria-street, Derby.

Essex Lunatic Asylum.—Second Assistant Medical Officer and Dispenser. Candidates must be L.S.A., and possess a surgical qualification. Applications, with testimonials, to Dr. Campbell, County Asylum, Brentwood, Essex.

Gravesend and Milton Union.—District and Workhouse Medical Officer. Candidates must be duly qualified and registered. Applications, with testimonials, to Mr. W. J. King, Clerk to the Guardians, on or before January 20.

Royal Free Hospital, Gray's-inn-road, London, W.C.—Junior House-Surgeon. Candidates must possess a medical or surgical qualification. Applications, with testimonials, to the Secretary, on or before January 20.

Trinity College, Dublin.—Professor of Chemistry. Applications and testimonials to the Registrar, on or before January 23, 1875. Further particulars may be obtained from the Rev. Dr. Haughton, Medical Registrar, Trinity College, Dublin.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Axminster Union.—Mr. J. C. Pritchard has resigned the Lyme Regis District; area 4540; population 3559; salary £58 10s. per annum.

Bedford Union.—The Sharnbrook District is vacant; area 11,895; population 2728; remuneration by fees.

Brentford Union.—Mr. T. Litchfield has resigned the Ninth District; area 2240; population 10,535; salary £90 per annum.

Uckfield Union.—The Maresfield District is vacant; area 16,559; population 4119; salary £85 per annum.

APPOINTMENTS.

Bakewell Union.—Charles Evans, M.R.C.S. Eng., L.S.A., to the Workhouse. Philip S. Fentem, M.D. Edin., M.R.C.S. Eng., to the Bakewell District.

Basford Union.—Thos. A. Crackle, M.R.C.S. Eng., L.S.A., to the Ilkeston District.

Bridgwater Union.—Henry M. Kemmis, M.R.C.S. Eng., L.K.&Q.C.P.I., to the Second District.

Louth Union.—J. D. Wrangham, M.D. St. And., M.R.C.S. Eng., L.S.A., to the Haintoa District.

Milford and Launditch Union.—Stephen M. Hopson, M.R.C.S. Eng., L.S.A., to the Workhouse.

Ross Union.—Cambridge C. Cocks, M.D. St. And., M.R.C.S. Eng., L.S.A., to the Fourth District.

Sleaford Union.—Charles F. Bedford, M.R.C.S. Eng., L.S.A., to the Sleaford District and the Workhouse.

Presentation and Dinner to Mr. Collins, of Chew Magna.—On January 5, the friends and patients of Mr. C. H. Collins, surgeon, at Chew Magna, Somerset, at a public dinner at the Bear and Swan Inn, presented him with a silver salver and £68 in a handsome purse. The chairman was the Rev. C. H. Tyler, rector of the next parish.

Small-pox at Aberdeen.—Several cases of small-pox have occurred during the last two or three weeks in Woodside, a village near Aberdeen. The contagion has spread to Aberdeen. On Saturday five cases were conveyed to the Mounthooley temporary epidemic hospital, and on Monday three others were admitted there.

Grand Junction Canal.—The Paddington Vestry have, under advice of their medical officer, Dr. Hardwicke, called upon the Grand Junction Canal Company to cleanse the Canal, as far as it lies in their jurisdiction, during the winter months.

The Francis-Joseph University at Agram.—This new university of the Austro-Hungarian empire has just been inaugurated at Agram, in Croatia, being the completion of a series of literary and scientific institutions which have been founded during recent years in that province of the empire, and which have been greatly aided by private contributions and subscriptions. By its division into four faculties, the number of its chairs, and the nature of its curricula, it is assimilated to the other universities of the empire, securing, however, a predominance of the language and history of the country, together with that of the national history and jurisprudence. The Medical Faculty will not be opened until 1876, and at least five years will elapse before it attains its full activity.—*Gaz. Méd.*, January 9.

HOSPITAL SUNDAY IN LIVERPOOL.—Sunday last was Hospital Sunday in Liverpool, and collections were made in all places of worship in aid of the medical charities of the town and neighbourhood. The weather was very unfavourable, and the amount contributed falls considerably short of last year's collection, when the total sum received was £8944.

COLLEGE OF SURGEONS' LECTURES.—The following are the arrangements for the delivery of the annual course of lectures at the above institution:—Professor Erasmus Wilson, F.R.S., will deliver a course of six lectures on Dermatology, commencing Monday, February 1; on the termination of which Professor W. K. Parker, F.R.S., will commence his course of eighteen lectures on the Structure and Development of the Skull, in continuation of his course of last year; when Professor Henry Lee, F.R.C.S., will deliver six lectures on Syphilis and on some Local Diseases affecting the Organs of Generation; and Professor William Turner, F.R.S. Edin., will, in conclusion, deliver three lectures on the Comparative Anatomy of the Placenta. The President of the College, Mr. F. Le Gros Clark, will deliver the Hunterian Oration on Saturday, February 13.

LICENTIATES IN DENTAL SURGERY.—The following were the questions on Anatomy and Physiology, and Pathology and Surgery, submitted to the candidates for the above licence of the Royal College of Surgeons on the 8th inst., viz.:—Anatomy and Physiology: 1. Describe the attachments of the buccinator muscle, how it is engaged in mastication, and whence it derives its vascular and nervous supply. 2. From what sources is the fluid in the mouth derived? State the principal causes which influence the amount formed, and explain how those causes act. Pathology and Surgery: 1. Describe the origin and development of a cyst in the lower jaw. How would you distinguish it from other tumours in this region? and what does it usually contain? and state how you would treat it. 2. Describe the treatment you would adopt in continued hæmorrhage after excision of a portion of a tonsil. In Dental Anatomy and Physiology, and in Dental Surgery and Pathology, the following were the questions, viz.:—Dental Anatomy and Physiology: 1. Explain fully the different theories concerning the formation of dentine, especially in relation to the tubuli. Of what do their contents consist? and how may they be pathologically affected by disease? 2. State the ages at which the eruptions of the deciduous and permanent sets of teeth commence, and the ages at which they are respectively completed; describe the characters by which you would distinguish between the first and second molars of the deciduous set, and between the first and second lower molars of the permanent set. 3. Explain the several circumstances which conduce to the protrusion of the chin and the shortening of the face in old people; and describe the ways in which artificial teeth rectify such conditions. Dental Surgery and Pathology: 1. Draw a distinction between toothache arising from diseased conditions of the teeth and pain in teeth arising from constitutional causes: name the constitutional conditions and diseases which principally affect the teeth. 2. Describe the conditions under which certain of the permanent teeth in the adult may be wanting from the mouth when none have been extracted. Point out the particular teeth most frequently absent, and state the circumstances which probably explain such deficiencies. 3. What are the different varieties of united teeth, and the nature of the union? State the probable causes of such union between contiguous teeth, and the consequences to which that condition may lead. The oral examination takes place this day (Friday); the names of the successful candidates will be published next week.

MICROSCOPICAL EXAMINATION OF SNOW.—M. Tissandier, in a letter addressed to the Academy of Sciences, communicated the results of the examination which he had made of the snow which fell from December 16 to 21. These examinations were made at the level of the ground in Paris, on the top of the towers of Nôtre Dame, and in the open country at some distance from Paris. He found—1. That the snow which fell on the 16th contained twice as many corpuscles as that which fell on the 21st; 2. The snow collected from the ground contained many more than that taken from the towers of Nôtre Dame; and 3. An almost complete identity in this respect between this latter and the snow gathered in the open country. As to the composition of the dust in question, he found in it nitrate of ammonia and sulphate of soda. Some of the corpuscles assumed the form of prisms with a square base.—*L'Institut*, January 6.

NOTES, QUERIES, AND REPLIES.

Be that questioneth much shall learn much.—*Bacon.*

Gus.—Museum of St. Bartholomew's Hospital, series 13.

M. C. T.—Of regular tetanus the youngest case on record is twenty-two months and the oldest seventy-five years of age.

F. F., Portsea.—In a paper on "The Influence of Inadequate Operations on the Theory of Cancer," in the fiftieth volume of the *Medico-Chirurgical Transactions*.

Questio.—Until the passing of the statute 6 and 7 Vict., cap. 83, the judicial duties of the coroner must have been discharged by the coroner himself, and could not be deputed.

East P.—
"Lord and sire,
Full often time was knight of the shire,
A schreve had been, and a coronour."—*Chaucer.*

Dr. McC., Southampton.—The fee for perfectly embalming would necessarily be a heavy item, as the quantity and quality of the required articles would be found expensive.

H. F. S.—There are several members of the clerical profession in the Calendar of the College of Surgeons, including a bishop. Nicholaus de Tyngewick, who was a most learned man, was physician to our Edward I. The following will prove the fact of his personal attendance on the King, and the esteem in which he was held:—On September 11, 1306, Edward, in a letter to the Pope, states that he "has presented to the Church of Reculvers (near Margate), May 6, Nicolas de Tyngwyck (*sic*), his physician, to whom, after God, he returned thanks for his recovery from an illness wherewith he had been afflicted, requesting that he might hold that living, together with the church of Collesbull, in the diocese of Salisbury, which he had previously possessed; the more especially as he considered the said Nicolas more learned and fit to have the care of his health than anyone in the realm." In fact, medical skill was often rewarded by clerical preferment; for John of Gaddesden, the first regular Court physician, for his care and attention of one of the sons of Edward in the small-pox, was made a prebendary of St. Paul's.

J. N. P.—1. Yes. 2. The Act of Parliament passed last session is now in force, by which the registration of births and deaths is rendered compulsory under penalties for neglect to carry out its provisions.

A Reader.—We understand that the trustees of the British Museum will shortly inquire into the complaints that have been made in connexion with the death of Mr. Warren, regarding the sanitary condition of the rooms in the printed book department; and we should hope the inquiry will be extended to other parts of the building. This inquiry has been promised none too soon.

D. R., Army Medical Department.—Some years ago, Prof. Brown-Séquard observed contraction of the vessels of the pia mater of dogs after large doses of belladonna and ergot of rye. More recently, Nicol and Mossop examined the action of certain drugs on the cerebral circulation with the ophthalmoscope, taking as their test the greater or less redness observed in the neighbourhood of the optic nerve entrance after the administration of the drug. They found that chloral and opium caused contraction, and bromide of potassium and belladonna dilatation of the capillaries of the brain. There is a discrepancy, therefore, between their experiments and those of Brown-Séquard as to the action of belladonna. As far as hypnotic drugs generally are concerned, it would seem probable, *à priori*, from the condition of anæmia which Dr. H. Jackson and Mr. Durham have found to exist in the brain during sleep, as well as from other considerations, that their action would be to contract the cerebral bloodvessels. Very little, however, is actually known on the subject. Waller has shown that irritation of the sympathetic nerve in the neck actually causes contraction of the vessels of the head on the same side. It does not follow, however, that all vascular contraction is due to sympathetic influence. Thus, ergot of rye appears to act directly on the muscular coats of the bloodvessels just as it does on the smooth muscular fibres in other parts of the body—*e.g.*, the uterus; and, according to Pick and Brunton, nitrite of amyl has also a direct action on the muscular coats. A very interesting example of contraction of vessels (those of the lungs) following the injection of a drug (muscarin, the poisonous alkaloid of mushrooms) is given by Dr. Brunton in the *British Medical Journal*, 1874, p. 617. Whether the power of the heart, and through it the vessels of the brain, can be much affected by purgatives and diuretics given in medicinal doses, is problematical. Dr. Worm Müller has quite recently shown that as much blood as is equal to 2 per cent. of an animal's body-weight may be abstracted without affecting arterial tension.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Pharmaceutical Journal—Allgemeine Wiener Medizinische Zeitung—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—La Tribune Médicale—Le Mouvement Médical—La France Médicale—Le Progrès

Médical—Bulletin de l'Académie de Médecine—Practitioner—Chicago Medical Journal—National Food and Fuel Reformer—Public Health—City Observer.

BOOKS AND PAMPHLETS RECEIVED—

Milton on Spermatorrhœa, tenth edition—The Gold Coast, or a Cruise in West African Waters, by Marcus Allen, Surgeon R.N.

COMMUNICATIONS have been received from—

Dr. T. S. Dowse, London; Dr. T. H. Green, London; Dr. C. Handfield Jones, London; Dr. Sparks, London; Mr. Hulke, London; Mr. J. Chatto, London; Mr. H. Morais, London; Mr. J. Hutchinson, London; Dr. Richardson, London; Dr. Arthur Roberts, London; The Rev. J. J. Blandford, Derby; Drs. J. N. Vinen and Corfield, London; Dr. Goldsmith, Worthing; Mr. T. P. Pick, London; The Registrar-General, Edinburgh; Dr. Edis, London; Mr. T. M. Stone, London; Dr. J. Sheblock, Powick; Dr. W. Newman, Stamford; Dr. Tidmas, Sutton Bonnington; Dr. Begley, Hanwell; Mr. J. T. Pearson, Stockport; Dr. Cox, Pennicuick; Mr. J. Gould, Hatherleigh; Dr. Tonge, Harrow; Mr. Armitage, Dartford; Dr. Bennett, Woodford; Mr. J. Cresswell, Winchmore Hill; Mr. K. H. B. Williams, Llandudno; Dr. Pickering, Whitchurch; Dr. J. B. Wilmot, Tunbridge Wells; The Honorary Secretaries of the Odontological Society of Great Britain; Mr J. E. Ingpen, London; Mr. L. Thomas, London; Dr. R. T. H. Bartley, Bristol; A (late) Regimental Surgeon-Major; Mr. P. Squire, London: Mr. Godlee, London.

APPOINTMENTS FOR THE WEEK.

January 16. *Saturday (this day).*

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 9 a.m. and 2 p.m.; Hospital for Women, 9½ a.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

Royal Institution, 3 p.m. Mr. Edward Dannreuther, "On Mozart" (with Pianoforte Illustrations.)

Society of Medical Officers of Health, 7½ p.m. Dr. Letheby (President). "On Noxious and Offensive Trades, with especial reference to the best Practical Means of Abating the several Nuisances therefrom."

18. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

Medical Society of London, 8½ p.m. Second Lettsomian Lecture—Mr. C. F. Maunder, "On Wounds and Hæmorrhages"; also, "On the Use of the Antiseptic Catgut Ligature."

19. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Pathological Society (Hour of Meeting altered to 8½ p.m.) Mr. Wagstaffe—Papilloma of the Tongue. Mr. Sydney Jones—1. Congenital Dislocation of both Hips (living specimen); 2. Lymphangeioma secreting Chyle (living specimen); 3. Hypertrophy of Limb from Disease of Knee-Joint (living specimen). Mr. Hulke—Epithelioma. Dr. Hoggan—1. Microscopical Specimens of Sarcoma in a Cod; 2. Microscopical Specimens of Cancer, prepared by a new process. Dr. Dowse—1. Invaginated Intestine; 2. Syphilitic Disease of Rectum. Dr. Pye-Smith—Enlarged Liver and Spleen without Leukæmia. Dr. David Pearson—Cancerous Breast and Liver. Mr. Cripps—Fatty Degeneration of Muscles of the Leg. Dr. Gowers—Ulcer of the Stomach. Dr. Greenfield—Contraction of Coronary Artery, Obstruction of Renal Artery, Fibroid Disease of Heart.

Royal Institution, 3 p.m. Mr. E. Ray Lankester, "On the Pedigree of the Animal Kingdom."

Statistical Society, 7¾ p.m. Rev. Dawson Burns, "On the Consumption of Intoxicating Liquors, as affected at various periods by the Rates of Duty imposed upon them."

20. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

21. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.

Harveian Society, 8 p.m. Mr. H. W. Kiallemark, "On a Case of Cancer of the Liver."

Royal Institution, 3 p.m. Prof. P. M. Duncan, "On the Grander Phenomena of Physical Geography."

22. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

Clinical Society, 8½ p.m. Mr. T. Holmes, "On a Case of Sub-Periosteal Excision of Os Calcis." Dr. Thorowgood and Mr. Bywater Vernon, "On a Case of Optic Neuritis with complete Loss of Vision; Recovery under Treatment." Mr. Pugin Thornton, "On a Case of exceeding Infrequency of the Pulse."

Quekett Microscopical Club, 8 p.m. Mr. T. Charters White, "On the Aquarium as a Field for Microscopical Research."

Royal Institution (Weekly Evening Meeting, 8 p.m.), 9 p.m. Sir John Lubbock, Bart., M.P., "On Wild Flowers and Insects."

VITAL STATISTICS OF LONDON.

Week ending Saturday, January 9.

BIRTHS.

Births of Boys, 1451; Girls, 1402; Total, 2853.
Average of 10 corresponding years 1865-74, 2818·6.

DEATHS.

	Males	Females.	Total.
Deaths during the week	1110	1186	2296
Average of the ten years 1865-74	784·1	787·0	1571·1
Average corrected to increased population	...	...	1681
Deaths of people aged 80 and upwards	...	...	137

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric or Typhoid Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	4	6	2	6	...	4	...	1
North... ...	751729	...	1	17	1	8	1	2	1	...
Central ...	334369	...	2	8	...	...	...	1	1	1
East	639111	1	2	13	1	18	1	8	2	3
South... ...	967692	4	7	17	3	20	3	7	2	5
Total	3254260	5	16	61	7	52	5	22	6	10

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·834 in.
Mean temperature	43·1°
Highest point of thermometer	51·5°
Lowest point of thermometer	36·9°
Mean dew-point temperature	39·9°
General direction of wind	S.W. & S.S.E.
Whole amount of rain in the week	0·12 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, January 9, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1875.)	Births Registered during the week ending Jan. 9.	Deaths Registered during the week ending Jan. 9.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3445160	45·7	2853	2296	51·2	37·9	43·6	6·44	0·27	0·69
Portsmouth ...	122632	27·3	98	45	...	35·6	...	...	0·54	1·37
Norwich	82842	11·1	54	49	48·8	33·5	40·6	4·77	0·73	1·85
Bristol	196186	44·1	178	170	51·5	39·6	44·8	7·11	0·80	2·03
Wolverhampton ...	71718	21·1	64	55	49·1	37·5	42·0	5·56	0·20	0·51
Birmingham ...	366325	43·6	300	277	51·0	37·8	43·0	6·11	0·21	0·53
Leicester	109830	34·3	64	89	49·5	36·5	41·6	5·33	0·08	0·20
Nottingham ...	92251	46·2	98	76	47·0	35·7	38·6	3·66	0·20	0·51
Liverpool	516063	99·1	456	449	50·7	37·3	43·3	6·28	0·29	0·74
Manchester ...	356626	83·1	298	337	49·5	32·9	4·8	4·88	0·16	0·41
Salford	135720	26·3	145	124	49·7	34·0	41·3	5·07	0·24	0·61
Oldham	87437	18·7	58	71	...	...	...	...	...	...
Bradford	168305	23·3	177	112	50·0	36·4	42·2	5·67	0·57	1·45
Leeds	285118	13·2	159	197	49·0	35·0	41·7	5·39	0·57	1·45
Sheffield	267881	13·6	225	144	48·0	34·5	41·5	5·28	0·36	0·91
Hull	133932	36·8	121	81	45·0	34·0	38·2	3·44	0·50	1·27
Sunderland ...	106342	32·2	73	47	50·0	35·0	40·9	4·94	0·49	1·24
Newcastle-on-Tyne	137035	25·5	106	93	...	...	...	...	...	...
Edinburgh	211626	47·8	131	184	...	...	...	...	...	...
Glasgow	531765	105·0	539	672	...	...	...	...	...	...
Dublin	314666	31·3	184	276	58·0	26·5	46·6	8·11	0·11	0·28
Total of 21 Towns in United Kingdm	7739490	37·1	6379	5834	58·0	26·5	41·9	5·50	0·37	0·94

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·83 in. The lowest was 29·62 in. on Monday evening, and the highest 29·99 in. on Friday morning.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

A CLINICAL LECTURE
ON TWO CASES OF OTITIS FOLLOWED BY MENINGITIS.(a)

By J. ANDREW, M.D. Oxon.,
Physician to St. Bartholomew's Hospital.

GENTLEMEN,—I intend to-day to bring under your notice two cases of intracranial disease, both originating in some affection of the internal ear, and in one of which the patient also suffered from an attack of pleuro-pneumonia. Before doing so, however, allow me to mention one or two general points about the symptoms of disease, and especially of disease of the nervous centres. And do not suppose that I am indulging in too wide generalities; you will find that these are really necessary to the proper understanding and treatment of the cases before us. You can divide the symptoms of diseases in very many different ways, according to the view which you may choose to take of them. For our present purpose I choose to divide them into two main groups, viz.:—

1. General symptoms. Those due either to general or constitutional causes, or to the constitutional effect or reaction of local changes—*e.g.*, alterations in the temperature, pulse, condition of skin, in the digestion as shown by anorexia, or the nervous system as shown by delirium or rigors, may all in many cases be looked upon as general symptoms of disease, or, if you like, as symptoms of general disease. Remember, that by "general disease" I mean one which attacks either the whole body (I mention this hypothetically only, and in obedience to custom, for no such disease exists), or some system, such as the nervous or vascular, which pervades the whole body.

2. Local symptoms, *i.e.*, those due directly to interference with the function of the organ attacked—*e.g.*, dyspnœa in diseases of the lung, or palpitation in diseases of the heart. You may for the present usefully call these *site* symptoms. From the mutual reaction of these two main groups we get an intermediate set of symptoms, often of the highest value, as, for instance, when first delirium masks pain or dyspnœa; secondly, when interference with the circulation or respiration masks (I use the same word advisedly) the temperature or pulse which would otherwise have been present. Remember, if you please, that I am only giving you illustrations of the division of symptoms which I choose to employ for my actual purpose, not attempting a systematic lecture.

Now, these two sets of symptoms together give us first the nature of the affection—*i.e.*, whether it is inflammatory or not, or is attended by some general cachexia or evil habit of body; and, secondly, its seat, the organ which has been specially attacked by it.

For purposes of treatment the relative value of these two sets varies widely in different cases, but on the whole the first are much the more important. Very often, indeed, the best guide for treatment will be found in the intermediate modifications of the two.

Remember now that the best diagnostic is very often the worst therapeutic symptom—*i.e.*, that the symptom which gives you the longest step towards a diagnosis may be all but valueless for treatment. Take, for instance, laryngeal obstruction: the peculiar respiration, which at once guides your inquiry into the case, tells you nothing of any value for treatment, except when the threatened occlusion of the larynx indicates the immediate performance of tracheotomy. It may be due alike to syphilis, to diphtheria, to some intra-laryngeal tumour, to an aneurism, or to many other causes; and even these I have mentioned could scarcely be all treated advantageously by the same method. What I wish you to learn is, that you must not allow yourselves to be guided as a matter of course in your treatment by the most prominent symptoms; rather be on your guard against being unduly influenced by them,—they will more often lead you wrong than right.

Now, this relatively greater importance, for purposes of treatment, of the general symptoms which may be exhibited by a patient, holds good in an especial manner in diseases of the brain and nervous system. And yet it is in these very diseases that the local or site symptoms most frequently override and mask the general or nature symptoms. Indeed, you will have constantly to bear in mind this fact: that the symptoms which in most cases you look upon, and rightly, as safe guides to the general condition of your patient and the nature of his malady, may prove to the last degree treacherous and misleading when the nervous organs are, one or more of them, the seat of the disease. In truth, in cerebral cases, ordinary general symptoms—*e.g.*, those of acute inflammatory disease—require the strictest possible analysis, and an interpretation under the fullest light which physiology can supply, if you would arrive at their actual import and value, for they are the signs no longer of general, but of local disease. Thus, alterations in the temperature, the pulse, the respiration, the skin, or in the mode in which the stomach and intestines perform their functions, become mere signs of disease of some part or other of the nervous system, and lose all but completely their general value.

A temperature, *e.g.*, of 104° or 105°, a pulse of 130, respirations 40 or more in the minute, a dry, pungent, hot skin, with sickness and constipation, may be—nay, very often are—no proofs whatever of the presence of fever in the ordinary sense of the word, and may lead you into most mischievous theory and practice. Remember always that a knowledge of the nature of a morbid process is, with few exceptions, vastly more important than a knowledge of its seat. Take a patient with symptoms of disease of some part of his nervous system, and include, if you like, the sympathetic, spinal, vaso-motor, trophic, or any other nerves, the very latest physiological discovery, as well as the brain, and you will find that for purposes of treatment the knowledge best worth having is that of the nature, not that of the seat of the disease. You want to know *what* your patient has got, not *where* he has got it. Look for evidence of the presence of tubercle, of cancer, of syphilis, or of some new growth, or of an aneurism. Note well the signs of fatty degeneration, or, as it has been happily called, of the organic involution of his tissues. Try to ascertain whether his symptoms vary with the increase or diminution of vascularity; whether he feels better when the circulation is vigorous and active, or the reverse. If you can clear up these points, you can afford to neglect the exact spot affected, and the special form of paralysis which may be present. Never mind whether your patient has aphasia, or hemiplegia, or paraplegia, or ataxia, or delirium, or anæsthesia, or neuralgia—your treatment, to be successful, must be directed against the underlying cachexia, not against the surface-symptoms which the accident of its seat may produce. These will only perplex your judgment and enfeeble your action when you are called upon, not merely to study, but to treat disease. Do not misunderstand me. I am not in any way making light of the importance of a diagnosis accurate and complete in all points, but I do wish to impress upon you the infinitely greater importance of ascertaining the nature of your patient's malady as compared with its seat. Make out the latter by all means. It will often prove a most useful clue to the general state—nay, without it you will often be unable to arrive at a distinct knowledge of the kind of disease with which you have to deal; but remember that its sole value consists in the help towards this knowledge which it may give you. Now, very often the diagnosis of the mere locality of a nerve-lesion seems so complete, and is, in reality, such an admirable result of knowledge and skill combined, that we are apt to be content with it, and to forget that by itself it may be all but worthless to the practitioner.

Let me remind you, by the way, that in cases of chest disease, too, the very perfection of physical diagnosis may lead you into error; for example, it is much more important, but much more difficult, and at the same time much less striking, to gauge, even approximately, the vital power of a patient with pneumonia, than to map out with the utmost exactness the extent of complete or of semi-consolidation in the lungs. Let me try to keep the balance even, if possible, by mentioning on the other hand the fact that in the case of heart disease the exact physical nature and the seat of the lesion are of the utmost importance for treatment.

I will now read the cases just as they stand in the ward books, adding only one or two brief comments.

Case 1.—James B., aged sixteen, admitted into Radcliffe ward on September 22, 1874. Well nourished, but drowsy and heavy; there is a discharge from the right ear, and he complains of pain in the forehead. Skin sweating. Pulse 104: temperature 100°. Tongue dry and furred. He is troubled with sickness. Bowels open; thorax and abdomen natural.

(a) Delivered on October 23, 1874.

History.—On the 12th inst. he got wet; the next day he felt giddy, and had headache and sickness. The vomiting and frontal headache have persisted, with occasional shivering. The discharge from the right ear has been noticed for about a week, and he is quite deaf on that side. He was put upon milk diet with a pint of beef-tea and egg, and four ounces of wine daily, and by way of medicine he was ordered to take gr. x. of calomel and jalap pill immediately, and ferri et quiniæ citrat. gr. v., potassii bromidi gr. xv., in aq. menthæ pip., three times a day. For the first forty-eight hours he remained in much the same state, his symptoms rather threatening danger than being in themselves actually dangerous; but on September 24 the following note was taken:—Temperature 103·1°; pulse 108 (note that though the temperature has risen upwards of three degrees the pulse is only four beats more frequent than on the 22nd); no albumen in urine; discharge from ear less; cerebral symptoms less marked; but he complains of pain in the right side of the thorax. There is absolute dulness at the base of the left side of the thorax posteriorly; on the right side the dulness extends upwards to the mid-dorsum of the scapula. On the right side the respiration is almost inaudible at the base, becoming tubular towards the apex. Vocal vibrations are absent at the base; no crepitation and no friction detected; but the sputa were viscid and rusty.

September 25.—Temperature 102°.

26th.—Temperature 103·6°; pulse 120; tongue nearly clean; bowels not open; a little more discharge from the ear. Ophthalmoscopic examination: Right eye—disc much blurred, of a deep pink colour; veins enlarged and tortuous, curving over the edge of the disc; arteries numerous and full; fundus hazy. Left eye—œdema of disc much the same as in the right eye, but the colour deeper; fundus is not hazy. 10 p.m.: Temperature 101·2°; shivering, but not violently.

28th.—Temperature 104°; pulse 112; behind, on the right side, absolute dulness to mid-dorsum of scapula; on the left side dulness at base only. 10 p.m.: Temperature 101·2°; pulse 92.

October 1st.—Slept well; bowels not open for three days; no pain in head; discharge from ear much less. Temperature 98·8°; pulse 80. Urine 1010, faintly acid; slight phosphatic sediment. Ordered gr. x. of pil. colocynth c. hyoscyamo. 10 p.m.: Temperature 97·8°; pulse 90.

2nd.—Temperature 100° in the morning; no pain; was given a chop for dinner. 10 p.m.: Temperature 101·6°; pulse 102.

5th.—Temperature 98·8°.

8th.—Temperature 98·8°; pulse 88. There is much less dulness over the thorax posteriorly. Feels very well; bowels rather costive.

19th.—Much better; chest almost natural. Is up, and about the ward. Ophthalmoscopic examination: Discs are still rather too pink, chiefly the left; no œdema; the veins are full, and the arteries thready.

23rd.—Feels quite well. Sent to the Convalescent Home at Highgate.

During the whole time he took the same mixture of citrate of iron and quinine. The diagnosis of pleuro-pneumonia of the right side rested upon the character of the sputa and the physical signs. These latter, it is true, by themselves were those of fluid in the pleura rather than of solid lung; but the special physical signs of pneumonia are frequently absent, owing to plugging of the bronchial tubes with mucus.

Case 2.—Jane G., aged nine, admitted into Mary ward on October 12. The first note was taken the following day, but I had previously seen her with my friend Mr. Adams at her home in Cloth Fair, and immediately on admission she had been placed on milk diet, with two eggs, a pint of beef-tea, and three ounces of wine, with the following draught four times a day:—Ferri et quiniæ citrat. gr. v., pot. bromidi gr. xv., aq. menth. pip. ad ℥j.

October 13.—Poorly nourished. Skin hot and dry; is drowsy; face pale; no strabismus; pupils widely dilated, and act slowly to light. Protrudes tongue slowly, and allows it to remain out for some time; it is thickly furred. Temperature 102·5°; pulse 128, regular. Slight cough; thorax natural; bowels not open; urine 1026, no albumen. Sleep broken; often starts and screams. Lips drawn slightly to the left; head thrown back. We could not obtain any distinct history, but the child had made much complaint of headache; had been frequently sick; delirious at night, and frequently during the day; and some three or four weeks previously there had been a discharge from the right ear. As she could not, or would not, swallow, she was at first fed by enemata. 10·30 p.m.: Temperature 103·6°; pulse 128.

15th.—Temperature 101·9°; pulse 120 (note again that the temperature falls, whilst the pulse remains all but stationary). She lies on the left side, with one hand under her head, and the other between the thighs. On the whole she seems rather better, but has had vomiting. Ophthalmoscopic examination: In both eyes the choroid seems somewhat atrophied; discs are whiter than natural; the veins are not tortuous, and the arteries are fairly full; in fact, the result of the ophthalmoscopic examination was purely negative, but it was made with difficulty, as there was much intolerance of light.

16th.—Temperature 99·6°; pulse 120. If anything, she is a little better.

17th.—Temperature 100·4°; pulse 108. Tongue cleaner; bowels open; pupils dilated—the right a little larger than the left.

19th.—Temperature 98·5°; pulse 104.

21st.—Temperature 99°; pulse 90.

23rd.—Temperature 98°; pulse 102. Is becoming more conscious. (I thought myself at the time justified in giving a favourable prognosis, which has been borne out by the event; but her improvement was slow; and on November 4 she was attacked by severe pain in the left thigh, in the middle third, where a large abscess subsequently formed. On November 10, Mr. Power kindly made another ophthalmoscopic examination, and again with negative results.)

(*To be continued.*)

ORIGINAL COMMUNICATIONS.

THE LEVERAGE OF THE LOWER HUMAN JAW.

(AN EXCERPT FROM THE AUTHOR'S NOTE-BOOK.)

By JOHN GORHAM, M.R.C.S. Eng., etc.

(*Continued from page* 29.)

Anatomy and Mechanism of the Lower Jaw-Bone.

THE lower jaw, represented in profile (Fig. 1), consists of a horizontal portion containing the lower teeth, and an upright or ascending portion terminating in the joint. These portions are named respectively the "horizontal" and "ascending" ramus of each side, the chin being considered as placed between them in front. The ascending ramus terminates above and behind in a thickened process termed the "condyle," and constituting the articular portion of this bone. The angle formed by the commencement of the horizontal ramus is termed the "angle" of the jaw. Although several muscles are employed in the movements of the lower jaw—such as the two pterygoids, the buccinator, the masseter, and the temporal,—it is to the two latter that its elevation is chiefly due. The concen-

Fig. 1.

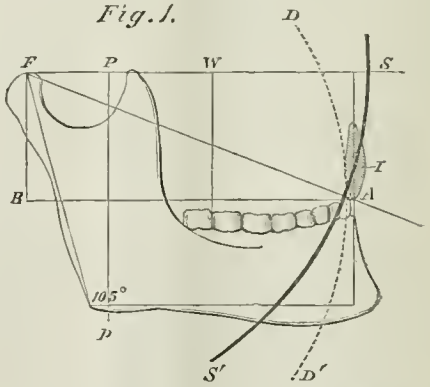


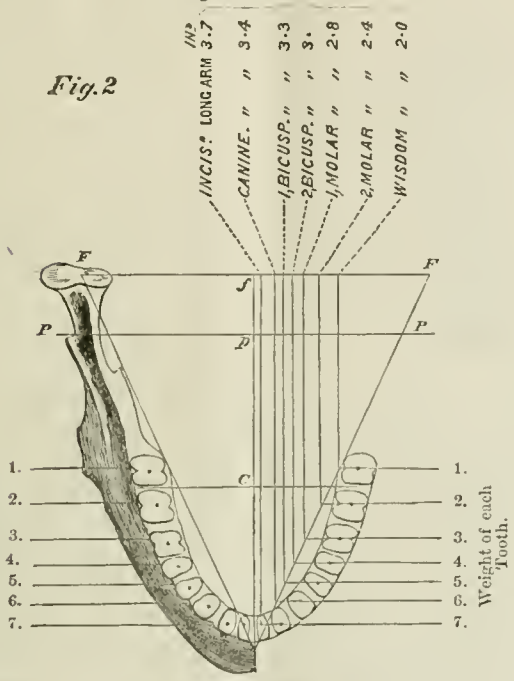
FIG. 1.—Right half of lower jaw-bone with its complement of eight teeth. *F*, Condyle—*i.e.*, position of fulcrum. *p*, Anatomical angle of jaw. *P*, Point of power. *W*, Point of weight—a line let fall perpendicularly to a point between two posterior molars. *FW*, True lever-rod, regardless of bend of jaw at *p*. *SS'*, Circular path of lower anterior incisors on a radius *FA*, showing that they move forwards and upwards until they impinge on upper incisors *I*. *DD'*, Circular path of lower anterior incisors on a radius *BA*, showing that they move upwards and backwards after impinging on upper incisors *I*: supposing the condyle to be at *B*—that is, in a line with the lower teeth, as in the tiger, cat, etc.

trated effect of these two muscles is located in a line a little behind the coronoid process of the jaw, the precise position of which it is of some importance to notice, as it defines the point of power in the lever-rod, from which is calculated its short arm.

The lever (see Fig. 1) is here bent in its form for the purpose of convenience; but, whatever be the form of the lever, the mechanical advantage of the power or the weight is always represented by a line drawn from the fulcrum at right angles to the direction in which the forces are respectively exerted.

Fig. 1 is a bent lever, exemplified in the case of the lower jaw with the power P, acting in the line Pp, and the weight C (Fig. 2), at the centre of gravity, acting at W (Fig. 1), while the fulcrum is at F. In this case both the

Fig. 2



Lever Power (in grains) for each Tooth.		*Weight (in grains) of each Tooth.*	
1. Wisdom	90·915	1. Wisdom	31·9
2. Molar, posterior... ...	112·808	2. 2nd Molar	32·4
3. „ anterior... ...	129·600	3. 1st Molar	32·4
4. Bicuspid, posterior ...	62·488	4. 2nd Bicuspid	14·6
5. „ anterior ...	68·380	5. 1st Bicuspid	14·6
6. Canine	86·815	6. Canine	17·9
7. Incisor	57·024	7. Incisor	10·8

Fig. 2.—*FF*, Fulcrum of jaw. *f*, Lever fulcrum of all the teeth. *fp*, Short arm of lever for all the teeth. *fC*, Long arm of the lever of the lower jaw itself, extending from fulcrum *f* to centre of gravity *C*. *P*, Point of power found by drawing a line a little behind the coronoid process on either side. *C*, Centre of gravity of lower jaw. The *weight* of each tooth is shown in the references to the figures in the right column, the *long arm* of the lever at the top of the illustration, while the *short arm* is the measure from *f* to *p*. These three form the data for finding the power by the formula $P = \frac{W \times L}{S}$, and this gives the measure (in grains) for lifting each tooth, as shown in the left hand column.

power and the weight act at right angles to an ideal line drawn as from F to W across from the fulcrum to the weight which strikes the line of direction of the forces at right angles. This ideal line, FW, therefore represents the true lever of calculation, and is proceeded with according to the ordinary rule for calculating lever powers. In this manner the bending which takes place at the angle goes for nothing.

In order to arrive at legitimate results it is essential that the anatomical points should be very accurately measured on the jaw itself, and it is equally essential that their distances be as carefully measured on the lever-rod: a slight mistake in either of these particulars would lead to error. The shifting of the point of power or the point of weight, even only the one-tenth of an inch, would so modify the answer—*i.e.*, the power in grains required to elevate the lower jaw by lever-force—as to render the calculation useless.

1. The *rod* itself is a line drawn from the fulcrum, F, to the point of weight, W (Fig. 1).

2. The *fulcrum* is a line drawn from condyle to condyle (Fig. 2), and is taken at f midway between the two.

3. The point of *power*, P, is in a line stretched horizontally from the coronoid process to the condyle, and one-third of the distance from the former to the latter process. This point is 0·7 of an inch from the fulcrum, FP (Fig. 1) and fp (Fig. 2).

4. The point of *weight*, W (Fig. 1), is the centre of a line passing through the centre of gravity.

5. The *centre of gravity*, C (Fig. 2), is found by stretching a thread across from side to side, either in front of the alveoli of the wisdom teeth, or across the centre of the alveoli of the posterior molars. Owing to the variable thickness of this bone, especially about its symphysis, its centre of gravity varies. The thread must be shifted therefore forwards or backwards, until, when poised on the finger or suspended from its middle by a second thread, the bone hangs horizontally. The centre of gravity, C, is thus determined for each individual jaw, and is about 2·2 inches from the fulcrum.

6. The *long arm* of the lever is a line drawn from the fulcrum, F (Fig. 1), to the centre of gravity C, and is = 2·2 inches.

7. The *short arm* of the lever is a line drawn from the fulcrum, f, to the point of power, p. (Fig. 2), and is equal to 0·7 of an inch.

8. The *weight of the toothless jaw* may be assumed as equal to about 960 grains.

If the letters W, S, L represent the weight, the short arm, and the long arm of the lever respectively, the power, P, is found by the formula—

$$P = \frac{W \times L}{S} = \frac{960 \times 2{\cdot}2}{\cdot 7} = 3017 \text{ grains.}$$

In this way the disadvantage of this kind of lever, as well as the measure, are strictly defined, for the muscles have to exercise a force more than three times as great as that which has to be overcome, being in the proportion of two ounces (*i.e.*, the weight of the jaw) to six ounces and a quarter (*i.e.*, the power required to raise it); or, strictly speaking, as 1: 3·14.

Of the Lever Power required to raise the Lower Jaw with its full complement of Teeth.

The mean weight of the whole of the teeth in the lower jaw is 330 grains.

A line from condyle to condyle, FF (Fig. 2), is the common fulcrum about which every tooth revolves in the act of mastication.

The teeth have different weights and are set in the jaw at different distances from the fulcrum. Each tooth, therefore, has a lever-rod of its own, and travels in the arc of its own circle, and every tooth moves over equal ares of different circles.

The fulcrum of the lever which raises each tooth is a point in the line FF (Fig. 2), exactly opposite the tooth. The long arm is a line drawn from the tooth, meeting its axis, FF, at right angles. The short arm is measured from the point p, where the muscular force is concentrated. The distance from p to the fulcrum, therefore, is the length of the short arm.

The lengths of the fulcrum and of the short arm are constant, and the same for every tooth; but the length of the long arm varies with the distance of each tooth from its axis, being greatest for the incisors and least for the wisdom teeth.

The planes in which the teeth revolve are vertical. No two teeth revolve in the same plane, but each in an imaginary vertical plane of its own, of which the outermost is that of the wisdom and the innermost that of the anterior incisor. Their fulcra, therefore, are separate and adjacent points in the line FF (Fig. 2), from which lines drawn at right angles to their respective teeth represent the true lever-rods.

Each tooth has its own system of leverage, and requires a different power to raise it. If each had the same weight it would still require a different power, owing to its distance from its own proper fulcrum; and if the long arm of the lever were the same for each tooth, the power to raise it must still vary, owing to the difference in its weight. In either case, therefore, a separate calculation is required to find the lever power to raise each individual tooth. Again, although all the teeth move together in their respective ares, it is still necessary to consider them at first separately, in order afterwards to calculate the leverage of the sum of all of them.(a)

The true method of calculating the leverage of the teeth

(a) While the teeth actually travel in arcs, the radii of which are lines drawn from the condyles to their respective teeth, these radii are distinct from those belonging to the lever-lines of calculation. It is essential to notice this. The practical radius of an anterior incisor, for instance, is the hypothenuse, FA, of the triangle FAB (Fig. 1); but the lever radius is the base line, AB, of the same triangle—that is, has the same magnitude.

will be to estimate the power required to elevate each tooth according to its weight and position, and then to add all the powers together, the sum of which will be the total power expended in raising all of them. A lower incisor, for instance, weighs about ten grains, and requires, from its position, a power of five times ten, or fifty, to lift it. A lower wisdom weighs about thirty-one grains, and requires a power of 31 multiplied by 2·58, or nearly ninety grains, to raise it,—and so for the rest.

Let the weight, long arm, and short arm be represented by the letters W, L, and S respectively, the power, P, is found by the formula—

$$P = \frac{W \times L}{S}$$

A lower incisor, for instance, weighs 10·8 grains, its long arm = 3·7 inches, and its short arm = 0·7 of an inch. Then—

$$P = \frac{10{\cdot}8 \times 3{\cdot}7}{{\cdot}7} = 57{\cdot}08 \text{ grains.}$$

Table showing the Weight, Long Arm, and Short Arm of each Tooth in the Lower Jaw.

Name of Tooth.	Weight in grains.	Length of Long Arm in inches.	Length of Short Arm.
Incisor . .	10·8	3·7	0·7
Canine . .	17·9	3·4	0·7
1st Bicuspid .	14·6	3·3	0·7
2nd Bicuspid .	14·6	3·0	0·7
1st Molar . .	32·4	2·8	0·7
2nd Molar . .	32·4	2·4	0·7
Wisdom . .	31·9	2·0	0·7

The product of the weight and the long arm is the moment of that arm. If, now, the moments are found for all the teeth, and the sum of them divided by the short arm, which is common to them all, the quotient is the power required to raise all the teeth together, as in the following table:—

Table showing the Power required to Elevate all the Teeth in the Lower Jaw.

Name of Tooth.	Weight of Tooth multiplied into its Long Arm.		Moment of Long Arm.		Number of Teeth in each group.		Sum of Moments of Long Arm in each group.
Incisor	10·8 × 3·7	=	39·96	×	4	=	159·84
Canine	17·9 × 3·4	=	60·86	×	2	=	121·72
1st Bicuspid	14·6 × 3·3	=	48·18	×	2	=	96·36
2nd Bicuspid	14·6 × 3·0	=	43·80	×	2	=	87·60
1st Molar	32·4 × 2·8	=	90·72	×	2	=	181·44
2nd Molar	32·4 × 2·4	=	77·76	×	2	=	155·52
Wisdom	31·9 × 2·0	=	63·80	×	2	=	127·60
						Sum of Moments =	930·08

and 930·08 ÷ ·7 = 1328·68 grains.

Hence power to raise the jaw = 3017·00 grains.
" " " teeth = 1328·68 "

The lever power required to elevate the jaw, therefore, with its full complement of teeth, is 3017 + 1328·68, or 4345·68 grs.

In following out the argument, let it now be supposed, in the next place, that for the lighter teeth in the lower jaw there be substituted the heavier teeth properly belonging to the upper. With this additional weight thus imposed on the lower jaw, the question is, What further disadvantage is likely to accrue as to its lever power,—what additional force, in other words, will be required to raise it? This is easily ascertained by assuming the lower teeth to weigh as much as the upper—tooth for tooth,—and by calculating the additional power required to raise each of them respectively, and then the sum of them, as in the following table:—

Table showing the Lever Power required to Lift the Teeth in the Lower Jaw, supposing that their Weight were equal to those in the Upper.

Name of Tooth.	Weight of Tooth multiplied into its Long Arm.		Moment of Long Arm.		Number of Teeth in each group.		Sum of Moments of Long Arm in each group.
Incisor	16·4 × 3·7	=	60·68	×	4	=	242·72
Canine	21·4 × 3·4	=	72·76	×	2	=	145·52
1st Bicuspid	16·0 × 3·3	=	52·80	×	2	=	105·60
2nd Bicuspid	16·0 × 3·0	=	48·00	×	2	=	96·00
1st Molar	33·4 × 2·8	=	93·52	×	2	=	187·04
2nd Molar	33·4 × 2·4	=	80·16	×	2	=	160·32
Wisdom	32·0 × 2·0	=	64·00	×	2	=	128·00
							1065·20

and $\frac{1065{\cdot}20}{{\cdot}7}$ = 1521·71 grains.

Now, 1521·71 — 1328·68 = 193·03, making an extra demand upon the lever of nearly 200 grains, by calculating the lower teeth as if they were as heavy as the upper.

It was proposed, in the third and last place, to compare the leverage of the teeth set in their natural or orthodox position in the jaw with the force required to raise them, supposing that their natural order were reversed—the front teeth taking the place of the back, and *vice versâ*, regularly throughout the series. The additional power required in this assumed and unnatural position is shown in the following table:—

Table of the Leverage of the Lower Jaw, supposing that the Natural Order of Position of the Teeth were Reversed.

Name of Tooth.	Weight of Tooth multiplied into its Long Arm.	Moment of Long Arm.	Sum of Moments of Long Arm in each group.
Wisdom (*vice* anterior Incisor) . . .	32·0 × 3·7 =	118·40 × 2 =	236·80
Posterior or 2nd Molar (*vice* lateral Incisor)	33·4 × 3·7 =	123·58 × 2 =	247·16
Anterior Molar (*vice* canine) . . .	33·4 × 3·4 =	113·56 × 2 =	227·12
2nd Bicuspid (*vice* 1st ditto) . . .	16·0 × 3·3 =	52·80 × 2 =	105·60
1st Bicuspid (*vice* 2nd ditto) . . .	16·0 × 3·0 =	48·00 × 2 =	96·00
Canine (*vice* 2nd Molar)	21·4 × 2·8 =	59·92 × 2 =	119·84
Incisor, lateral (*vice* 1st Molar) . . .	16·4 × 2·4 =	39·36 × 2 =	78·72
Incisor, anterior (*vice* Wisdom) . . .	16·4 × 2·0 =	32·80 × 2 =	65·60
		Sum of moments =	1166·84

Sum of moments of long arm = $\frac{1166{\cdot}84}{{\cdot}7}$ = 1666·91 grains.
Moment of short arm = ·7

Now, 1521·71 — 1328·68 = 193·03; showing an extra demand of nearly 200 grains by calculating the lower teeth as if they were as heavy as the upper. Hence with each rearrangement of the teeth the tax imposed on the leverage is only increased as might be anticipated. The conclusion is inevitable that on the whole, and independently of the necessity for their occupying their respective normal places as masticating organs, the order of their arrangement with respect to lightening the weight to be raised by lever power could not be altered for the better, but only for the worse. To pursue the inquiry further in this direction would be unprofitable. Sufficient has been adduced to show the futility of attempting to remodel any portion of an edifice constructed by the Divine Artificer, for human ingenuity may tax itself to the utmost in order to devise another plan by which the teeth may be arranged in the lower jaw in order to lighten its leverage, and come to the conclusion that, after all, their present arrangement is the best and the wisest that could be devised.

SPECIAL POINTS IN SPENCER WELLS' OVARIOTOMY OPERATIONS;

WITH REMARKS UPON THE OPERATION IN GENERAL.(a)

By B. F. DAWSON, M.D.,
Physician to the New York State Women's Hospital.

It was my good fortune during the summer of 1872, and again during the one just past, to be invited by Mr. Spencer Wells to witness him perform several ovariotomy operations. So many points in his method of operating struck me as of such great importance, and as not generally known, that I have thought it would be neither unadvantageous nor uninteresting to present them to the attention of such members of the profession as take an interest in ovarian operations.

Having been present at and assisted in many operations—over sixty in number—performed by many of the most distinguished ovariotomists in this country, as well as by others of less note, and having carefully studied and noted the peculiarities and methods of each, I feel I am not presumptuous if I venture also to make a few pertinent and critical remarks upon an operation that as yet I have never performed myself.

(a) We reprint this interesting paper from the November number of the *American Journal of Obstetrics*, as our readers will be glad to see what our American brethren think of us and what they say of us after their visits to London.

Passing at once to the subject of my paper, the first point I wish to call attention to is Mr. Wells' particularity in limiting the number of persons present at an operation. Although I have seen him operate eight times, I have never but once seen as many as that number present, and generally not more than three or four outside of his assistants. This limitation is obviously advantageous, in preventing the operator or assistants being crowded upon, or their attention disturbed by conversation, and is in strong contrast with operations I have seen frequently performed in a room crowded to such a degree that both the operator and his assistants, especially the administrator of the anæsthetic, have been literally leaned upon by those anxious to obtain a peep at the operation, and the attention of the former more or less necessarily distracted by conversation directed to them or to one another by those present.

Mr. Wells is also particular in his hospital operations, that none shall be present who are at all likely to bring infectious germs into the operating-room, obliging the strangers he may have invited to sign a paper to the effect that they have seen no case, nor been in any place, which will render them liable to bring such germs in their clothing. Now, this seems to me to be a most valuable precaution, and in strong contrast to other ovariotomists. Certainly there must be some risk to a patient submitting to such an operation, especially in having, in the confined atmosphere of the operating-room, and perhaps in contact with her, even a single person whose clothing is conveying infectious germs; and may it not be asked, with some force, if not a few cases of dangerous or fatal peritonitis or septicæmia after ovariotomy have not been due to the presence at the operation of some physician fresh from a case of erysipelas or puerperal disease, or a medical student whose clothing is saturated with the foul atmosphere of the dissecting-room? Certainly this point is worthy of careful consideration.

Perfect quiet and avoidance of all excitement of the patient is also considered of great importance by Mr. Wells, and he therefore allows no one to be present until the patient is fully anæsthetised, or to remain in the room during her return to consciousness. This avoidance of excitement both before and after the operation he also further insures as much as possible in the selection of the anæsthetic and its administrator. For the former he gives preference to the bichloride of methylene, or chloromethyle, as insuring rapid and easy anæsthesia, rapid recovery, and greater freedom from the nausea and vomiting so generally following the use of other anæsthetics; and in the selection of a skilled administrator he is assured of its proper and careful use. Here, again, it seems to me is an important point, for I am inclined to think the success of many protracted cases is impaired by want of attention to such precautions. How many deaths after ovariotomy have resulted from the exhausting vomiting due to ether I am not prepared to say; but, if the facts could be known, I am afraid the number would be many, for after no operation is the act of vomiting more injurious to the patient. Again, how often could this risk have been avoided had the anæsthetic been administered carefully and judiciously, so as to keep the patient simply insensible, and not narcotised, as I unhesitatingly state I have seen in more than one instance, owing to the fact of the administrator being inexperienced in his duties, or so absorbed in the operation as to have his attention drawn away, only to have it recalled by a word of admonition, or the absence of respiratory efforts by the patient!

The anæsthetic always used by Mr. Wells is one that, from his endorsement alone, should have the preference to all others; and it may not here be out of place for me to digress and make a few remarks upon its merits, especially as I can speak with some authority, having given it very many times in ovariotomy and other operations.

Since 1867, bichloride of methylene has been extensively used in many of the largest hospitals of Europe, as well as in the practice of many English surgeons, by many of whom, notably Mr. Wells, it is considered superior to all other anæsthetic agents. It has the single disadvantage of being very expensive,(b) and difficult to preserve, from its liability to deterioration by exposure to light and air.

It is best administered by the apparatus known as Junker's, by means of which air is forced through the methylene, and conveyed to the patient for inspiration. Administered by this apparatus a patient may be kept in a state of perfect insensibility to pain throughout a prolonged operation. Scarcely any of the vapour can escape into the room; consequently neither the surgeon nor administrator can be affected by it; and the quantity inspired by the patient is wholly under control of the one administering it.

Its effects are similar to those of chloroform, but anæsthesia seems to be much more readily induced by it, and is decidedly more easily recovered from. In fact, its action seems to combine the best properties of ether and chloroform.

Its effects upon the respiration are somewhat similar to chloroform. In no case have I seen other than full and quiet inspiration and expiration, and that these functions are properly performed is attested by the generally unaltered colour of the skin and lips, which even in some cases I have seen increased to a clear scarlet. This testimony is also supported by that of others, especially Mr. Wells,(c) who has used it over four hundred times, and says—"The patient very seldom becomes pale, sleeps quietly, wakes quietly, and seldom has much bronchial irritation."

The nausea and vomiting usually following recovery from chloroform and ether—especially the latter—are of much less frequency and severity. In regard to this point Spencer Wells also says—"It is quite true that it has the disadvantage of causing occasional nausea and sickness, but in my experience this is almost always the rule with chloroform (and sulphuric ether), whereas, with chloromethyle, it is certainly exceptional."(d) Mr. Rendal also states that "no sickness or headache follows, unless inhalation has been continued" for some time. In his 123 cases referred to, vomiting occurred in fifteen only—one in eight. In my own experience, in thirty-one cases in which I administered it, nausea or vomiting ensued in but six, and these were after prolonged operations.

In regard to safety, Mr. Rendal says, "I have not had a fatal case"; and Mr. Wells likewise writes that in over 350 cases in which he had used it, "in very few of these operations was insensibility to pain maintained for less than five minutes—in a few it was kept up for from forty-five minutes to one hour or more—yet I have never been at all uneasy during the administration or from any subsequent effects fairly referable to it, whereas, with chloroform, I never felt quite at ease; and, although I have never lost a patient during operation, I have three times had to resort to artificial respiration, and I have very often seen patients suffer so much from chloroform vomiting that the result has been imperilled, and in some cases a fatal result has been in a great measure due to this vomiting. When I add that between April, 1870, and March, 1871, I had thirty-two successive cases in private practice without one death, and that in the last twenty-four cases of the fifth hundred, including both hospital and private cases, every patient did well, it must be admitted (as anæsthesia was complete in every case, not one patient having been conscious at any stage of the operation) that the anæsthetic is a good one." In fact I can bring no more forcible arguments as to the advantages of chloromethyle than by again quoting Mr. Wells in conclusion, who says:—"Indeed, the patient has all the advantages of complete anæsthesia, with fewer drawbacks than I have ever obtained by the use of any other anæsthetic."

Reverting again to the proper subject of this paper, I will simply note the fact of Mr. Wells always securing the patient from all movement by fastening her to the table by straps attached to the legs and arms. In the event of unexpected return to consciousness, she is thus prevented from impeding the operation.

A procedure which struck me as both unique and novel, Mr. Wells resorted to in a case where the tumour was found closely adherent anteriorly and to the edges of the abdominal incision. Instead of endeavouring to separate the cyst in the usual way, he emptied it at once, enlarged the opening, and, seizing the inner surface of the cyst with a strong pair of forceps, just beyond where it was adherent, made firm traction, thereby inverting the sac and liberating it from its adhesion to the abdominal walls, the last portion to come away being that attached to the abdominal incision. By this procedure considerable time and trouble were saved, and the possibility avoided of peeling off the abdominal peritoneum instead of the cyst in endeavouring to effect separation from the edges of the wound first, after the usual method. The possible objection that there might be danger of engaging intestine or omentum in the bite of the forceps, Mr. Wells refuted as impossible if

(b) This is certainly a mistake. When Junker's apparatus is used it is seldom that more than half an ounce is consumed in a long operation, and this costs less than the chloroform used in the ordinary way.—Ed.

(c) "Diseases of the Ovaries," American edition, page 335.

(d) *Loc. cit.*

proper caution were used. He stated that this method was one he has frequently resorted to, and had always found answered admirably.

Immediately on the tumour being emptied, Mr. Wells is exceedingly careful that no blood or cystic fluid enters the peritoneal cavity, and to this end he or his assistants sponge the wound carefully and compress the lips closely together, at the same time that they are held up, and their edges kept dry while he is adjusting the clamp. This precaution I have never seen taken by any other operator, but it seems to me worthy of note, for if we limit the entrance of blood or cyst-fluid into the peritoneal cavity, we avoid tedious and injurious sponging out of the latter, and danger of peritonitis or septicæmia, to say nothing of saving the time consumed in so doing.

Being assured of the cessation of all bleeding from the wound and points of adhesion, Mr. Wells places a large flat sponge within the abdomen, for the purpose of protecting the intestines and catching any drops of blood following the sutures, and proceeds to close the wound by silk sutures. He uses Chinese twisted silk, in pieces about eighteen inches long, armed at each end with a long, stout, straight needle. Placing one of the needles between his lips, he passes the other through the edge of the lip of the wound farthest from him as he stands at the patient's side, passing it so close to the edge as to barely enclose more than peritoneum and cutis. Taking the needle off this end, he next passes the other through the opposite lip. Each suture is taken by an assistant, and by their means the lips of the wound firmly upheld until all the sutures are passed. The large sponge is then withdrawn, and the wound closed.

In closing the wound Mr. Wells takes special care that it is tightly closed about the pedicle, so that it will not be possible for any blood or secretion from the decomposing stump to enter the peritoneal cavity, and, to guard against this, always uses a clamp that will limit as much as possible the spreading of the pedicle. This point, it seems to me, is an all-important one, and one, I am sure, that has not been sufficiently attended to. May it not be questioned if not a few dangerous and fatal cases of peritonitis and septicæmia have not been due to the fact that septic material has found its way into the peritoneal cavity through an opening incautiously left alongside of the pedicle, or necessitated from the use of a clamp that spreads out the pedicle to such an extent as to render perfect closure impossible?

This point has so often impressed itself upon me, and also the inadequacy of most of the clamps in use to favour a perfect closure of the wound, that I was induced some time ago to devise an instrument which, while combining simplicity and power of compression, would at the same time so constrict the pedicle as to favour the most perfect closure of the abdominal wound; in other words, a clamp that compresses the pedicle in a line with the abdominal wound. This clamp having been used by Mr. Wells and others, seems, by meeting with their approval, to answer fully the purposes for which it was devised.

The last step in Mr. Wells' method worthy of note is his manner of dressing the wound and bandaging the patient. A few crystals of perchloride of iron being applied to the pedicle, strips of folded lint are carefully adjusted beneath the clamp around the pedicle, and pads of the same over the wound; these serve to soak up whatever secretion may occur. Large pieces of cotton-wool are next placed over the entire abdomen, and the same kept in place by broad strips of adhesive plaster, which also tend to support the abdominal walls. Over all he passes a broad flannel bandage pretty snugly.

Before the patient comes out of the anæsthetic she is placed in a bed, always in the same room; those present at once retire, the room is darkened, and the patient left alone with her nurse.

The foregoing points in Mr. Wells' method of performing ovariotomy seem to me to be worthy of special consideration: the avoidance of all prior and subsequent excitement of the patient; attention to the purity of the atmosphere in which the operation is performed; the inducement of rapid and quiet anæsthesia, and the insuring an equally quick and quiet recovery to consciousness; avoidance of all causes likely to interfere with the careful and rapid performance of the operation; caution as to the entrance of blood or fluid into the peritoneal cavity; and, not least, the insuring of a perfect closure of the abdominal wound.

I am well aware that most of these points are not unknown, but as Mr. Wells is the most successful of all ovariotomists, I have thought it not unlikely that much of his success was due to his careful attention to the foregoing points, which I have never seen receive the same attention from other ovariotomists. I have, therefore, called the attention of the profession to them that some might approve or disprove them by such criticism or discussion as they are far better able to do than myself.

REPORTS OF HOSPITAL PRACTICE
IN
MEDICINE AND SURGERY.

THE MIDDLESEX HOSPITAL.

CASES UNDER THE CARE OF MR. HULKE.

THE four next cases were subjected to operation at about four, within twelve, twelve, and about twenty-four hours after the accident, and with favourable results. In the first, so great was the vascular disorder already produced by four hours of acute strangulation, that a slight additional delay would have probably proved fatal. In the second case, also, the serum in the hernial sac was bloody, and contained coagula. Here and in the third case the women were in thoroughly bad health, and their convalescence was retarded by complications arising from this.

Acutely Strangulated Inguinal Hernia—Herniotomy about four hours after the Accident—Sac opened—Recovery.

A labourer, aged forty-one, who had had a reducible rupture nine years, and had worn a truss, whilst cleaning a window felt the rupture descend, upon which signs of strangulation immediately supervened. He was instantly taken to the parish infirmary, where the taxis was tried, ice was applied to the rupture, and opium was given to him. These measures failing, three hours after the accident he was sent into the Middlesex Hospital (August 20). A very tense oval swelling filled the right inguinal canal, and protruded through the external abdominal ring, but did not quite reach the scrotum. It was excessively painful, and so tender that he could not bear it to be handled; and he writhed restlessly with cramp in the belly.

Chloroform was given to full muscular relaxation, and the taxis gently repeated for a few minutes; and as reduction was not attainable by it, without more delay herniotomy was done. It was found necessary to open the sac. It enclosed a loop of small intestine, œdematous, of a deep purple colour, and blotched with capillary hæmerrhages, and also a few drachms of bloody serum. The wound was dressed antiseptically, and opium was given. The upper angle of the incision suppurated; the rest united immediately.

On the twelfth day, his belly being uneasy, and no motion having yet been passed, a simple enema was given. This freely unloaded the bowels, and gave him great relief.

He was discharged convalescent on October 4.

Strangulated Inguinal Hernia in a Female—Herniotomy—Pleurisy on the seventh day—Recovery.

A charwoman, aged fifty, ten years ruptured, whilst walking in the street broke her truss. She immediately felt the rupture descend, and was at once in great pain. A medicus repeatedly tried the taxis, and being unsuccessful he sent her to the hospital, about twenty-four hours after the accident. On her admission into Bird ward, at noon, December 11, 1873, she had a tense swelling in the right groin and labium, so painful and tender that it could not be handled till chloroform had been given, when the spina pubis was distinctly felt below it, and its separateness from the crural canal, respecting which there had been a slight doubt, was made out. She had a small, quick, weak pulse; and she often retched.

Chloroform was given, and the taxis again failing, herniotomy was done. Reduction could not be effected without opening the sac. The constriction was very tight, and principally caused by a fibrous thread in the neck of the sac itself. The sac contained about two ounces of bloody serum and coagula, and a loop of dark purple intestine.

She had a sharp attack of peritonitis, which was treated with opium, leeches to the belly, and hot linseed poultices. Pleurisy supervened on the seventh day. The bowels were first opened on the thirteenth day by an enema. She left the hospital convalescent January 13.

Strangulated Femoral Rupture—Herniotomy—Sac opened—Recovery.

An emaciated woman, aged thirty-two, still feeble after a complicated labour two months before, was admitted into Bird ward, at noon, August 22 last, with a tender, painful, irreducible femoral rupture of the size of a hen's egg, harassing tormina, tympanites, frequent retching, and constipation.

She had been ruptured, she said, two years, and had worn a truss; in spite of which, since her confinement, the rupture had occasionally slipped down. At midday on the 21st she retched, and, whilst straining, she felt the bowel slip down. She got it back again, but at two o'clock a.m. she again vomited, and the gut again descended; she was unable to return it, and symptoms of strangulation quickly ensued.

At one o'clock p.m., the taxis, which had been already tried, was repeated under chloroform, and the rupture being still irreducible, it was subjected to operation. Reduction could not be accomplished without opening the sac. It enclosed a loop of dark purple intestine about four inches long. The wound was dressed antiseptically; it suppurated, and healed slowly. On the fifth day she was troubled with wind, and the belly being not tender, and the temperature 97·5° Fahr., a simple enema was given, which produced a copious stool and complete ease. An abscess in the ischio-rectal fossa retarded her convalescence, and kept her in the hospital till October 9.

Strangulated Scrotal Rupture—Herniotomy on the same day—Sac not opened—Recovery.

A small, thin, swarthy shoeblack, aged about twenty, was admitted into Broderipp ward on July 11, with a very tense, extremely painful and tender scrotal rupture, eight inches in girth; great pain in his belly, and frequent vomiting. He said that nearly three years before, whilst chopping wood, the axe slipped, and he struck himself so violent a blow between his legs that he fell backwards and lost his senses. Two days after this he first noticed a lump in the groin. As this did not trouble him he did not take any account of it till eighteen months later, when, in lifting a sack of coals, it became much larger. He could still press it back into the belly. Early in the morning on which he was brought to the hospital, whilst stooping to lace his boot, the rupture came down; he could not get it back, and symptoms of strangulation quickly set in.

The taxis had been already tried. It was repeated under chloroform; and as the rupture did not yield, it was immediately operated on. After the external ring had been incised, and all the strictures external to the neck of the sac divided, reduction was effected. The wound was washed out with a solution of carbolic acid in water (one per cent.), and dressed antiseptically. He was soon convalescent, and left the hospital at the end of the same month.

GUY'S HOSPITAL.

VESICO-INTESTINAL FISTULA (PROBABLY RECTAL)—RECOVERY.

(Under the care of Mr. BRYANT.)

MAY B., aged fifty-five, came up from Eastbourne into Guy's Hospital to be under Mr. Bryant's care, with an abscess in her left groin. She was a single woman. For one year she had had pains in her left groin, and bearing-down. For six months of this time she had had what was called gastric fever, and kept her bed for six weeks. During this time she was often sick, but had no diarrhœa; the bowels acted naturally. When she was getting better of this, she was seized with a severe pain in the abdomen—more particularly in the left groin. Within a few days her urine became thick, and scalded her in its passage; at times it looked like blood, then water. Upon admission she passed wind with her water from the bladder. About this time an abscess appeared in her left groin, which was opened.

On admission, the left groin is swollen and indurated; an opening exists above Poupart's ligament, discharging fetid fæcal pus. The water is loaded with pus and fæculus; it passes with a rush of wind from the bladder. An examination per vaginam and rectum indicates nothing. Mr. Bryant having clearly made out that some communication existed between the bowel, bladder, and abscess (the large intestine being the probable seat of the disease), determined to lay the abscess open freely, following nature's own indication. This he did on June 9 by an incision two inches long. This exposed a large cavity filled with pus and fæces. A piece of oiled lint was introduced into the wound. Quinine and wine were ordered. For days the discharge was profuse from the wound, but from the time of the operation wind ceased to pass into the bladder. The urine, however, contained pus.

June 19.—Pain in micturition became severe; she passed also less urine. A few days later it was found that the urine passed into the rectum and came away with the motions.

24th.—The opening into the inguinal abscess having partially closed, and as some burrowing was taking place externally, a fresh incision was made towards the crest of the ilium; by this means a cavity was exposed containing pus and what seemed to be fæces. This was followed by relief. Sickness, which had existed, at once stopped.

26th.—Wind passes freely through the opening in the groin. An enema was ordered for washing out the rectum; it appeared at once in the groin, whence it escaped. The patient is very low; pulse 99. Milk and lime-water ordered as ordinary drink.

July 6.—Fæces appeared in some quantity to-day from the wound.

8th.—A nutrient enema was again given, but it came through the wound as before.

16th.—Aphthous stomatitis has given her much trouble. Chlorate of potash and milk ordered.

20th.—Better. Wound discharging more or less. No fæces for some days.

29th.—Wind and fæces now pass through the rectum; none through the wound in bladder.

August 2.—Wound in groin healing; powers much better; is gaining flesh; urine natural; no water now passes from rectum. From this time all went on well, and on the 25th she left the hospital with the abscess healed, and well in all respects.

CASES OF TYPHOID FEVER.

Case 1.—Typhoid Fever—Much Bronchitis—High Range of Temperature—Cold Baths—Convalescence.

(Under the care of Dr. TAYLOR.)

THE following notes are abstracted from the report of Mr. J. Rendall, Clinical Assistant:—

C. B., aged fourteen, was admitted on July 13, under the care of Dr. Taylor. Has always been a healthy boy. Present illness began three weeks ago with pain in the epigastric region with sickness, and pain in his limbs. Two days after, his abdomen became painful on manipulation. Was kept in bed and fed on milk, etc. A week ago he had some shivering, and next morning did not feel so well, his abdomen being more painful. Kept his bed from the commencement of the attack until admission. Has had no diarrhœa, but has vomited occasionally.

State on Admission.—Patient is well nourished; cheeks a little flushed; has a dull heavy look; skin very hot indeed, and covered with small scales like ichthyosis, especially noticeable on chest and abdomen (mother says he has always been so). There are several small red spots on abdomen and chest, slightly raised, which disappear on pressure; tongue dry and brown in centre; tremulous. Does not complain of headache or thirst. Resonance over both lungs normal, except at bases, where it is slightly impaired; dry sounds audible over both lungs; a few moist râles at both bases. Very little cough, and no expectoration. Abdomen filled out, though not distended, resonant, and painful on pressure; no gurgling in iliac fossa. Urine scanty, high coloured, deficient in chlorides; no albumen. Temperature 105·4°; pulse dicrotic, full, 116 per minute.

July 14.—Temperature in the morning 104·2°, evening 104°; slept well; bowels open for the first time since admission; epistaxis this morning. Ordered spt. ammon. arom. ℥ss., mist. ammoniæ acet. ℥j. 4tis horis. Milk and beef-tea diet.

15th.—Temperature in the morning 103·4°, evening 104·8°; slept well. Says he feels better; looks more drowsy. Some fresh spots on abdomen; large crepitant râles to be heard at left base. Urine scanty. More difficulty in breathing. Bowels rather relaxed; stools darkish in colour, scybalæ, no blood.

16th.—Temperature in the morning 103·2°, evening 104·8°; slept well. This morning is very drowsy and not quite clear in his head. Vomited once last night. Epistaxis this morning. At right apex there are some moist crackling sounds anteriorly. Cough rather more troublesome; no expectoration. Face has a dusky flush. Sordes about lips and teeth. At two o'clock his temperature was 104·6°, and Dr. Taylor wished him to be sponged over with water at 80° for a quarter of an hour. The

effect was to reduce his temperature to 103·2°. He did not complain of cold afterwards, and showed no alteration. At 3 p.m. his temperature had risen to 103·6°, at 4.30 to 104·6°. He was now put in a bath at 90°. Temperature in mouth after five minutes' immersion, 102·4°; after ten minutes, 101·4°; bath, 86·5°. He now complained of being cold. Temperature after fifteen minutes, 99·8°; bath, 86·5°. He was now taken out, as he began to shiver, partly dried, wrapped up in a blanket, and put to bed; his face had a bluish tinge, as if he was cold, and this lasted till 8.30 p.m. Temperature a quarter of an hour after bath, 100°; at 9 p.m., 104·8°. Has been sick once, the matter vomited consisting of milk and egg stained with blood; skin very hot and sweating. While his temperature is being taken he does not open his eyes, but mutters occasionally; still he answers questions reluctantly, and desires to be left alone. A second bath at 10.30; temperature of bath, 84·5°; duration ten minutes. Temperature afterwards 99°; pulse 120, dicrotism well marked, moderately full and compressible. Did not like the bath, but complained of cold for an hour and a half after. 12.30: Is now hot, and feels comfortable, but is very irritable, and likes to be left alone; temperature 102·2°.

17th.—Slept fairly well. Bowels open this morning; motions relaxed—very much like pea-soup; no blood. Answers questions more readily, and is not so drowsy, and for the first time since admission has asked for milk. Abdomen not so full, and less tender on pressure: a few fresh spots on upper part of chest, others fading on chest and abdomen. Tongue less dry, but still tremulous; tremor also of limbs. Temperature in the morning 102·8°, 4 p.m. 104°, 8 p.m. 103·8°. At eight o'clock this evening he had a third bath at a temperature of 88°. In ten minutes his temperature was reduced to 101°. At 9 p.m. it had risen to 102°; was very irritable, and inclined to sleep. 11 p.m.: Temperature 104·8°. 11.30 p.m.: Had a fourth bath, temperature 84°. After ten minutes his temperature was reduced to 98·5°.

18th.—Slept badly; low muttering delirium. Took milk very well. He is now very delirious, talking to some imaginary friend near him. Answers questions. A great deal of tremor of limbs; cheeks flushed; eyes torpid and sunken, conjunctivæ injected; one fresh spot below right shoulder, and two or three on abdomen; spots of 14th have faded away. Passed his urine involuntarily in bed this morning. Tongue moist, flabby, and thickly furred. Pulse quick, weak, compressible; moist bronchitic râles at both apices, also at left base; very little cough; swallows the expectoration; respirations 28. Temperature in morning 104°, 4 p.m. 103·2°, 9 p.m. 102·8°. Has been very delirious all day; floccitation; lies low in bed; bowels relieved once; no blood; urine scanty. Ordered brandy three ounces, and milk *ad libitum*.

19th.—Very delirious and restless all night; wanted to get out of bed. Abdomen very full and tender; three fresh spots on abdomen; sordes about teeth and lips. Bowels open three times last night; stools still typhoid in character; no shreds or blood. Temperature in the morning 102·5°, 4 p.m. 104·6°. Fifth bath given at a temperature of 92°. Temperature after five minutes' immersion, 104°; after ten minutes, 102°. 9.20 p.m.: Temperatnre 103·4°, pulse 148, respirations 32.

20th.—Temperature 103·2°; slept much quieter last night; abdomen tumid; three fresh spots; most of the others have disappeared. Still very delirious. Takes his nourishment well. Large râles with some rhonchus audible at both bases; slight dulness; retained his water last night; countenance dusky. Answers questions, and understands when spoken to. 4 p.m.: Temperature 104·2°. Sixth bath given at a temperature of 86°. His temperature was reduced to 100·6°. He was almost unconscious before the bath, but whilst in it he became more sensible, so much so that when asked if it was cold he replied, "Get in and try it." Did not shiver much, or complain of cold. Bowels open once to-day. After each bath he lies much quieter, and seems more inclined to sleep. 5.30 p.m.: Temperature 101·8°. 9 p.m.: Temperature 104·8°. 10.15 p.m.: Seventh bath at temperature of 83°, which reduced his temperature in ten minutes to 100·2°. 12 p.m.: Temperature 102·2°; sleeping quietly.

21st (seventeenth day of disease).—Temperature in the morning 101·6°, evening 102°. Is better this morning; seems brighter, though still wandering. Skin cooler; less tremor of tongue and limbs; understands when spoken to; tongue cleaner, moist, furred in centre; two fresh spots on abdomen, which is full and tender. Moist and dry sounds to be heard at bases; left base somewhat dull, with some small crepitation; harsh breathing at apices.

22nd.—Temperature in the morning 100°, evening 102·6°. Better, but still drowsy; takes nourishment well; abdomen less tumid. Bowels relieved last night; motions solid, and of a light colour.

23rd.—Morning temperature 100·5°. Still improving; answers questions rationally. Abdomen soft, and not tender; tongue cleaner, moist; face slightly flushed; a few moist sounds at right base. Takes his nourishment, and asks for bread and butter. 4 p.m.: Temperature 99·4°. 9 p.m.: Temperature 98·8°.

24th.—Temperature in the morning 98·2°, evening 99·8°. Better; tongue cleaner; is quite sensible and cheerful; rather drowsy; spots no longer present.

25th.—Bowels open; motions solid and yellow. Temperature in the morning 98°, evening 100°.

26th.—Morning temperature 98·2°. Some moist râles at bases with inspiration; rhonchus with expiration here and there; resonance impaired at bases; tongue moist, slightly furred. Evening temperature 100·2°.

27th.—Bowels relieved last night. Temperature in the morning 99·2°, evening 98·4°.

28th.—Tongue cleaner; no moist sounds in lungs.

August 3.—Has been going on well the last six days. Temperature has remained about stationary. Has two small abscesses—one on the forehead and the other on little finger of right hand,—which have been opened.

7th.—Patient still improving. To get up this evening.

13th.—Commenced to take meat to-day. Sits up all day.

17th.—Quite convalescent.

27th.—Discharged well.

(*To be continued.*)

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Medical Times and Gazette.

SATURDAY, JANUARY 23, 1875.

THE SANITARY CONFERENCE AT BIRMINGHAM.

The Mayor of Birmingham, Mr. Joseph Chamberlain, deserves great credit for having conceived, and carried into practical effect, the idea of inviting civic authorities, sanitary reformers, and practical sanitarians to hold a conference on questions affecting the public health. The Conference held at Birming-

ham on the 14th inst., the proceedings of which will be found recorded elsewhere in our present issue, may not have brought forth anything new in the way of sanitary measures—and that, indeed, was neither expected nor desired; but it was very successful in gathering together many of those who have earned the right to speak on matters affecting the public health; and it helped to focus, as it were, and place clearly before the public, the points on which sanitarians are most agreed, and the measures which have been practically found to be the most effective and the most urgently necessary for improving the health of our cities and large towns. The term of office of the present Mayor of Birmingham had already been rendered famous by the visit of the Prince and Princess of Wales to that town; and if this Sanitary Conference should prove, as it ought to prove, to be only the first of a fruitful series of such conferences to be held in our large towns and cities, a still brighter and more lasting honour may be added to Mr. Chamberlain's mayoralty. Is it not possible that such meetings may lead civic authorities to be anxious about the character that their respective towns may be shown to bear? that they may be induced to enter into a health competition, and may become eager to show that they have carried out such sanitary measures as have reduced their rate of mortality to one even lower than the present death-rate of the metropolis? and this again would react for good on London, if that capital is to keep the reputation of being the healthiest of large cities. It may surely be expected that such sanitary conferences, if well and thoughtfully managed, will help the advent of the time when the inhabitants of any town will be ashamed to have it told out to all England that their death-rate from clearly preventable diseases is exceptionally high, or that their total death-rate is much higher than that of other towns of equal size. Birmingham has of late been actively bestirring itself in sanitary reforms; but the hands of the sanitary authorities there will certainly be strengthened by the publication of the valuable tabular statement, read by Dr. Balthazar Foster at the Conference, comparing the rate of mortality, from all causes and from certain special causes, in Birmingham with that in six other large towns, all England and Wales, and twelve healthy rural districts during the twenty years from 1851 to 1860 and 1861 to 1870. This table shows that Birmingham stands very well as regards the fever-rate, being with London for the whole twenty years the healthiest of the six great towns, and having for the decade 1861 to 1870 a lower fever death-rate than the average of the whole country; while Liverpool is shown to be by far the worst of the great towns in this respect, its fever death-rate during the last decade having been very nearly fourfold that of Birmingham, and more than double that of Manchester, Leeds, and Sheffield. But the diarrhœa and cholera death-rate in Birmingham is twice as bad as the average of the whole country, much worse than that of London and Bristol, about equal to that of Sheffield and Leeds, and only exceeded by that of Manchester and Liverpool; and this, though Birmingham has enjoyed a remarkable immunity from cholera. Again, Birmingham shows a terrible death-rate from diphtheria, being in this respect the worst of the great towns in England. Its "total zymotic death-rate" is also higher than that of all the other towns except Liverpool and Sheffield; and its death-rates, from all causes and from diarrhœa, etc., under five years of age are also much higher than they are in London and Bristol. These death-rates may all be taken as especially showing a bad sanitary condition, and especially capable of great improvement by measures of sanitary reform. Tabular statements like this of Dr. Foster's cannot but be of great use in showing the specially weak points in the health-management of our large towns, and in marking out at any rate one of the ways, though happily a preventable one, in which at present "men decay" while "wealth accumulates" in our manufacturing and commercial cities. We would suggest, however, the possibility of making them still more instructive by supplementing them with comparative tabular statements of a crime-rate and a pauper-rate, so as to show the causal connexion between filth, preventable disease, and overcrowding, and poverty, drunkenness, and crime.

The papers read during the morning sitting of the Conference by Dr. Hill of Birmingham, Dr. Davis of Bristol, Dr. Trench of Liverpool, and Dr. Balthazar Foster, were all on the sanitary condition of those towns, and on the paramount necessity of an ample supply of pure water inaccessible to human contamination, and of the complete and constant removal of sewage; on the importance of the abolition of surface wells and of the midden system; and on the necessity of proper hospital accommodation for the isolation of patients suffering from infectious diseases. On these points all were of one mind; cleanliness in everything being the first, second, and third requirements in sanitary reform, though other sanitary requirements were also spoken of.

The afternoon sitting was devoted to the consideration of the evils and dangers of overcrowding, and to statements of the measures being taken in London and Glasgow to supply the poor with wholesome dwellings, and to destroy old fever and crime nests. Sir Sydney Waterlow was of course the able and experienced exponent of all that has been done and is doing in the matter in London; while Bailie Morrison, the chairman of the Committee of Management of the Glasgow Improvements Trust, as fitly came forward to speak of what had been effected in that city. He reported that there has been a remarkable diminution in crime since the commencement of the improvements under the Act of 1866, involving the demolition of 10,000 condemned houses; in 1867, 10,899 crimes were reported, as against 7869 in 1873. This is a strong confirmation of what has been often urged in these pages, and was dwelt on by Sir Charles Reed in the discussion on Sir Sydney Waterlow's and Bailie Morrison's papers—viz., that people are brutalised by living in overcrowded and unhealthy dwellings, and that national education will be useless for good unless the poor are more decently and wholesomely housed. We are glad to observe that Sir Sydney Waterlow insisted on the necessity of not only providing healthy dwellings for the working classes, but of providing them close to the places where the work is done, pointing out that suburban cottage dwellings—which some demand as the cure of all the evils affecting the working classes—can only be rendered available for workmen earning high wages, and when the father of the family is the sole bread-winner; and that the fatigue and expense of the daily journey, the separation of the family, and the sacrifice of the common mid-day meal would always prevent the masses of the working classes from living out of town.

As we have already said, the newest thing at the Conference was the Conference itself. The great object of it was, not to tell of new things, but to help forward the sanitary education of the Birmingham people by the statement and consideration of the results of experience gained elsewhere. And in this way sanitary conferences may be expected to effect great good. "Line upon line, and precept upon precept" is the only method by which the masses can be taught the necessity of sanitary reforms and the rewards that follow their adoption; and till this education has much more effectually and widely reached all ranks of the population, sanitary measures will continue to be met by every kind and degree of active and passive opposition.

SCOTCH REGISTRATION RETURNS.

The mortality tables for the past month are painfully instructive. In the eight principal towns of Scotland, during the month of December, the deaths amounted to 3906, of which

1833 were of males, and 2073 of females. After allowing for the rise in population, the deaths in December were 973 above the average for the corresponding month of the last ten years, and the number is the highest recorded during any month since the Registration Act came into operation in 1855. The monthly mortality most closely approximating to that of the past month was in March, 1869, when the deaths numbered 3218. The details of the death-rate in different Scotch towns are most distressing. Aberdeen appears with a lower mortality than any of the other eight towns specified, and still the deaths stand at the high proportion of 28 per 1000. Leith has a mortality of 30, Edinburgh and Greenock 34, Perth 35, Dundee 38, and Paisley 40, while Glasgow reaches the frightful mortality of 49 per 1000. Thirty-eight per cent. of the deaths were of children under five years of age. This (1481) is the largest number of deaths of children which has occurred during any month since 1855; but the *proportion* is nearly the smallest which has ever been observed. Consequently, the excessive mortality must have taken place amongst individuals over five years of age. A large proportion of the deaths accrued from bronchitic affections during severe weather, which played sad havoc amongst the aged and weak. Epidemic and contagious diseases proved fatal to 24·8 per cent. Scarlatina was the most fatal epidemic, but fortunately it appears now to be on the decrease. November was less fatal than October, and December was still less characterised by mortality from scarlatina than November had been. Whooping-cough was, after scarlatina, the most fatal of epidemics; and a most noticeable item in the black roll of the past month was the large number of deaths from inflammatory affections of the respiratory organs—exclusive of consumption, whooping-cough, and croup the number was 1258, or 32·2 per cent. of the whole mortality. Bronchitis was the most fatal of pulmonary affections, causing, in Paisley, for instance, 31·1 per cent. of the whole mortality. In connexion with this high rate of mortality from pulmonary affections it is instructive to remember that the distinctive feature of this fatal December was the exceedingly low mean temperature, which in Scotland was 3° lower than in any previous December recorded under the Act, and more than 8° lower than the average of all recorded. Another important observation is that the mean daily range of temperature was 12·4°, being 3·3° greater than the average of the same month from 1856-73. It is to be hoped that after such a bleak December, and such a fatal sweep of the aged and infirm, Scotland, especially in the decline of a scarlatina epidemic, may be able to show a very much lower mortality in the next few months, and that such sanitary lessons as may have been suggested by the experience of the past month will be earnestly taken to heart, and acted upon with energy and success. A mortality of 49 per cent. in a city like Glasgow, with such a water supply as few cities can boast of, is a text requiring very serious consideration from all who are responsible in any way for the well-being of that great centre of industry. We are glad to see that it is taken to heart by the evidence afforded by Bailie Morrison, in a paper read by him at the Birmingham Sanitary Conference the other day. He ascribed the high mortality to the fact that nine-tenths of the population lived in houses of one, two, or three apartments, to over-crowding, and to factory emanations. Mr. Morrison affirmed that under a special Act, and by the direction of a committee of the Glasgow Town Council, the ratepayers pay about £40,000 per annum in their endeavour to better the working classes and lower the rate of mortality. It is gratifying to think that something is being done for the amelioration of the motley population which pours into the densely crowded districts of Glasgow—districts which are the natural receptacle for the misery of Ireland and the poverty of the Western Highlands, when that misery and poverty become so very bad as to be unbearable at home.

THE SUBACUTE SPINAL PARALYSIS OF ADULTS.

No. I.

At the present day, when so many eager investigators are engaged in the study of maladies of the nervous system, a good history of new and curious diseases in which special symptoms develope themselves is particularly welcome. The following is a record of an instructive and interesting case of a disease which Duchenne first described in 1853 under the name of "*paralysie spinale*," and to which he has given the title of "*paralysie générale spinale subaigué antérieure*" in the later editions of his work on Localised Electrisation. The account appears in the *Berliner Klin. Wochenschrift*, by Dr. Anton Frey, first assistant in Professor Kussmaul's Clinic at Freiburg. The disease in question resembles progressive muscular atrophy very closely in many respects, and yet differs from it in important points; especially in its more favourable prognosis. This is the first example reported of it in Germany, and we may safely assume that its symptoms are only known to a few persons in this country whose attention is specially directed to nervous diseases. We shall therefore give a rather full abstract of the case itself, as well as of Dr. Frey's comments on the disease and its relation to other forms of paralysis of spinal origin.

The patient, Caroline H., seventeen years old, was the daughter of a well-to-do peasant, and previous to her present illness had always enjoyed good health, with the exception of slight headaches during her school-days. Her occupation had consisted of light work in the fields in the summer, and of sewing, spinning, and knitting at home in the winter. Her mental and bodily development were in every respect such as would be expected at her age, and there was no hereditary tendency to diseases of the nervous system in her family. In March, 1873, she first noticed weakness in the joints of both hands, especially when knitting, so that her hands became tired after she had worked only a short time, and she had difficulty in bringing them into the position of hyper-extension which the act of knitting requires. Her general health was totally unimpaired, and she had not over-exerted herself in any way that would account for her symptoms. In the beginning of September the condition of the patient became rather rapidly worse: both hands became so weak that she was unable to work with them at all; the fingers were generally flexed on the palm, and she could only extend them towards evening, and then with great difficulty. Weakness next set in in both her arms, and increased so rapidly that she was soon quite unable to lift them above her head. In the latter part of September she began to lose power in both legs and in the muscles of the back. She became unusually tired after walking a short distance. She had great difficulty in mounting steps, and both knees trembled if she stood upright a short time. If she wished to lift anything from the ground, she was unable to raise herself, after stooping, without external support to straighten the trunk again. Her arms below the elbows were generally cold and livid, and both her legs were always cold, the feet of an intense bluish-red colour, and the soles in a state of cold perspiration. She sometimes had a feeling of formication and numbness in her arms and legs, but she never complained of actual pains in the paralysed limbs nor in the head or back. There were no abnormalities in the movements of the head, of the eyeballs, or of the tongue, and the functions of respiration and digestion were unimpaired. The rectum and bladder acted naturally, and her general health remained unaltered throughout. The patient could give no account of any symptom which would lend countenance to the idea that during the development of such wide-spread paralyses there had ever been any pyrexia present. By the end of September, 1873, the paralyses had reached their greatest extent, and for the next two months they

remained almost unaltered. During this time the patient began to notice a gradual wasting of her hands, especially of the muscles of the ball of the thumb and of the little finger. Simultaneously the muscles of the forearm and of the leg began to waste, but the arm, the thigh, and the trunk muscles remained almost unaltered. For this condition she sought medical advice in the beginning of December, and was galvanised for six weeks with considerable benefit. On January 15, 1874, she came under the care of Professor Kussmaul, in the Freiburg Hospital. She could now walk about a mile, could stand with greater ease, and could use her arms to feed herself and to do the rougher kind of housework; but she could not sew, spin, or write, owing to the loss of free movement in the fingers. The atrophy of the forearm muscles, and especially of those of the hands, was very striking, and on electrical examination all the muscles of the extremities were found to have considerably lost their excitability. Not even a flicker could be obtained with the strongest currents in some of the small muscles of the hand. The patient was ordered nourishing diet, and daily faradisation of the paralysed muscles, while the constant current was to be passed through the spinal cord. A careful examination, six weeks after her admission, showed that the muscles of the back on the left side were much smaller than those on the right; but the excitability of *all* the muscles of the back and of the scapula to the faradic and galvanic currents was found to be enormously diminished. The muscles of the forearm which were most affected by atrophy were the extensor communis, the extensor carpi ulnaris and radialis, the pronator teres, and the supinator longus, while the other muscles had suffered less. All the movements of the fingers were extremely weak, and even with the greatest effort the patient could not produce any perceptible movement in the needle of Duchenne's dynamometer. The feet and legs had suffered much less than the arms and hands. The calf of the right leg was one centimetre smaller than that of the left, but otherwise none of the muscles in either leg were markedly atrophied. The patient had some difficulty in performing the movements of abduction and adduction of the feet, but all others were executed with a tolerable amount of force. The electrical irritability of all the muscles of the legs and feet was found diminished, both to the constant and induced currents, but without being totally destroyed in any part. There was no diminution of sensibility to touch, temperature, or pressure. Electrical sensibility was, however, much diminished in the forearm and hand, and in the legs and feet. Reflex irritability was quite normal over the whole body. The temperature of both the upper and lower extremities below the elbow and knee was somewhat lower than natural, and there was slight cyanosis of the skin of those parts; and since the commencement of her illness the patient had had a great tendency to perspire about the feet. The patient was treated with the faradic and galvanic currents, and steadily improved. In the beginning of June she had a slight attack of rheumatic pains, attended with some swelling in several joints, but she was able to leave the hospital convalescent in the beginning of July, with scarcely a trace of muscular atrophy remaining.

THE WEEK.

TOPICS OF THE DAY.

THE subject of the proposed hospital at Hampstead was brought before the Guardians of the City of London Union at their last week's meeting. It was stated that Shoreditch, Holborn, Stepney, Hackney, St. Saviour's, and other boards of guardians had passed resolutions in favour of the action of the Asylums Board. Mr. Bengough remarked that Mr. Sarson, of Clapham, had stated that some property there which, prior to the establishment of the Stockwell Hospital, had been offered for £10,000, had since its erection realised £15,000. So much for the outcry at Hampstead as to the depreciation of property! A motion that "the Guardians of the City of London Union approve of the action of the Asylums Board in regard to the hospital at Hampstead," was carried by a majority of twenty-three to eight.

The Commissioners of Sewers of the City of London have considerately offered the parish of Clerkenwell the use of the City mortuary for a period of six months, upon certain conditions. This is no doubt a liberal offer on the part of the Commissioners of Sewers, and may be attended to some extent with convenience to the Clerkenwell Vestry; but it must be remembered that a mortuary, to be of real service to a district, should be situated as near as possible to the centre of that district. That a populous and influential parish like Clerkenwell should have placed itself in the position of receiving assistance from the City under such circumstances is not creditable to the Vestry.

The Radcliffe Examiners, Oxford, announce that the next examination for a Radcliffe Travelling Fellowship will commence in the Medical Department of the Museum, on Tuesday, February 9, at 10 a.m. Each candidate must declare that he intends to graduate in medicine in the University of Oxford, with the view of engaging in the practice of medicine, and to travel abroad with a view to his improvement in that study. Dr. Bradbury's Lectures on Pathological Anatomy, at Cambridge, commence on Tuesday, the 26th inst. The lectures of the Regius Professor of Physic begin on Monday, February 1. The Professor of Zoology and Comparative Anatomy will commence his course on February 18. Dr. Latham, Downing Professor of Medicine, will deliver his lectures on Materia Medica and General Therapeutics at Downing College, beginning February 2.

The President and Fellows of the King and Queen's College of Physicians, Ireland, have presented a petition to the Queen for a supplemental charter for that institution. After reciting the history of the College and various circumstances connected with recent legislation with respect to the educational bodies in the kingdom, they pray—

"1. That the supplemental charter, which they supplicate your Majesty to grant, should include an express recognition by name of all the now existing fellows of their College, and that power should be given to your petitioners and their successors to vote by ballot on all elections of fellows and officers.

"2. That it should grant to them the power of establishing an order, to be styled 'members,' to be elected in such manner and under such regulation as to collegiate rights, privileges, qualification, examination, and payment of admission fees as the College may from time to time direct by its by-laws.

"3. That it should give to the College power to appoint from time to time additional examiners, to take the place of any censors who may be unavoidably absent, or to assist the censors in the conduct of the examinations.

"4. That doubts having arisen as to whether the College could legally accept the resignation of any fellow or honorary fellow, your petitioners are desirous of obtaining an express recognition, or a grant of such a power, so that it should and might be lawful for them to accept the resignation of any fellow or honorary fellow who should have given due notice to them, in writing, of such his intention, and have given in, or transmitted to them, after the interval of not less than one calendar month from the receipt of such notice, the instrument of his resignation, in writing, under his hand and seal, duly attested.

"5. Your petitioners, believing that the possession of the powers of which they hereby solicit a grant would be conducive to the general good of their College and the more efficient discharge of the various duties imposed on them by their present charter, and by several Acts of the Parliaments of Ireland and of the United Kingdom, humbly solicit your Majesty to grant such supplemental charter to their College under its present designation."

To this petition a dissent, signed by five of the most influential fellows of the College, has been made. They object that

the power of election by ballot of fellows and officers should be granted to the College; and, secondly, they object that a new grade of members should be instituted without consulting the wishes and interests of the licentiates as well as those of the fellows. The dissentients argue that the introduction of the ballot would be attended by anything but benefit to the College and the profession. In support of this they quote the opinions of several high legal authorities. They contend that the institution of a new grade, styled members, would be especially inimical to the interests of the licentiates, who form a very large majority of the graduates of the College. In answer to this dissent, the President and Fellows have issued a counter-statement, in which they vindicate the proposition of vote by ballot, and the institution of a class styled members, as likely to promote the interests of the College and that of the profession. We have not space to enter into further details on this subject, but those who are interested in the matter may obtain, we have no doubt, by application to Dr. J. M. Finny, Fellow and Registrar of the College, in Dublin, an important series of papers which have been issued by the College.

Dr. Gairdner has published an interesting letter in the *Glasgow Herald* with reference to the relations which chemical vapours and fog had to the recent death-rate in that city. After referring to different opinions which prevail respecting the influence of manufacturing vapours on health, he makes the following remarks. We think Dr. Gairdner's letter so important and so practical that we offer no apology for reproducing a portion of it in our columns:—

"When dealing with this subject in 1869, under the pressure of what was then considered an extremely high death-rate—though very far short of that which has been lately announced to us—I came to the conclusion, after an elaborate investigation, that manufacturing vapours had probably some considerable influence in increasing the local death-rate from pulmonary causes during northerly and easterly winds; and in particular I pointed out that the purely climatic influences to which the Scottish Registrar-General had attributed the excess of mortality in 1869, had been almost inappreciable in their results in Aberdeen and Perth, and but slight in Edinburgh as compared with Glasgow and Greenock, although the first three cities are notoriously much more exposed to the merely chilling effects of those winds than the two last. I further remarked that 'among the *constant* sources of high mortality in Glasgow, diseases of the lungs are always prominent; . . . and that both in Edinburgh and Aberdeen we have examples of cities far more exposed to the influence of (northerly and easterly) winds in their pure state than Glasgow, and in which, nevertheless, the pulmonary death-rate is not only lower at present, but is persistently lower than with us.' These conclusions were expressed with all the care and scrupulous reserve imposed by the responsibilities of an official position; but is it not rather a striking commentary upon them, that now, in the midst of choking fogs such as every Glasgow citizen has personally experienced of late, we find the death-rate running up to over sixty in the thousand, far in advance of previous seasons in Glasgow itself, and far in advance, also, of every other city in the empire? To say that manufacturing vapours are the sole, or even the chief source of the mortality of Glasgow, would probably be an error; but to say that manufacturing vapours, when condensed by the state of the atmosphere into a fog that brought Egyptian darkness into our houses at noonday, formed a very serious aggravation of the causes of ill-health derived from the atmosphere alone, is nothing more than an obvious truth, to which the terrible figures of the death-rate announced by you this morning correspond in a remarkable manner. Now, if it be a fact that Glasgow and Greenock have habitually, or, indeed, all but constantly, the highest pulmonary death-rate in Scotland, is it not extremely probable that the vapours which, when condensed into a fog, bring about such death-rates as we have had lately, have something also to do with the *constant* excess of mortality from pulmonary causes in these cities?"

There has been a good deal of vacillation and temporising with delinquents on the part of many of our local authorities in enforcing the penal clauses of the Vaccination Act. We are therefore pleased to notice the fact that the St. Pancras Board of Guardians have determined to enforce these penal clauses in all cases.

Although the mortality in Jersey since the 1st inst. has been larger than at any previous period, no fresh cases of small-pox have occurred. Vaccination is being resorted to by those who were its strenuous opponents.

Dr. A. E. Sansom has been elected an Honorary Fellow of the Medical Society of the State of New York.

Dr. James Coombs has been appointed by the Lord Chancellor a magistrate of the Borough of Bedford.

A "PROVING" OF JABORANDI.

CONSIDERABLE interest has of late been excited as to the qualities, physiological and medical, of a drug imported from Brazil, where it is known as Jaborandi. Its exact botanical source is as yet unsettled. Various parts of the plant are in use, but probably the leaves or the bark will be found most convenient. Jaborandi is thus spoken of at Pernambuco, whence it is obtained:—

"It is a medical shrub known by us, but little used, notwithstanding its excellent virtues, as the medical men here prefer using foreign medicines. It is an excellent sudorific in the dose of one octave to a cup of infusion. It is a good sialogogue. The tincture is used as a friction on paralysed members."

It is now, however, undergoing a much more rigorous testing in University College Hospital, under the supervision of Dr. Ringer. By far the most interesting account of its action, however, as far as a healthy man is concerned, is given by Mr. Martindale, of University College Hospital, in the last number of the *Pharmaceutical Journal*. It is, in truth, a regular "proving" or physiological testing of the drug. Mr. Martindale writes as follows:—

"Having heard doubts expressed about the activity of the Jaborandi last received as compared with the results obtained in the first trials I witnessed at University College Hospital, I became somewhat sceptical about its efficacy, and, therefore, expecting to get little results, tried it upon myself. To me the effect seemed simply marvellous. I made an infusion of sixty grains of the bruised leaf in five ounces of boiling water, let it stand fifteen minutes, and strained it. On pouring the water upon the drug I noticed the characteristic odour almost entirely disappeared. The infusion was of a pale sherry colour, had a mawkish bitter taste, but did not excite the glowing heat upon the tongue that the leaf itself did. This I thought strange, and on tasting the dregs I found they still retained their pungent taste when chewed. It was evident to me that if its diaphoretic properties depended on the principle having this pungent taste, boiling water does not extract it. At 11.30 p.m., on retiring to rest, I swallowed as much of the dregs as I could, probably fifty out of the sixty grains used, and washed them down with the infusion. In five minutes I felt a glow, an increased circulation, an uneasiness in the head, became restless, and the secretion of saliva began to increase. At 11.45, a quarter of an hour after taking the dose, I was perspiring freely. The salivation and perspiration continued to be profuse until my sight became blurred. At a distance of four feet I could see my wife, but could not distinguish her eyes. On this occurring I became a little anxious, as I had evidently taken an overdose. I requested that Dr. Ringer might be sent for; he came about 12.15 a.m. The impaired vision still continued, but I was glad to find that it was only at a distance; near objects I could see distinctly enough. The pupils of the eyes were slightly dilated, I was informed. The pulse when first noted was 96, and got up to 104. The temperature was not taken. The depression was never very great, but a little before Dr. Ringer came I began to shiver, more clothes were put on the bed, and some spirit and water given to me. The excessive perspiration still continued from all parts of the body. A Turkish bath, which I have frequently had, and seen others have, was nothing to it; the saliva for a time required almost constant ejection; the secretion of this from the glands in the cheeks caused a kind of collapsed feeling

in them. My speech was so affected that articulation was both difficult and indistinct. Eventually, about 1 a.m., I was sick, and vomited at first a quantity of saliva which I had swallowed. Putting my finger in my mouth, vomiting was further excited, until a portion of the Jaborandi returned. The effects were now subsiding; more spirit and water was given to me; my nightshirt, soaked with perspiration, was changed. I was put into a warm blanket, and about 1.40 a.m. I fell asleep, and slept a quiet sleep till 6 a.m. The pulse on awakening was 88,—normally with me it is 80. I got up at about 7.30 a.m., and although I felt squeamish all next day, I was able to attend to business as usual. When the action was at its height, on uncovering my arm, I am informed the perspiration passed off in steam from my hand and night-shirt sleeve. The saliva collected, which was distinctly alkaline, measured sixteen ounces, in addition to which a quantity had flowed on to the pillow while I slept, as it was quite wet in the morning. I came to the conclusion that I should not like to pass through the ordeal again."

PROFESSOR TYNDALL AT THE ROYAL INSTITUTION.

The series of Friday evening discourses at the Royal Institution for the present year was commenced on the 15th instant, when Professor Tyndall delivered a lecture on "Some Acoustical Problems," to an audience which filled the theatre to overflowing. Professor Tyndall first showed, by means of shadows thrown by electric light, the presence of clouds of heated air around the flame of a candle, and of clouds of other gases which have been artificially mixed with the atmosphere. These clouds, invisible under ordinary circumstances, were termed "acoustic clouds" by the lecturer. A wave of sound meeting a cloud of carbonic acid gas would in part be transmitted through it (and that at a velocity which would be much reduced until the sound re-entered the air beyond, when it would be restored); and in part be reflected, causing an echo. Such reflexion being repeated at each of a layer of acoustic clouds, the entire wave of sound might be ultimately wasted. Professor Tyndall gave abundant and very successful demonstrations of these facts by the use of a musical reed and sensitive flames. The reflexion of sound from the cloud of heated air around a gas-burner, just as from a plate of glass or from the hand, was also shown by several experiments, and in a very striking manner the transmission of sounds through substances containing air, such as a handkerchief, muslin pads, thick felt, etc. The lecturer also demonstrated that the relative distance of the source of sound and the sensitive body from a reflecting medium between them is of the greatest importance in respect of the completeness of reflexion; and that the density of the reflecting medium is also all-important in respect of the time of reflexion—that is, of the duration of the echo. In application of these points, an acoustic cloud lying between two observing stations, but very much nearer the one than the other, might, if it were of sufficient density, reflect a sound proceeding from the nearer so completely and so soon that the echo would be blended with the primary sound—that is, lost,—and the primary sound would be inaudible at the distant station. On the other hand, a sound proceeding from the distant station would, on meeting the acoustic cloud, be reflected incompletely and after a long interval—that is, it would be heard at the nearer station, and its echo would be audible at the distant one. Professor Tyndall has thus been able to furnish a sufficient explanation of the obscure results of the experiments on the transmission of sound which were conducted half a century ago in France, when warm clouds from Paris must have formed an almost complete, although invisible, acoustic barrier between the stations of Montlhéry and Villejuif.

POISONING THROUGH CARELESSNESS.

We refrained last week from making any comments on the death of a young Frenchwoman, which took place lately at St. Thomas's Hospital from the effects of poison, as the inquiry before the coroner had been adjourned. As, however, the jury have now (after some deliberation) returned a verdict of accidental death, we may venture to remark on the extraordinary carelessness which the inquest in question has brought to light. The deceased was at a French hotel in Rathbone-place, and, not feeling well, requested the waiter to procure some rhubarb and some bismuth for her. He set out on his errand to a chemist in the same street; but the day being Sunday, both master and assistant were from home. The woman who opened the door, on ascertaining what he wanted, made no difficulty in serving him, and he returned to the Frenchwoman with the supposed articles she required. A short time afterwards she was found on the staircase, complaining that the medicine "burnt her." Becoming rapidly worse, she was taken to St. Thomas's Hospital, when it was ascertained that she had swallowed bichloride of mercury. Further inquiry elicited the fact that the woman, whose name is Kant, was in the habit of serving customers at the shop in Rathbone-place when nobody else was in the way. In the present instance she had gone to a drawer, and finding a bottle on which at a glance she saw the letters "bi," she had put some in paper, and given it to the waiter—thus actually supplying bichloride of mercury or corrosive sublimate for bismuth. A British jury is certainly at all times an incomprehensible body. On occasion they almost refuse to be convinced, and append terrible riders to their verdict; yet in the present instance, where a system was discovered to be in force for supplying medicines which had already resulted in one death, and might easily produce more, they are contented to record a verdict of accidental death, unaccompanied by even so much as a censure! It is, however, to be hoped that the public, for their own sakes, will give a wide berth to the shop in Rathbone-place—at least, on Sundays,—for, as it does not appear that any assurance was given during the proceedings before the coroner that the woman would not be permitted to retail medicines for the future, the next intending purchaser of a harmless dose of salts may find himself the unhappy recipient of a small stock of oxalic acid, to the further employment of both coroner and jury.

THE LONDON WATER-SUPPLY FOR DECEMBER.

In his official report to the Local Government Board, Major Bolton shows that, during the month of December, the state of the water in the River Thames at Hampton, Moulsey, and Sunbury, where the intakes of the West Middlesex, Grand Junction, Southwark and Vauxhall, Lambeth, and East London Companies are situated, was generally bad throughout the month. From the 1st to the 15th the state of the river at the intake continued to be very muddy and turbid, consequent upon the rains and floods; on the 8th it rose two feet seven inches, and on the 16th stood at two feet above summer level, during which time it was very turbid; on the 17th the water improved, and began to fine down. An examination of the river-book at the intake shows this to have been the worst flood that has occurred in the Thames for the past three years. At Ditton the state of the water in the river during the month in question was good on three days, indifferent on eight, and very bad on twenty. Whilst floods prevailed during the above period, the Chelsea Company were compelled to take in dirty water, and distribute such as they could get through their filter-beds, which was extremely turbid flood-water, imperfectly filtered; there was a considerable amount of solid matter in the water, and it was too fine to settle, the discoloration, being caused by the chalk and clay carried down by the floods. The constant supply, it appears from the report, is being gradually extended in different districts of the metropolis, the Kent Company now giving a constant supply to about 5450 houses, principally in Deptford and Plumstead. The West

Middlesex Company are giving constant supply to a number of houses on the application of the owners, and are fully prepared to extend this advantage as called upon. The Grand Junction Company have formed a high-service reservoir at Kilburn, to contain 6,000,000 gallons for constant supply. The Lambeth Company are also giving constant supply by means of stand-pipes in a number of courts and alleys. The state of the water at the intake at Ditton, when compared with the water at the intake at Hampton, shows the great disadvantage at which the Chelsea Company is placed as to the quality of the water it has to deal with.

DUBLIN HOSPITAL SUNDAY, 1874: DISTRIBUTION OF THE FUND.

The report of the Committee of Distribution was adopted at a meeting of the Council of the Dublin Hospital Sunday Fund held on Thursday, January 14. The total amount lodged in bank to the credit of the Fund was £3305 10s. 3d. From this were deducted the expenses incurred up to the present date—viz., £124 9s. 1d.,—and a sum of £181 1s. 2d. as a reserve balance for current expenses in 1875. An even sum of £3000 was then distributed as follows, the system of distribution being based on (1) the amount of subscriptions received by each hospital, and (2) the work done by each hospital during the previous year:—

	£	s.	d.
Sir Patrick Dun's	335	17	5
City of Dublin	1,160	17	2
Steevens'	312	0	4
Cork-street	121	3	3
Mercer's	387	18	10
Rotundo	407	1	10
Coombe	215	2	7
St. Mark's (Ophthalmic)	59	18	7
	£3,000	0	0

Two institutions which would have been entitled to a share in the distribution held aloof from the movement, and consequently failed to reap any benefit from it. These institutions were the Meath and the Adelaide Hospitals. Had they joined the movement the money would have been divided somewhat as follows:—

Not participating in 1874.

	£	s.	d.
Meath	435	7	11
Adelaide	668	3	4
Participating in 1874.			
Sir Patrick Dun's	200	0	0
City of Dublin	739	1	6
Steevens'	195	4	0
Cork-street	75	19	0
Mercer's	245	18	0
Rotundo	255	11	6
Coombe	135	18	9
St. Mark's	48	16	0
	£3,000	0	0

A special vote of thanks to the Honorary Secretaries of the Distribution Committee, Dr. T. W. Grimshaw and Mr. Thomas Pim, jun., was subsequently passed unanimously.

THE VENTNOR CONSUMPTION HOSPITAL.

The annual report of the Governors of the Royal National Hospital for Consumption and Diseases of the Chest, Ventnor, presented to the meeting held on Monday, shows that satisfactory progress had been made during the past year. Among the special gifts recorded were those of two memorial houses, one by the Baroness Meyer de Rothschild, and the other by the Earl of Strafford. The sixteen houses, of which the main portion of the hospital is to consist, have been erected, or are in course of erection. It is, however, found that two further blocks of subsidiary hospitals are needed. Mrs. Hamilton has contributed £1500 for one of these houses. The centre hall will be shortly commenced.

A "CAUSTIC" OFFENCE.

We find in a foreign contemporary an account of the trial of the resident medical officer of a large hospital, for assault. We purposely avoid quoting names, but we give the following account of the case, as it may serve as a beacon to any medical officer whose sense of morality and right leads him to take a too practical turn for the correction of immorality and wrong. A little child, six years old, who was a patient in one of the wards of the hospital, was reported in the ward to have committed a theft, whereupon the medical officer, by way of correction, and of making the child ashamed of her misdeed, branded her by marking the word "thief" upon her forehead with lunar caustic. The mother of the child, seeing this, at once removed her from the hospital, and an action for assault was instituted against the medical officer. The case was brought before the Attorney-General, but was remitted by him to be dealt with under the magistrate's ordinary jurisdiction.

The magistrate remarked that when patients are sent to a public institution like a hospital, it is for the purpose of medical treatment, and not for judicial punishment, nor to be sent out so that all the world may see their disgrace. There are other authorities for the punishment of such offences as theft; but if punishment is allowed to be inflicted in hospitals, the usefulness of these institutions would be destroyed. It is necessary that patients should know such a thing cannot be tolerated. He acquitted the medical gentleman of having done any intentional injury to the child, and he believed his act to have been merely thoughtless and indiscreet, but at the same time he felt it his duty to inflict the full penalty (though that was, he thought, too small for the offence) of £10 fine.

The medical officer stated that what he had done was not only not intended to injure the child, but that had the child not been removed from the ward, the stigma would only have been seen by those who were aware of the offence committed; and again, had the mother requested him to do so, he would have removed the marks before the child was taken out of the hospital. The magistrate, admitting the absence of any intended injury, and the previous uniform kindness and gentleness of the medical officer, yet still considered the act complained of required severe condemnation and punishment, otherwise people would lose all confidence in hospitals; and besides, he added, no one would like to see their child, even while in the ward of a hospital, disfigured by such a word as "thief" on its forehead.

THE NEW EDINBURGH UNIVERSITY BUILDINGS.

Some time ago the leading architects of Edinburgh were invited to submit competitive designs for the new medical buildings and college hall of Edinburgh University. It was specified that accommodation should be provided for 400 students of anatomy and chemistry, for 250 students in the classes devoted to physiology, materia medica, surgery, and practice of medicine, and for 200 students of pathology, midwifery, and medical jurisprudence. It was also required that the architects should submit plans of an anatomical museum, measuring 112 feet by 40, and 42 feet high. The dissecting-room was specified at 100 feet long, 40 feet wide, and 30 feet high. The new college hall will be built to contain 2000 people, exclusive of the platform and orchestra, which will accommodate other 200. The architects were limited to £70,000, exclusive of fittings, as an estimate of the cost of the new set of buildings. Several plans have been put in for competition, some of which are in the Gothic and some in different varieties of the Italian style of architecture.

These plans were submitted to a full meeting of the Acting Committee of the extension scheme, who were naturally unable to come to an off-hand judgment on a matter requiring

careful and studious consideration. They agreed to the appointment of two sub-committees: the one was requested to report on the ground plans of the respective architects, and to consult with and submit the written opinions of the medical professors regarding the arrangements suggested for the teaching of their special subjects; the second was asked to report on the merits of the designs for a college hall, and on the proposed disposition of the buildings without reference to external architectural effects. The method of procedure is very sensible, and it is to be hoped that the Edinburgh University will soon border the Middle Meadow Walk with such a pile of buildings as will be a new ornament to a city highly favoured both by nature and by art.

UNQUALIFIED PRACTICE IN THE EAST-END.

The evidence disclosed at an inquest held last week by Mr. Humphreys on the body of a woman aged fifty-three years, who died at 9, Hart's-lane, Bethnal-green, on Sunday week last, shows the necessity of some supervision in order to prevent unqualified practice. On the Tuesday previous to death deceased was seized with symptoms of peritonitis, and her husband took her to an institution in the Bethnal-green-road, which was advertised as the "Bethnal-green Dispensary," where she was attended to by a man and a lad. The fee charged was two shillings and sixpence per week. On the Thursday the lad called to see deceased, and remarked to her, "We shall soon pull you through; it is only an ordinary case." Notwithstanding this assurance, the poor woman died on the Sunday. On applying at the "dispensary" for a certificate of death, the husband was told by a woman that the doctor had gone to Scotland for a few days. The Coroner remarked to the jury that he had had several similar cases before him. He considered it a disgrace that the public should be so deceived. In the present case no name was placed over the door, and no one could find out the name of the party attending. At the Coroner's suggestion, the inquiry was adjourned, in order that an attempt might be made to discover the person who attended the deceased at the so-called "dispensary." It is to be hoped that the party will be discovered, and an example made of him as a warning to other pretenders.

THE POLLUTION OF RIVERS.

Hoist with their own petard, millowners and manufacturers on the banks of the Don have at last come to the Home Secretary to ask him to help them by prohibiting any further pollution of that lovely stream. The Don is unspeakably filthy, but not more, we should say, than some of the brooks running into it, or its neighbouring streams. However, the mixture of sewage, mill refuse, and other manufacturing waste has at last moved those dwelling near by, at least, to take some action. Should there be opposing parties, they might safely urge that in these streams one kind of refuse would neutralise the effects of the others, for a stream in which nothing that has life can exist is hardly a good forcing-house for typhoid germs. Two evils, however, do not constitute unmixed good, and so we heartily desire success to a scheme which aims at doing away with the horrible inky streams of these and even more picturesque regions. We also hear, however, of other river pollutions, the most serious of which is by arsenic. The manufacture of this material is, it seems, almost entirely confined to three or four mines in the south-west country, in Cornwall and Devon. The refuse of these, still containing arsenic, falls into the rivers, and so is conducted to the sea. The quantities produced are large, and there is no supervision, to a moderate degree of which the manufacturers would readily consent. Not long ago a west-country story showed how easily in such works poison could be obtained. Though happily the rage for poisoning seems to have for the time died out, it has in many a trial been of importance to prove the possibility of access to the drug; and as long as arsenic can be described as lying open to the public, it might be an inducement to some to use it.

THE HAMPSTEAD HOSPITAL.

The Sanitary Committee appointed by the Islington Vestry to report with reference to the proposed hospital for infectious diseases at Hampstead, presented the following report to the Vestry on the 15th inst.:—

"Your Sanitary Committee, pursuant to your references of the 8th inst., whereby it was referred to them to consider and report upon the communication received from Mr. Maurice Grant, the chairman of the Permanent Committee of Residents at Hampstead, inviting the co-operation of the Vestry in opposing the proposal of the Metropolitan Asylums Board to erect a hospital for infectious and contagious diseases on the threshold of Hampstead Heath, report that they have considered the objections to the project as contained in the letter so referred to them, and have viewed the site and neighbourhood of the proposed erection with the view of forming an impartial opinion on the merits of the controversy to which the proposal has given rise; and at a subsequent meeting it was resolved that the Committee, having considered the letter referred by the Vestry containing the views of the Committee of the Permanent Residents of Hampstead, and signed by their chairman Mr. Maurice Grant, together with the statement of the managers of the Metropolitan Asylums District, and the joint reply to the said statement of the several committees appointed by the Vestry, the guardians, the residents, tradesmen, and working-men of Hampstead, and other documents, and having this day viewed the site and neighbourhood of the projected hospital for infectious diseases at Hampstead, are unanimously of opinion that the fears and objections are without foundation; and that, on the contrary, the proposed site is most eligible and desirable; and that in procuring it, and in adhering to their scheme, the managers have acted solely in the interest of the public."

An animated discussion followed, and the report was ultimately adopted by a majority of forty-four votes to one.

TRANSPLANTATION OF THE CONJUNCTIVA OF THE RABBIT FOR THE CURE OF SYMBLEPHARON.

In December, 1872, Dr. Wolfe, of Glasgow, brought before the Medico-Chirurgical Society of that city an important paper on the possibility of transplanting the conjunctiva of the rabbit, and of introducing into the human tissues grafts from the lower animals, in cases of that most distressing and unsightly disease, symblepharon. As is well known, treatment of this most intractable condition has rarely been successful, and any means for remedying it are most welcome. Abroad, Dr. Wolfe's method has attracted great attention, and the latest contribution to its history has been two cases related by Carl Becker, of Heidelberg, one of the most distinguished ophthalmologists on the Continent, in the *Wiener Wochenschrift*. It is, moreover, to be noted that other methods had been adopted in these, and had proved unsuccessful. In one of Professor Becker's cases, too, he had a particularly bad subject—a tiresome, troublesome child. No wonder, then, that in this case a portion of the graft died; but enough remained to effect a cure. The success which has attended these trials by Dr. Wolfe and Professor Becker not only proves satisfactorily that animal tissues can be incorporated with human structures, but it opens out many suggestions for the future. It may not be always necessary to employ the tissues of animals to obtain our end, but success by such means gives, as Herr Becker says, happy auguries for the future.

DWELLINGS FOR THE POOR.

We are very glad to observe that Sir James Hogg, in his recent address to his constituents at Truro, stated that it is the intention of the Government to bring in a Bill in the next session for providing better dwellings for the poor in our large towns.

THE LIVERPOOL PRACTITIONERS ON THE CONTAGIOUS DISEASES ACTS.

The following address to the Home Secretary has already been signed by 161 of the medical practitioners of Liverpool; the signatures include the names of most of the leading medical men of the place, and of those holding hospital and other public appointments:—

"To the Right Honourable R. A. Cross, Her Majesty's Secretary of State for the Home Department,—It having been publicly stated that of the medical practitioners in Liverpool not more than twenty-six could be induced to sign a memorial in favour of the Contagious Diseases Acts, and that at the present time it would be impossible to find twelve medical men in Liverpool who are favourable to the said Acts, we, the undersigned medical practitioners of Liverpool, beg to express our approval of the Acts as at present in operation in seventeen garrison towns and ports in the United Kingdom, and to state that we are not in favour of a repeal of those Acts."

HEALTH OF LONDON.

During last week 1911 deaths were registered in London, showing an increase on the average of 191. The death-rate from all causes, which in the six preceding weeks had averaged 32 per 1000, declined to 29. The fatal cases of scarlet fever were still in excess of the weekly average. The deaths from small-pox also show a slight increase. The fatal cases of diseases of the respiratory organs numbered 631, an excess of 194 on the average; but they were 115 below the average of the three preceding weeks.

SANITARY REFORM.

The marked success of the Sanitary Conference at Birmingham has induced the Mayor to propose the establishment of a National Sanitary Association, to hold annual meetings in various large towns successively; each meeting to last several days for discussions on sanitary subjects, which may be conducted in different sections; and it is proposed that the first meeting shall be held in Birmingham in the autumn of the present year.

THE PATHOLOGICAL SOCIETY.

On Tuesday evening, at the new hour of half-past eight, the Society met, when the new President, Mr. George Pollock, took the chair. In his opening address he mainly dwelt on the subject of Annual Presidents. There were many of the original members who, under the present system of electing to the presidentship for two years, could never hope to reach this distinguished position. This, however, is an argument which cuts two ways, and requires careful consideration. A bad president does more harm to a society than a good one does service to it: society and president are closely correlated.

SCHOOLMASTERS AND HYGIENE.

It is of considerable importance to the country that schoolmasters and schoolmistresses appointed under the Education Act should have some knowledge of hygiene; but has this been insisted on as a requirement in the qualifications of candidates which its importance deserves? We think not. Suggestions have been made for teaching hygiene in our schools, but a knowledge of its principles should be one of the necessary qualifications of both sexes for these appointments.

SANITARY STATE OF WESTMINSTER.

The annual report of the Westminster District Board of Works states that the health of the district had been exceptionally good, and another year had passed without the hospital in Milbank-street being required. During the year 170 articles had been examined under the Adulteration of Food Act; and out of twenty-two prosecutions, fourteen convictions were obtained. Much sanitary work had been carried out with very satisfactory results.

AUTOBIOGRAPHICAL RECOLLECTIONS OF THE MEDICAL PROFESSION.

No. XXXII.

By J. F. CLARKE, M.R.C.S.,
For nearly forty years on the Editorial Staff of the "Lancet."

Medical and Legal Coroners—The Coroner's Court forty years since—Contest between Lawyers and a Doctor—Improvement in the Mode of Holding Inquests.

By the election of Dr. Hardwicke the other day, "the most enlightened constituency of the kingdom" has for the fourth time decided in favour of a medical *versus* a legal coroner. This fact is of much importance in more respects than one, as it will serve to direct public attention to the subject, and will act as an incentive to other constituencies to follow so wholesome an example. Previous to the first contest in Middlesex between the lawyer and the doctor—1830,—the Coroner's Court of Middlesex was presided over by two lawyers, one representing the eastern, the other the western, division of the county. One of these was far advanced in life, the other was in bad health,—neither of them being, in fact, fit for the arduous duties of the office. As at this period the Coroner had no legal right to appoint a deputy, it can easily be imagined in what manner the duties were occasionally performed; the only person who could assist the Coroner being his colleague. It is not too much to say that the "Crowner's Quest" had become a byword and a sneer. The proceedings were conducted in the most slovenly manner; the evidence was of the most superficial character; and the verdicts returned were often at variance with the facts adduced, and contrary to common sense. Whenever a coroner and a jury felt themselves in difficulty as to the real cause of death, a verdict was returned, "Died by the visitation of God." Anything more unmeaning or less calculated to further the ends of justice cannot be conceived. The law, however, was more immediately at fault than the coroner and jury, for the coroner had no funds at his disposal for the payment of skilled witnesses. The coroner and jury were consequently often left in darkness on the more salient points of a case. This state of things offered a premium to crime, and a shield to criminals. Public attention had been frequently directed to this fact, and the public mind had become uneasy. The Coroner's Court, too, at this time was a source of the greatest possible annoyance to medical practitioners. I can vouch for this from personal experience. Thus, in cases of suicide of the most ordinary character, such as by hanging, cut throat, or drowning, the coroner's officer was in the habit of summoning every medical practitioner who had been called to the case. I have been present at inquiries of this nature for a considerable time, together with five or six of my brethren, all detained most unnecessarily, most vexatiously, in a public pot-house until the close of the inquest. The summons was of the ordinary kind—the doctor was compelled to attend, wait, and give evidence, without any fee or reward. Under these circumstances, no one can be surprised that dissatisfaction prevailed amongst medical witnesses to a great extent. This dissatisfaction was increased by the fact that druggists were called in as if they were skilled witnesses, and on many occasions their evidence was not only received, but was opposed to that of qualified men, and to some extent influenced the minds of the jury.

This was the state of things when the *Lancet* was established, and did not improve afterwards. On the contrary, it would seem that one of the coroners, at least, whose increasing years and infirmities were obvious, made such ludicrous mistakes, and conducted the whole business of an inquest in such a manner that it became a "mockery, a delusion, and a snare." Mr. Wakley took advantage of this state of things to expose the deficiencies of "lawyer coroners," and articles constantly appeared in his journal, written in his best style. Many of these were quoted by the newspapers. The Coroner for the City and Liberties of Westminster was also a lawyer—a kind, good-hearted creature, but about as incapable for the duties of his office as might be imagined. Public opinion had been fairly roused as to the inefficiency of the Coroner's Court, and Mr. Wakley deter-

mined, on the occurrence of the first vacancy in the county, to offer himself as a candidate for the office. In 1830, by the death of Mr. Unwin, the Coroner for the Eastern Division of the county, this opportunity occurred. At the proper time Mr. Wakley announced himself as a candidate for the suffrages of the freeholders. This was a bold step, inasmuch as it involved a contest extending over ten days, attended with great expense; and from the fact that a lawyer candidate was previously in the field, and, as it was supposed, had already obtained a large number of votes. This opponent was Mr. Baker, a man of the highest honour and well known in the division. A more formidable opponent could not have been found. The difficulties of the position were augmented by the fact that every resident "freeholder" had a vote, no matter how small his freehold was. Indeed, at one time it was seriously debated whether the owner of a freehold grave was entitled to the suffrage. This question has never yet been satisfactorily answered. It has cropped up at all the elections since, but it was agreed by the candidates at the last election to waive the question entirely. But it will be seen that at the termination of the contest between Messrs. Baker and Wakley a number of "freeholders," by no means representative men, were brought up at the last moment, and virtually carried the election in favour of the lawyer. The polling went on for ten days from eight to four, and there was only one polling-place—viz., Clerkenwell-green. None of the contested elections for Middlesex and Westminster in former days attracted more attention than this election for Coroner in 1830. Of course the expense of bringing up voters from all parts of the eastern division of the county was enormous, and to this was added the payment to canvassers, clerks, agents, and public-houses.

At four o'clock each day the throng on Clerkenwell-green was immense, and it was calculated that on more than one occasion 25,000 persons were present. Wakley was undoubtedly the popular candidate, and was cheered to the echo by the mob, whilst Baker was hissed down, and was prevented from speaking. This was no great loss to the assembly, for he was a poor speaker, whilst Wakley was never more at home than when addressing such an audience. However, he was a manly opponent, deprecated all interruption of Mr. Baker, and repeatedly urged the meeting to give him fair-play. Unfortunately, his remonstrances were rarely listened to, and when they were, Mr. Baker cut but a sorry figure, and his remarks afforded his opponent grounds for witticisms and satire. Thus, one afternoon Mr. Baker was on the hustings as usual, and pointed to the number of votes polled. "Gentlemen," said he, "I am at the top of the poll—I am satisfied. I come forward with a good heart; I am borne on the shoulders of my constituents." In addressing the "freeholders" shortly afterwards, Mr. Wakley said, "Mr. Baker tells you he comes forward with a very good heart; no doubt he does; but, gentlemen, he wisely says nothing about his head. He is borne on the shoulders of his constituents. Ah! he cannot get further upwards than their shoulders. Why, if he has nothing but a good heart, you may as well have a calf for a coroner as Mr. Baker!" This and other similar good-natured witticisms always elicited immense applause from the unwashed. Henry Hunt was a warm supporter of Mr. Wakley, and several times made speeches in his favour. He was still popular, but had lost much of the humour and vigour of his "happier" days. Politics had less to do with this election than they had with the subsequent one, in which Mr. Wakley defeated the lawyer candidate by an enormous majority. Well, for eight or nine days the contest went on; the result was doubtful. Then Mr. Baker brought up what are called "the 'longshore men," who came in a body on the last day, and carried the election by a majority of 136, 7204 votes having been recorded. These 'longshore men were mainly composed of watermen, who had the right of using boat-houses on the river as shelter for their boats. These "houses" were "freeholds," and each person possessing the right of using them was, in the eyes of the law, so far as the election of coroner was concerned, a "freeholder." The result of this contest was to direct public attention to the duties of the coroner's office, and a manifest improvement was observed in them. The verdicts were not so frequently absurd, and in direct opposition to the evidence. Besides, Mr. Baker was a man of intelligence, and conducted the proceedings of his court in a very different manner from his predecessor. Still the discussion on medical coroners was kept alive by the *Lancet*, and it was evident that on the occurrence of another vacancy the medical candidate would probably be the successful one. In the meantime Mr. Wakley had been elected member of Parliament for the important metropolitan borough of Finsbury, and had had many opportunities of displaying his great abilities and his fitness for such an office as that of coroner for a large county. As soon after his entrance as possible he brought in a Bill for the payment of medical witnesses at coroners' inquests, and succeeded in carrying it almost intact, though he met with some opposition in quarters from which he had the least reason to expect it. It is not too much to say that by this Act a boon was conferred on the members of the medical profession of a value and importance it would be impossible to over-estimate. But the public were gainers also, for the Coroner's Court immediately assumed a position which it had never before occupied: the coroners became more careful, the jury more attentive, and the verdicts according to common sense and the evidence. I consider, so far as the profession is concerned, that Mr. Wakley's work, as associated with the Medical Witnesses Act, is the most honourable of his life. At length, in 1837, Mr. Stirling, the venerable Coroner for Western Middlesex, died at a very advanced age. Mr. Wakley again presented himself to the electors. At this time he had become a prominent member of the House of Commons, possessed considerable political influence, and was supported by medical practitioners of every shade of politics. He had, moreover, given evidence of his capacity for legislation, and it was believed that his mind was eminently judicial and unbiased; to this I cannot assent in its fullest extent. He was shrewd, quick, able as an examiner, and well acquainted with the laws of evidence and the main principles of medical jurisprudence; but he was apt to be prejudiced. But whatever his shortcomings as a judge, he did much to elevate the office of coroner, and make inquests worthy of being mentioned with respect, and not made the subject of ridicule. At first there was no opponent in the field, and it was thought that he would have only to "walk over the course." This anticipation, however, was soon dispelled. He had political enemies who were anxious to annoy him as much as they could, at the least possible expense. Accordingly, a day or two before the nomination, a Mr. Adey, a lawyer, I think of Gray's Inn, was put forward by Mr. Wakley's enemies to oppose him. It was clear to unbiased observers that the opposition was merely a sham, and should be treated as such. Unfortunately this was not the opinion entertained by Mr. Wakley, and he immediately took steps to meet the hobgoblin as though it had been a reality. It is somewhat remarkable that a man of his undoubted sagacity failed to see through the manœuvre; but he did not, or, if he did, he did not act upon reasonable principles. The moment Mr. Adey's address appeared, Mr. Wakley proceeded to hire all the available vehicles in the metropolis, including omnibuses, carriages, post-chaises, etc. He succeeded in securing the use of 800 of these various conveyances, and, no doubt much to the amusement and gratification of his foes, announced the fact in the newspapers. He, moreover, engaged the services of Mr. Croucher (the most eminent Parliamentary agent of the time) and a staff of clerks, agents, and canvassers, at a very great expense. This is more to be wondered at, as the former election had cost him many thousands of pounds, and it might be affirmed that he still felt the effects of that large outlay. But it may be said for him that he could not well have borne a second defeat: he had made up his mind to conquer, whatever the expense. He did conquer, but at a fearful cost. The poll was kept open by the friends of Mr. Adey, who was a mere puppet, to the full period of ten days, when it closed with the result of giving Mr. Wakley 2015 and Mr. Adey 582. No sooner was Mr. Wakley installed in office, than he carried out his long-cherished views of making the coroner and his court respected. He examined witnesses in a manner which astonished his legal colleagues throughout the kingdom; and he sifted evidence and summed up with an ability which might have been envied by the lawyers. Moreover, he abolished at once and for ever the unmeaning verdict of "Died by the visitation of God," and insisted in all cases that the "cause of death" should be ascertained and registered by the verdict given. Of course, as he set the highest value on medical evidence, he more frequently than others called in the assistance of medical witnesses. This soon raised up enemies, and gave rise to events which embittered his life, and the effects of which unquestionably shortened his days. But more of this presently. He soon had occasion to show his courage and decision of character. He had to hold an inquest at Hendon, and requested the clerk of the parish to

hand him over the keys of the vestry, in order that he might carry on the proceedings in that building. The rector, the Rev. Theodore Williams, one of the magistrates of Middlesex, positively refused to allow the Coroner to have the keys. Knowing that he had a perfect right to them, Mr. Wakley without delay sent for the village blacksmith, and ordered him to break the vestry-door open with a sledge hammer. This he was proceeding to do, when the Rector, probably getting alarmed, handed over the keys to the coroner's beadle, and the inquest was held in the vestry-room. This little incident had a marvellous effect in many ways, and it stamped the new coroner as a man not to be trifled with. But it laid the foundation of an animosity against him by Dr. Williams, which was exemplified for years in every way that was found practicable, but notably at the meetings of the magistrates when the Coroner's account came under discussion. Mr. Wakley had long before his election been strongly of opinion that it was unjust to an accused or suspected person to receive evidence against him in his absence; he accordingly made application to the police authorities to allow any such person to be present at the inquiry. This was invariably refused by the police; but the Coroner, satisfied that he was right, appealed to the Home Secretary on the subject. Only one Home Secretary of the many he addressed during his long official career granted his request. I think Sir George Grey was this exception; but his conduct was so canvassed, by the upholders of the "red-tape" system, that he was eventually obliged to rescind his order. Dr. Lankester on more than one occasion followed the example of his predecessor, but was unsuccessful. Jury after jury have made the same request, but without avail. The time will come, I think, however, when this act of justice will be done.

One of the most memorable inquests held by Mr. Wakley was on the body of a soldier named White, who, after a severe flogging, fell a victim to the lash. The evidence went to show that the man succumbed a few days after the infliction of the punishment. Mr. Erasmus Wilson made a post-mortem examination by order of the Coroner, and gave his decided opinion that death resulted directly from the flogging. After a protracted inquiry, and the display of much feeling, particularly on the part of the officers of the regiment to which deceased belonged, the jury brought in a verdict to the effect that he had died directly in consequence of the punishment. The result was the suppression of severe punishment by "the cat" in the army, and a complete modification of that mode of punishment.

In my next I shall enter into the question of the claims of the doctor and the lawyer to be appointed coroner.

THE BIRMINGHAM SANITARY CONFERENCE.

(*From our Special Correspondent.*)

On Thursday, the 14th inst., a Conference on the Sanitary State of the Kingdom, convened at the instance of Mr. Joseph Chamberlain, Mayor of Birmingham, was held at the Exchange Assembly-rooms, New-street, Birmingham. The Mayor presided, and was supported by Sir Sydney Waterlow, M.P., Sir C. Reed, Mr. George Dixon, M.P., Dr. Buchanan (Local Government Board), Dr. Acland, Dr. Humphrey Sandwith, Mr. Alderman Avery, the Rev. T. B. Pollock, Dr. Balthazar Foster, Bailie Morrison, Dr. Fergus, Mr. W. J. Cooper, and many other medical officers of health and sanitarians. One hundred corporations and local boards of health were represented by their mayors, chairmen of their health committees, or their borough engineers or medical officers.

The proceedings commenced a few minutes after ten o'clock with an address from the Mayor of Birmingham. He said that his primary object in convening the meeting was to endeavour to create a sound public opinion in reference to the question of sanitary improvement. Constant reiteration was necessary to bring the public mind to a proper sense of the relative importance of the question. Sanitary defects which prematurely carried off hundreds of thousands were regarded as commonplace, and we adopted a kind of fatalistic argument that we could do nothing because these things had always prevailed. There were hundreds of so-called sanitary districts in which the same results that had arisen at Over Darwen might at any moment take place, so defective were our sanitary regulations. He deprecated the practice of throwing the blame of our sanitary evils on the local sanitary authorities, as it was suicidal to bring into contempt the machinery by which alone the object in view could be carried out. There was still a considerable divergence of opinion with respect to many branches of sanitary science; and he trusted that the Conference would give sanitarians a firm foothold on which they could take their stand, and help them to a solution of some of the problems which were perplexing them. It was difficult to formulate the enormous waste of life which was always going on, and the frightful consequences in a moral and pecuniary respect resulting from it. When he found that the rates of mortality varied from 14 per 1000 to 38 and 40 per 1000, he could not doubt that the higher rates were abnormal, and could be reduced by proper sanitary regulations. It was calculated that, for every person who died, six persons might be assumed to suffer from illness, and the loss to the country of each of these sick persons was estimated at from 10s. to 20s.; but assuming it to be only 10s., the loss to the country from the 100,000 preventable deaths annually taking place would be two millions sterling per annum. The preventable deaths in Birmingham were 3000 per annum, and the annual loss to the town was £54,000 from this cause. The evils he had spoken of were the dreadful causes of misery, pauperism, intemperance, and crime. In innumerable homes, common decency was an empty name—people brought up like beasts behaved as brutes, and we were urging the use of the lash as a humanising influence to repress those instincts which our neglect had allowed to develope. There was great risk in the continuance of the widening contrast between the immunity and happiness of wealth, and the deepening squalor, wretchedness, and misery of large classes of the population. Something should be done quickly to make life brighter for those who groaned under their extremely heavy burdens, if our boasted prosperity was to rest on its only sure foundation—the happiness, welfare, and contentment of the whole community. After this address, which was much, and deservedly, applauded,

Dr. Alfred Hill, Medical Officer of Health for Birmingham, read a paper describing the Sanitary Condition of Birmingham. The average death-rate was 25 per 1000. There were 41 per cent. of houses in Birmingham having no opening to the top windows, and 42 per cent. without back doors. The water, as examined by him, was full of impurity.

Dr. Davies, Medical Officer of Health for Bristol, described the measures taken at Bristol for isolating the Fever and Small-pox Patients in special hospitals provided by the Corporation. The hospitals had been more or less in operation for four years, and although they had accommodation only for forty patients, they had more room than was required for the population of 200,000 people; both hospitals were often empty for weeks and months, and at the present time there was only one patient in them—a small-pox patient imported from Birmingham.

Dr. Goldie then read a paper on the Sanitary State of Leeds, and

Mr. Deakin, Borough Engineer of Liverpool, read, for Dr. Trench, a paper on the Evils of Overcrowding.

Mr. Schofield read Dr. Lee's paper about the Sanitary Condition of Manchester, in which it was stated that the average age at death of the Manchester gentry was thirty-eight years, whilst the average age at death of the labouring class was seventeen; and for every 100,000 infants under five years of age living in favourable districts, 11,800 died.

Dr. Balthazar Foster then gave a very able paper on the Comparative Mortality of Birmingham and other Large Towns. He stated that Birmingham is the worst great town in England as regards diphtheria. The death-rate from diphtheria had gone up from ·07 to ·34 per 1000 in the last ten years. Diphtheria—a class of disease eminently preventable—when first studied in France was referred to the poisonous effluvia from decomposing sewage. This view has again of late been greatly strengthened, and there is a strong opinion that diphtheria is especially a disease which is very closely connected with defective drainage. In Birmingham it has apparently taken up permanent quarters, and must consequently have found some local conditions especially favourable to its development and propagation. Diarrhœa is a much older enemy, and has long prevailed in Birmingham. Sewage-polluted earth, tainted air, and impure water are the great factors of diarrhœal disease. The middens of Birmingham, which cover an area of thirteen acres and a half, and contain fæcal matter and solid and liquid refuse, are open to the air.

Some of them are beneath houses and workshops, and built against the walls of houses, which are permeated with the filthy liquid soaking through the walls. The consequence is that the sewers are constantly fouled by the drainage from the middens, and that the surface wells generally become the receptacles for sewage matter, with which the earth surrounding the middens is absolutely saturated.

In the discussion which then followed,

The Mayor of Portsmouth said that Portsmouth had the lowest death-rate of any town, it being on an average 14 per 1000. He attributed this low death-rate to the situation of the four towns which constituted the district, and their being intersected by the old fortifications, thus securing plenty of open space; and also to the rigid enforcement of the by-laws regarding the erection of new buildings in that respect. Portsmouth was situated on a bed of good gravel, and had an excellent supply of pure water.

The Mayor of Dudley remarked that the unsatisfactory state of sanitary matters was in a great measure due to the total ignorance of their powers on the part of the governing bodies. There were the Acts, a rigid enforcement of which would remedy the evils complained of. He thought that the representative of each ward in a district should be responsible for the sanitary condition of the ward.

Dr. Humphrey Sandwith said that millions of people in London were provided with nothing better than sewage-water to drink, and quoted Dr. Frankland's last report on the state of the London water-supply in support of his statement. He also condemned the sewers of London, which he said were miles of cesspools.

Alderman Tatham, of Leeds, gave an account of experiments made in ventilating the sewers. He had found from experiment that a large number of small openings were preferable to a small number of large ones. He thought that the people might do much for themselves in ameliorating their sanitary condition. If every drop of intoxicating liquor was poured down the sewers, instead of down the throats of the people, much good would be effected.

Mr. Challinor, of Leek, stated that improvement in the water-supply had reduced their death-rate to 15 per 1000.

Dr. Hind, of Sheffield, said that recent investigations in Munich had shown that when the water rises in wells typhoid disappears, and prevails when the water in wells diminishes in quantity.(a)

Dr. Ferous (President of the Faculty of Physicians, Glasgow) said he was anxious to make towns as healthy as rural districts. He attributed the increase of diarrhœal and diphtherial diseases to the extension of the water-closet system, and produced statistics to support his views. He considered that the only solution of the difficulty, which he believed would increase, was to prevent all excretal matter from getting into the sewers. Dr. Fergus then exhibited lead pipes eaten through by the corrosive effects of sewer gas. He also exhibited diagrams showing how sewer gas passed through the water placed in the traps to prevent its escape into houses connected with the sewers.

Dr. Buchanan made a few remarks, which concluded the morning sitting. At half-past one the Mayor adjourned the Conference until three o'clock.

At three o'clock the adjourned sitting was resumed, when a paper was read by Mr. Martin.

Sir Sydney Waterlow, M.P., read a paper on "Improved Dwellings for the Working Classes." He said that such dwellings must be established on sound commercial principles, but that at any cost we must clear out the courts, dens, and alleys in which people were brutalised by overcrowding.

Bailie Morrison (Chairman of the Committee of Management of the Glasgow Improvements Trust) read "Some Remarks on the High Rate of Mortality in Glasgow." The improvements going on in Glasgow involve the demolition of 10,000 houses. The gradual displacement of the population has been accomplished without cases of individual hardship occurring. The diminution in crime since the improvements were inaugurated is remarkable. In 1867, 10,899 crimes were reported, as against 7869 in 1873. Total thefts by unfortunates in 1867, 1192; in 1873, 264. Under ordinary circumstances crime would have increased, as about 60,000 have been added to the population since between 1867 and 1873.

A discussion was opened by Sir Charles Reed (Chairman of the London School Board), who said the evils of overcrowding had always impressed him. The gigantic work of national education would be altogether frustrated if sanitary improvements were not enforced in the dwellings of the poor. Peril and danger and contamination surrounded children in their homes. He suggested the adoption of a declaratory resolution that in the opinion of this meeting immediate action should be taken to improve the present unsatisfactory state of the dwellings of the poor.

Mr. Walton read a description of some Improved Dwelling-houses.

Dr. Acland said that he was convinced, when he was a member of the Government Commission on Sanitary Legislation, that no Act would work satisfactorily unless the people themselves would cordially participate in the movement, and that was still his firm conviction, and he hoped that meetings like the present might conduce to that result.

Dr. Taylor (Chairman of the Liverpool Health Committee) stated some facts with regard to the action which the Corporation had taken in order to relieve the Borough of Liverpool from the insanitary condition in which it had unfortunately been involved, and he hoped that their continued exertions would improve their present disastrous condition.

The Rev. Mr. Pollock, of Birmingham, said that in the district in which he lived the soil on which the majority of dwellings were erected was no better than manure; that the water pumped from the wells was mere sewage; and so foul was the state of the earthy matter surrounding some of the pumps, that when stirred or agitated the owner of the dwelling had to rush into the house and shut the door, to get shelter from the overpowering stench. He thought that all the pumps should be shut up.

Dr. J. B. Pritchett, of Huddersfield, read a paper "On Hospitals for Isolation and Treatment of Zymotic Diseases."

Mr. G. Dixon, M.P., proposed a vote of thanks to the visitors.

Alderman Avery seconded the motion.

Sir S. Waterlow responded, and proposed a vote of thanks to the Mayor of Birmingham for convening the meeting and presiding.

Sir C. Reed seconded the motion.

The Mayor returned thanks, and the meeting terminated at half-past five.

The Conference on Sanitary Reform, convened by the Mayor of Birmingham, met on Thursday, the 14th inst., in the Exchange Assembly-rooms, at ten, and was largely attended. Among those present were Mr. G. Dixon, M.P., Mr. J. R. Hill, M.P., Sir Charles Reed, Sir Sydney H. Waterlow, the Mayors of Carlisle, Plymouth, Swansea, and some other towns, Mr. Bailie Morrison, Drs. Acland, B. Foster, Fergus, Hill, Kenyon, Lloyd, Wade, Symes, Goldie, G. Buchanan, and Davies.

The Mayor (Mr. Joseph Chamberlain) opened the proceedings at ten o'clock in the morning. After thanking the eight or nine hundred ladies and gentlemen who had accepted his invitation, he expressed his pleasure at the representative character of the Conference, and his hope that it would only be introductory to still more important meetings of the same kind, either there or in other large towns. He then stated that his object in convening the meeting was to endeavour to create a sound public opinion in reference to questions of sanitary importance. While such strong impressions were made by railway accidents and shipping disasters, people appeared to think that nothing could be done to lessen cases of preventable disease, which carried off hundreds of thousands of persons, because such cases always had occurred and were constantly occurring among them. An exceptional incident, like the great pestilence which had devastated the town of Over Darwen, drew public attention to the matter; but as soon as the cause was removed they fell back into their original apathy, and, except in the district particularly in question, nothing was done to prevent the recurrence of similar disasters. And yet, he ventured to say, the mortality in the case of Over Darwen was a mere accident, and there were hundreds of sanitary districts in this country in which precisely the same results might arise at any moment through defective sanitary arrangements. He did not believe that the ordinary public were at all aware of the enormous waste of life always going on in their midst from preventable diseases, or of the frightful consequences—sanitary, moral, pecuniary—which resulted from it. Those diseases were

(a) This is not new, the same thing having been observed by Sir John Pringle in 1741.

produced by filthy, crowded, ill-ventilated, uncomfortable homes; and those homes, in their turn, drove the population to public-houses and worse places. They wanted at that Conference to learn, from those practical men who had devoted their lives to the subject, how best they might secure the cordial co-operation of the people in their efforts for their advancement and welfare.

Dr. Hill then read a paper on the Sanitary Condition of Birmingham. He pointed out that Birmingham, which used to be the most healthy of manufacturing towns, had recently rapidly fallen in the scale, and its mortality had been alarmingly high, especially from zymotic diseases. This latter class of disease had, in fact, amounted during the last year to nearly 30 per cent. of the total deaths. Birmingham enjoyed many advantages which ought to make it one of the most healthy towns in the kingdom; high elevation, a sloping and undulating surface, a sandy or gravelly soil, a large acreage, absence of cellars and attic dwellings, great diversity of trades, absence of any great development of the factory system, and immunity from the immigration of destitute, sick, and infected persons. Those great natural advantages had, however, been too much relied upon. Ignorance of the conditions of health, indifference, impatience of increased taxation, and false economy had for many years combined to hinder and prevent those sanitary measures necessary for communities, and without which the most favourably endowed spot on earth could not fail to become filth-sodden and unhealthy. Dr. Hill then proceeded to speak of some of the difficulties and disabilities under which the town laboured. He condemned the construction of houses back to back, and advocated the ventilating of sewers, mentioning the various systems best calculated to effect that end. He gave some advice as to the mode in which water-closets should be fixed so as to prevent sewer gases escaping into dwelling-houses, his principal point being that they should either be detached from the house or cut off from the rest of the dwelling by double doors and passages with a cross-ventilation. He further pointed to the surface-wells as a fertile source of disease, and recommended that water should be obtained from large reservoirs at great distances from large towns, or from those great subterranean storehouses of pure water which could be reached by deep boring.

Dr. Davies, Medical Officer of Health for the Urban Sanitary Authority of Bristol and Clifton Union Rural Sanitary Authority, read a paper upon the Sanitary Condition of Bristol. He pointed out that the first indispensable means for the preservation of health in large communities was the adoption of measures for the complete and constant removal of sewage. The next important object was an ample supply of good water, derived from a source inaccessible to human contamination. His experience led him to believe that all water derived from wells situated in the midst of or near to human dwellings sooner or later became contaminated, and water drawn from such sources was the most constant and most dangerous means of diffusing the seeds of typhoid fever. Chemical analysis might, and often did, prove sewage contamination; but he had known instances in which it had failed to do so in the hands of two of the most able and experienced provincial analysts in England, although he was convinced that the water referred to was the means of diffusing the seeds of cholera and of typhoid fever, proceeding from the intestinal canals of patients suffering from those diseases. Actuated by this belief, the Sanitary Authority of Bristol had recently shut up most of the public wells. The next important requirement of a large town was proper hospital accommodation for the isolation of patients suffering from infectious diseases. To appoint a medical officer of health to any community without such accommodation was worse than Pharaoh's command to the Hebrews to make bricks without straw. He mentioned also certain appliances, apparatus, and other means which were essential to the sanitary management of large towns and their most important sanitary requirements—namely, sufficient and proper house accommodation for the working classes. It was only by supplying the masses of the people with well-ventilated and dry houses that any tangible effect on the mortality from phthisis or tubercle of the lungs could be produced. He considered that overcrowding, by which people were made to breathe and swallow each other, was the principal means of spreading infectious diseases.

A paper by Dr. Trench, of Liverpool, was next read on the sanitary condition of that town. He traced the course of overcrowding there to the suddenly increasing population at the earlier part of the century, brought about by the increased trade of the place; and he described the principle and machinery of the Act obtained by the Town Council in 1864 for the improvement of its condition. And he then observed that objections might be made to the policy and principles of the local Act; that it was contrary to justice and the doctrines of political economy to improve private property at public expense; that no portion of the ratepayers' money should be expended without the control and permission of their representatives. But it must be remembered that though, perhaps, the houses ordered to be demolished were not unfit for human habitation, yet their demolition was required, because, by reason of their situation, they blocked up the entrance to courts and impeded the circulation of air to blocks of buildings. The real impediment, however, to the beneficial working of the Liverpool Act, and, indeed, to all similar efforts to open out crowded districts in other towns, was found in the imperfect provisions of the Local Government Act, 1858. After pointing out what these imperfect provisions were, he said that what was needed was that, before local authorities spent money to improve the sanitary condition of the houses of the labouring class, steps should be taken to secure an alteration in this Act. He particularly instanced the 34th section, which gave power to local authorities to make by-laws with respect to the sufficiency of space around buildings; but such by-laws could not apply to buildings erected before the passing of the Act. It was, therefore, necessary that local authorities should have power to frame by-laws for securing space around buildings, whether the premises in question were built prior to the passing of the Act or not.

A rather lengthy paper was then read by Mr. Scholefield on the Dry System of Sewage more generally carried out at Manchester, and on the measures adopted to effect the sewering of the town without contaminating the water running through the district.

After that, Dr. Balthazar Foster gave a very interesting tabular statement of the rate of mortality per 1000 inhabitants, from all causes and from certain special causes, in Birmingham and six other large towns, as compared with the rate of mortality in England and Wales, and in twelve healthy rural districts, during the twenty years 1851 to 1860, and 1861 to 1870. It was shown that Birmingham stands higher in the health scale than Liverpool, Manchester, Leeds, and Sheffield, but lower than London, and that its death-rate from all causes exceeds that of the whole country by about 4 per 1000. As to the fever death-rate, the table showed that it stood well, being very nearly as good as that of London for the twenty years, and for the last decade lower than the average for the whole country. But the diarrhœa death-rate was twice as bad as the average of the whole country, and was only exceeded by Manchester and Liverpool. Taking the proportion between deaths from diarrhœa and deaths from all causes, Birmingham was surpassed only by Liverpool; and bearing in mind that Liverpool had suffered from cholera epidemics, it could not be said that Birmingham was much healthier even than Liverpool in respect to the mortality from diarrhœa. Birmingham was the worst great town in England as regarded diphtheria, the fatality of which had increased five-fold in the last ten years. Comparing Birmingham with other towns for the years 1851-60, it was the worst but two as regards the proportion of zymotic deaths to deaths from all causes—these being from "preventable diseases," which admitted of being very largely stamped out. Every year there were now some 2000 deaths from this class of disease, and during the twenty years over 30,000 persons had died from disorders largely reducible by strict sanitary measures. Diarrhœa and diphtheria were eminently preventable, as they were caused by bad drainage and impure water. The obvious remedies were two—the abolition of the midden system and of the surface-wells.

A discussion ensued, in which the Mayors of Carlisle, Portsmouth, and Dudley took part, explaining the sanitary defects of their respective towns, and the remedies which were being adopted.

Dr. Fergus (Glasgow) delivered an address "On the Causes of Zymotic Diseases"; and after a few remarks from Dr. Buchanan, of the Local Government Board, the Conference adjourned.

In the afternoon the Conference was opened by the Mayor, who read a paper, compiled by Mr. Martin, of Birmingham, "On the Dwellings of the Poor, and the Importance of obtaining Thorough Ventilation, supplies of Pure Water, and the Isolation of Houses from Town Sewers."

Sir Sydney Waterlow then read a paper "On the Dwellings of the Poor." He spoke of the example set by Lady Burdett-Coutts and the late Mr. Peabody, and of the work being done now in London by the societies and associations for providing healthy dwellings for the working classes. It might be assumed, he said, that they have now provided accommodation for about 30,000 or 35,000 persons: but that number does not exceed the increase of the population of the metropolis in a single year. He stated that in the beginning of 1873 several meetings were held in London for the purpose of considering the question, and some general conclusions were arrived at. One—and a very important one—being that the poorer classes must be provided with habitations near their work; another, that the municipality in each town, acting through the instrumentality of commercial enterprise, was the best agency for carrying out the work with a due regard to the physical and moral welfare of the people; and a third, that individual or associated enterprise cannot successfully undertake the work in the interior of large cities without the aid of some equitable compulsory powers, to be imposed by the recognised local authorities. The public mind was, he observed, now fully aroused to the great importance of the question, the Government were prepared to take action, and it was clearly their duty to give the Home Secretary all the external support they could.

Mr. Bailie Morrison contributed a paper on the high rate of mortality existing at Glasgow, and which it was urged arose, first, from the fact that Glasgow was a labouring community, where nine-tenths of the population lived in houses of one, two, or three apartments; secondly, from the impurity of the atmosphere arising from public works, etc.; thirdly, from the density and overcrowding of the population; and, fourthly, from the large infant mortality consequent, in all probability, on the neglect, vice, or ignorance of the parents. He described the work that had been done in Glasgow for the improvement of the dwellings of the poor since the passing of the Act of Parliament in 1866; and he advocated the erection of lodging-houses in all large centres of population for the accommodation of the lower classes of the people. In 1870 two such houses were erected in Glasgow, with every attention to cleanliness and ventilation, at a charge of 3d., lately increased to 3½d. per night, including the use of a large cooking-range. By this means many of the worst classes of the loose floating population were comfortably housed every night.

Sir Charles Reed (Chairman of the London School Board) said that we are on the eve of a great national movement in connexion with this question. It was understood unmistakable that Government was prepared to look closely to the interests of the people in reference specially to the habitations of the poor, and, therefore, a more appropriate time than the present for speaking without hesitation upon the question could not have been selected. And he called the attention of the Conference especially to the moral and educational questions affected—the blighting of the purity of the youth of the country, and the scattering of the seeds of moral poison throughout the community. The gigantic work undertaken by the nation in reference to the education of the children of the poor in their elementary schools would be altogether frustrated and set at naught if the people did not simultaneously make a movement in reference to the habitations in which they lived. He could conceive of nothing more destructive to their work than the circumstances of peril, danger, and contamination which lay around the children during the hours they were in what were called "homes." They had these children at school but a very few hours in the day; the rest of that day they spent in places not fit to be called homes. It was hopeless to attempt to train them in virtue and religion unless they were put in a better position. He wanted to ask Sir Sydney Waterlow and others whether they were considering the interest of the very poor as they were considering the interests of the skilled labourer. The skilled labourer, who earned good wages, no doubt could for 6s. or 7s. per week have his three rooms and live very comfortably; but what was becoming of those on the verge of pauperism—persons who were most respectable in their spirit and early training, and yet had fallen so low? He suggested the advantage of doing something towards a recast of the system of common lodging-houses for these persons. He found that the great difficulty which the poor had was in getting to live near their labour.

Mr. Walton read a paper, prepared by Mr. William windlehurst (Secretary of the Artisans', Labourers', and General Dwellings Company, Limited), which enumerated the works carried on by that Company in the opening up of crowded districts in London, Liverpool, Gosport, and other towns, and the improvement which had been observable in the mortality returns issued in connexion with those "estates."

A discussion then ensued, in which Dr. Acland (Oxford), Dr. Taylor (Liverpool), and the Rev. T. B. Pollock (Birmingham) took part.

After the reading of the statistical paper by Dr. Pritchett, on "Hospitals for the Isolation and Treatment of Infectious Diseases," a vote of thanks to the visitors, moved by Mr. Dixon, M.P., was acknowledged by Sir Sydney Waterlow.

FROM ABROAD.

Medical Ophthalmoscopy.

M. Bouchut, who was one of the earliest to point out (having first published a paper on the subject in the *Gazette des Hôpitaux* for 1862) the great importance in practical medicine of the indications derived from the ophthalmoscope, gives, in the *Gazette des Hôpitaux* of January 5 and 7, what he terms a *revue cérébroscopique* for 1874. In this he furnishes brief analyses of the various cases in which he employed this instrument at the Hôpital des Enfants Malades during that year, and which were very numerous and varied in their nature. He terminates his retrospect with these general observations:—

"It is thus seen that the number of diseases for the diagnosis of which the ophthalmoscope has been useful is very considerable. In some of these it has by itself alone made the diagnosis, so that it is an instrument as indispensable to the physician as to the oculist.

"All diseases of the brain and spinal cord, and all the nervous affections termed neuroses, because they are regarded rather as functional than organic, ought to be investigated by its aid. When by its assistance the physician discovers a lesion of the optic nerve, of the retina, or of the choroid, in a case presenting convulsive, choreic, paralytic, or spasmodic nervous phenomena, he may be certain that a cerebro-spinal lesion is the starting-point of these symptoms. Every symptom regarded as nervous, which is accompanied by a lesion of the fundus of the eye, is caused by an organic alteration of the brain, the cord, or the membranes. Thus is it with chorea, considered by many physicians as a simple neurosis; and yet this should, in consequence of the congestive optic neuritis found in its subjects, be regarded as a congestive affection of the anterior spinal cords. So also epilepsy, in a certain number of cases, is the result of cerebro-spinal lesions which at the same time induce changes in the optic nerve or retina. Also hysterical paraplegia and paralysis produce no neuro-retinian changes, while symptomatic paraplegia and spinal ataxia produce either simple hyperæmia of the optic nerve or hyperæmia and atrophy. So leucæmic, tubercular, glycosuric, or albuminuric diatheses are often revealed by optic neuritis, the ophthalmoscopic diagnosis in some of these cases being most striking. It is especially in patients attacked by general acute tuberculosis, accompanied by typhoid symptoms, and which are mistaken for typhoid fever, that cerebroscopy becomes truly remarkable. In an infant in whom the disease had all the appearance of typhus, the ophthalmoscope, by revealing tubercles of the choroid with neuro-retinitis, determined that there were tubercles in the brain, and consequently productions of the same character all over the body,—which the autopsy demonstrated to be the fact.

"Can any diagnosis be more exact than this? You see, in the living man, tubercles of an organ which permit you to conclude that they will also be found elsewhere. You see a nerve either healthy or diseased, and this indicates whether its roots are sound or diseased; and you have almost laid bare arteries and nerves which are so afferent to the brain that changes in them, studied with care, represent similar changes in a portion of the nervous centres. It seems almost marvellous; and I do not think that since auscultation there has been anything discovered so useful to semeiology. Henceforth, the physician may divine and often affirm lesions of the brain, cord, or meninges, the diagnosis of which before was impossible or only probable. Thus: 1. From hyperæmia and hyperæmic tumefaction of the optic nerve there results the diagnosis of mechanical or inflammatory hyperæmia of the

brain in meningitis, in cerebral hæmorrhage, effusions into the brain, and in some cases the diagnosis of ataxic or other spinal diseases. 2. By papillary œdema joined to hyperæmia I recognise œdema of the meninges; or an obstructed cerebral circulation through meningitis, cerebral tumours, ventricular hydrocephalus, cerebral hæmorrhage, meningeal effusions, thrombosis of the sinus, etc. 3. By neuro-retinian and choroidean anæmia I recognise cerebral hæmorrhage of *ramollissement*, and if the anæmia is absolute it is fatal. Empty arteries and veins of the eye, and an exsanguineous condition of the choroidean network, indicate arrest of cerebral and cardiac circulation. 4. By exudative and fatty optic neuro-retinitis I recognise chronic meningo-cephalitis; the encephalitis of cerebral tumours, and the changes in the nervous substance which accompany these tumours. 5. By retinian varices and thromboses I distinguish meningeal thromboses or those of the sinuses. 6. By the aneurisms of the retinian arteries we may recognise the miliary aneurisms of the brain. 7. By simple retinian hæmorrhages we recognise a compression of the brain by hæmorrhagic or other effusions; but if these retinian hæmorrhages are accompanied by retinian steatosis, there is also cerebral steatosis, and this is the case in chronic albuminuria, leucocythæmia, and glycosuria. 8. By atrophy of the optic nerve, tumours of the brain and cerebral or spinal sclerosis are discovered. 9. Finally, we never meet with tubercular granulations in the choroid without the existence of similar ones in the lungs and other organs."

M. Bouchut announces that he is about shortly to publish a large atlas of medical ophthalmoscopy.

Diffuse Phlegmonous Periostitis.

At the last meeting of the Académie de Médecine (*Bulletin*, January 12), M. Giraldès read a paper "On the Treatment of Diffuse Phlegmonous Periostitis." He is desirous, he says, of drawing attention to certain points in the treatment of this severe affection, which is especially met with in children and adolescents of the poor. Well described formerly by Schutzemberger, of Strasburg, it seems to be very imperfectly known at the present day. Under the designations of "subperiosteal abscess," "juxta-epiphysic osteitis," "detachment of the epiphyses," and "diffused osteo-myelitis," surgeons have only been describing the terminal phases of one and the same disease, and confusing the history of the affection. Referring to Schutzemberger's memoir for the complete account of the disease, M. Giraldès only alludes to those of its features which illustrate the value of the communication he is making:—

"Diffuse phlegmonous periostitis is an affection which commences in a very acute form, being preceded by severe pains at a point of the segment of a lower, and sometimes of an upper limb, and accompanied by an elevation of temperature which oscillates between 39° and 42° C. The assemblage of symptoms is such that frequently it has been mistaken for the commencement of a bad typhoid fever or hyperacute rheumatism. The evolution of the disease is so rapid that it soon terminates in suppuration, and vast purulent collections occupy the points of the limb which were the seat of the severe precursory pains. The inflamed periosteum, the origin of this suppuration, becomes detached from the bony diaphysis, carrying away with it the osteo-plastic layer which is concerned in the growth and reproduction of bone—leaving the diaphysis of the bone denuded, sometimes throughout its entire extent. The bone thus deprived of its nutritive membrane becomes necrosed, its medulla inflaming and suppurating, and its epiphysic cartilages undergoing softening. These various alterations are only the consequence of the same morbid process, and they have been wrongfully regarded and described as being the point of departure or primary seat of the disease.

"These vast purulent collections urgently demand surgical intervention; but whether they are evacuated by means of large incisions, or by drainage as recommended by M. Chassaignac, a necrosed bone remains at the bottom, keeping up suppuration. Around this diseased bone the periosteum readily ossifies, forming a bony sheath around the necrosis, constituting what is termed in surgery an invaginated necrosis. This, at a later period, has to be opened either by the gouge or trephine for the removal of the necrosed bone and the cure of the fistulæ which are exhausting the young subjects of the disease. Until the year 1865 I treated by this procedure all the cases which came under my observation; but at that time Prof. Holmes published in the *Lancet* (for April, 1865) a case of diffused phlegmonous periostitis of the leg, in which, after having opened the abscess, he at once removed the necrosed tibia. This practice of the English surgeon being in accordance with the results of the experiments on the regeneration of bone obtained by Flourens and Syme, and at a later period Ollier, I was induced to adopt it. . . . . From that time to 1873—that is, for seven years—I treated by this procedure the numerous cases of diffused phlegmonous periostitis that were placed under my care. The lower half of the tibia and of the fibula, the entire calcaneum, and the bones of the metatarsus have thus been removed. The result of the operation, which is of easy execution, is to procure rapid recovery and save the child from exhaustive suppuration. It should therefore be substituted for the old procedure of waiting until the bone becomes mobilised in the bony cage in which it is enclosed. In doing this, abundant suppurations (which exhaust the young subjects) are allowed to persist; and when it is sought to arrest these and cure the fistulæ, a laborious operation, which is not always without danger, has to be performed.

"To sum up: I may say—1. In diffused phlegmonous periostitis of the lower limb, advantage attends the prompt removal of the necrosed bone immediately after the evacuation of the abscess. 2. This practice does not seem to me to be applicable to the femur or even to the upper portion of the humerus. 3. In performing this extraction of necrosed bones, great care should be taken to maintain in their normal positions the different parts that are attached to the segment of the affected limb. 4. This contention is very advantageously effected by means of the plaster apparatus—plaster grooves (*gouttières platrées*) moulded on the limb—which I have employed in diseases of the joints since 1863."

The New French Medical Faculties.

The supply of the large corps of professors which the establishment of the two new Faculties at Lyons and Bordeaux will render necessary, and which it seems is in the hands of the Minister of Public Instruction, is a matter of great interest and agitation for the profession in those cities. By the Act which has constituted the new Faculties, the Ecoles de Préparatoires de Médecine, which existed in both of these cities, have been suppressed, without any provision having been made for the future distribution of the professors who taught in them. Of course, they may form a portion of the *matériel* whence the Minister may make his selections; but, with some exceptions, they are not men of sufficient importance to fill professorships in a Faculty which seeks to attract pupils. It is expected that there will be a considerable importation of *agrégés* from Paris. The *Lyon Médical* protests strongly against any of the clinical professorships (which are always those most sought for) being conferred upon other than those who are now attached to the Lyons hospitals, some of whom have acquired great reputation in these services. To these they have been appointed by *concours*, and it is not to be endured that they will be superseded by mere nominees. M. Amedée Latour, whom we are glad again to welcome in the field of journalism after his recent severe illness, indeed declares (*Union Médicale*, January 16) that the *concours* is the only means of at once providing a capable and approved staff of professors and of relieving the Minister from the intrigues and canvassings of which these numerous competitions will soon render him the victim.

"I repeat, I can only see the *concours* able to do this. The *concours!* During the forty years that I have defended it by my feeble efforts against unjust attacks, I have never heard repeated against it but one single argument, which, little reasonable as it is, has produced and still produces its effect on a great number of minds. The *concours*, it is incessantly repeated, keeps away great and assured reputations, eminent *savants* ripened by age, who will always refuse to compromise their notoriety amidst the chances of trials wherein the memory often plays the chief part. First of all, we can cite some illustrious examples to the contrary, and especially that of M. Dumas, who feared not, celebrated as he had already become, and the bearer of every possible academic honour, to seek in the *concours* the chair of chemistry in the Paris Faculty of Medicine.

"But, taking the argument as it is presented, I really cannot accord to it much value. That doubtless depends upon the idea that I have formed of what a professor should be. For me, no man is a professor who knows not how to teach and transmit knowledge. Little do I care to see a chair filled by an eminent *savant*, rendered illustrious by his great discoveries, if he is not able to communicate to his pupils both his own knowledge and the knowledge of others. In medicine,

especially, in which science necessarily leads to practice, to application, to art,—what is required of teaching is that it should possess good demonstrators and excellent vulgarisators, such as our Faculty possessed in the days of its greatest glory and prosperity. A recollection comes to my mind, the appropriateness of which my contemporaries will be able to appreciate. Surely Richeraud was more philosophical, erudite, and lettered than Dupuytren? Yet the lectures of the one were absolutely abandoned, while thousands rushed to those of the other. This was because Richeraud professed in a most detestable manner, while Dupuytren has never been surpassed or equalled as a demonstrator and vulgarisator.

"The inappreciable advantage of the *concours* is precisely that it keeps at a distance, either voluntarily or compulsorily, all those who have no aptitude for teaching. For it is a faculty, it is a gift, to know how to teach; and what other method than the *concours* is there of placing this faculty, this gift, in evidence? I need not occupy myself with that old and absurd reproach that the *concours* only favours the memory. It is an absurd reproach, for the candidate who furnished proof only of memory without judgment, appreciation, or criticism, would never find a judge willing to convert a parrot into a professor. And whatever the adversaries of the *concours* may say, this has never been seen. And then why run down memory, that admirable faculty of the mind for preserving and recalling ideas, facts, sensations, and emotions? Highly privileged are they whom nature has endowed with this precious faculty! Assuredly it is a great advantage in the *concours*; and if to this advantage be added good sense and a sound judgment, the judges ought to take great account of it, for a good and faithful memory is a precious quality in a professor."

GENERAL CORRESPONDENCE.

TESTS FOR ALBUMEN.

LETTER FROM DR. W. G. HUNTER.

[To the Editor of the Medical Times and Gazette.]

SIR,—My experience fully confirms the opinion expressed by Dr. Ernest Sansom in your journal of October 10, as to the worthlessness of the aceto-carbolic acid test for albumen in urine. I have given the test an extended trial, and, like Dr. Sansom, find it "beset with fallacies." The greatest objection to its use is that it throws down precipitates which cannot be distinguished from albumen in almost all urines which well-known and reliable reagents have shown to be albumen-free. Its fallacy in this respect is well illustrated by a remark which fell from one of my junior clinical clerks but a few days ago, "It throws down precipitates with almost everything."

I am, &c., W. G. HUNTER, M.D., F.R.C.P.,
Principal and Professor of Medicine.
Grant Medical College, Bombay, December 26, 1874.

HONOUR TO WHOM HONOUR IS DUE.

LETTER FROM MR. A. MORRILL.

[To the Editor of the Medical Times and Gazette.]

SIR,—A short while since, in looking through the *Transactions of the Provincial Medical and Surgical Association* for the year 1845, vol. i., I came across a very able retrospective address by Dr. Cowan to the members; and, with your permission, I desire to show that, in our modern hero-worship of the Germans—Wunderlich, Niemeyer, and others,—we have lost sight of, or, may be, forgot that in our own country there were great physicians in Cullen and Sydenham, even if we have not now a goodly list. The same can be said across the Channel. This is especially noted in regard to the revival in the use of the thermometer in the diagnosis of disease, of which Dr. Cowan says—

"Whenever the temperature of an infant exceeds 100° Fahr., it may be affirmed that fever exists. The highest temperature was observed in typhus, pneumonia, and meningitis. Meningitis may be diagnosed if the thermometer is higher in the first and third than in the second stage—differing in the last from 80° to 95° Fahr. Where a high temperature—104° to 105° Fahr. in the axilla—coincides with a slightly accelerated pulse, typhus may be said to exist, and enteritis if it marks only 100·40° to 101·30° Fahr. If the temperature marks 104° to 105° Fahr., with a quick pulse and accelerated respiration, pneumonia ensues; on the contrary, bronchitis if only 100·40° Fahr. In gangrene, paralysis, ague, cholera, and œdema of new-born babes, the temperature is low. If in a child from one to eight years old the thermometer only marks from 96° to 80° Fahr., œdema is to be feared; and its development is certain if the temperature descends from 93·20° to 80° Fahr. The maximum temperature of adults is 105·60°, the minimum is 95° Fahr. In children the maximum is 106·50°, the minimum 74·30° Fahr."—Andral.

There is no mention made here of the high temperature observed in tetanus, and no doubt many ought to have been added. But it is singular that the temperature given to pneumonia should so closely agree with that of Wunderlich, and adopted by Aitken and others.

I am, &c.,
Charing-cross, Jan. 18. A. MORRILL, M.R.C.S. Eng.

REPORTS OF SOCIETIES.

CLINICAL SOCIETY OF LONDON.

FRIDAY, JANUARY 8.

PRESCOTT HEWETT, F.R.C.S., President, in the Chair.

SUBCUTANEOUS URETHROTOMY.

MR. TEEVAN exhibited a patient, aged thirty-one, upon whom he had performed this operation. The man had suffered from a severe stricture for seven years. Six years ago he had some form of extravasation, which necessitated his entry into Charing-cross Hospital, where the abscess was opened and a catheter passed into the bladder. Three years ago he came under Mr. Teevan's care for a tight stricture, complicated with a fistula and occasional attacks of retention. By gradual dilatation with soft bougies, the stricture was enlarged to 7, English gauge, and the fistula cured. As dilatation could not be carried beyond the size mentioned, the patient was taught to pass a No. 5 bougie for himself, inasmuch as a larger instrument always set up irritation and made him worse. After three years' absence, the man again came under Mr. Teevan's care last October, complaining that, for the three years he had been away, he had never gone longer than three days without an attack of retention, and was often obliged to pass the bougie six times a day. It was clear, then, that the bladder was not at fault, for a bougie always sufficed to relieve the retention. Continuous dilatation and various remedial measures having utterly failed to cure the patient of his repeated attacks of retention, Mr. Teevan on November 16 subcutaneously divided the stricture, which was situated in the centre of the perineum, and was three-fourths of an inch long, on a grooved catheter-staff, with a sliding catheter. A fine tenotome was used for the operation. The shoulder of the sliding staff having been clearly made out, the skin was pierced in the raphe of the perineum, and the tenotome inserted into the slit in the catheter-staff and run along to its end; the mucous membrane and stricture being afterwards divided with a sawing movement. No anæsthetic was given, and not more than a dessert-spoonful of blood was lost. The urine drawn off was very slightly tinged with blood. Mr. Teevan apprehended the patient would have rigors, as he had previously been attacked with them, and he therefore tied in the elastic catheter and gave the patient ten-grain doses of quinine just to demonstrate the inutility of those stock remedies, and to show that American surgeons were right in their views regarding the retention of a catheter after operation. Twenty hours afterwards, a rigor occurred, and the catheter was withdrawn. The puncture was healed in forty-eight hours. The after-treatment consisted in passing a large olivary elastic catheter every third day, and the patient left St. Peter's Hospital quite well on December 3, holding his water for six hours, passing a good stream, and not having had an attack of retention since the operation. Mr. Teevan remarked that the case imperatively called for operation, as the patient could not follow his avocation. He had selected this particular operation as he considered it specially indicated in the present instance. External urethrotomy would have been a severe procedure, as there was neither abscess nor fistula. He discarded the splitting operation, as that method was the most fatal of all urethral operations, and was followed by speedy and aggravated relapses. There remained, then, only internal urethrotomy and subcutaneous section, and he preferred the

latter, as he knew he could by it completely divide the stricture, which encased the urethra like an iron hoop. He stated that he believed he was the first surgeon who had ever divided a stricture in this country on a catheter-staff, with a slit in it for the knife to run along. He drew attention to the fact that scarcely any scar was visible at the point of operation.

Mr. Hulke thought sufficient time had not yet elapsed since the operation to judge of the patient's future condition. He was open to correction, but he certainly thought he had seen Sir W. Fergusson use a catheter-staff over twenty years ago, for division of a stricture; he himself had also used one.

Mr. Mac Cormac asked for further particulars as to the operation—whether the mucous membrane was cut; and if the operation were strictly a subcutaneous one; whether there was any fear of extravasation, and if a catheter tied in the bladder after the operation would not be likely to prevent such an accident.

Mr. Teevan, in reply, said he was confident that the man would have a relapse unless an instrument were passed from time to time. In all cases of stricture, relapses occurred after every operation, unless the dilatation was kept up by the passage of an instrument from time to time. He could now, at the end of a month, pass as large a catheter as before the operation; the period of relapse was more deferred than with other operative methods; the operation also occasioned the minimum amount of danger. Sir W. Fergusson, he believed, had never used a catheter-staff with a slit in its convexity for the knife to run in. The great advantage of the catheter-staff was, that it drew off the urine before the operation, so that the operator knew beforehand that he was cutting in the right direction. The instrument was first used in New York, but the literature of this country did not mention it. The wound was to all intents subcutaneous, for, although a small puncture was made with the tenotome in the skin of the perineum, and the instrument then divided the mucous membrane and stricture together, yet, immediately upon its withdrawal, the external opening was closed with lint, and at once healed. Infiltration might occur after any urethral operation, but it was almost unheard of. He had tied in a catheter simply to show that it would not prevent rigors.

Fibrous Naso-Pharyngeal Polypus.

Mr. Holmes related a case of the kind occurring in a man admitted, at the age of twenty-seven, into St. George's Hospital, in May, 1866. The tumour was removed by excising the whole of the upper jaw-bone, except its orbital plate, and tearing away the polypus from the base of the skull, where it was found to spring from the sphenoid or basilar process of the occipital bone. The operation was performed without chloroform. It was perfectly and rapidly successful. The patient, who had been exhausted by constant hæmorrhage, immediately revived, and was very soon at work again. In about a year, a like epistaxis again took place, but did not prove formidable till two years ago (six years after the first operation). He was readmitted into St. George's Hospital in November last, and as the polypus was found to be growing rapidly into the nostril, it was removed by opening up the old cicatrix; still without chloroform. He was well enough to go out in a week, and had not since suffered from hæmorrhage. The growth first removed was found to consist almost entirely of fibrous tissue, with a few fibre-cells intermixed. The recurrent growth had the same composition, but was looser in texture; the cells were in rather larger proportion, and some of them were rounded. Microscopic sections of both were exhibited. The author remarked on the tendency to recurrence which such tumours possessed; on the easy access which was afforded by the removal of the upper jaw (leaving, however, its orbital portion) to the base of the skull, from which the tumour grows; on the convenience of this method in case of recurrence, as was well illustrated by this case; and, finally, on the greater safety and facility of operating without chloroform whenever the patient could bear the operation.

Mr. Callender said that eight years ago he had removed a tumour from the wall of the nostril, close to the aperture by which it communicated with the antrum. He removed the greater part of the superior maxilla, leaving the orbital plate. The patient recovered, and went again to the country, where, after five years or so, the growth returned. It was again removed by Mr. Callender, who, in scraping the bones to take away all the diseased parts, went as far back as the bodies of the vertebræ. Both these operations were performed under chloroform. After the second operation the woman was again sent to the country. The latest intelligence reported that she was dying; and Mr. Callender believed she had since died. He feared the disease might recur in Mr. Holmes' case, and at each recurrence prove to be more and more malignant, and eventually fatal to the patient's life.

Mr. Barwell was sorry to be obliged to concur in Mr. Callender's gloomy views of this case. He feared, also, that the disease would spread farther and farther, and become more malignant at each return. As regards the position from which these growths proceeded, he had once removed the superior maxilla in operating upon a case of the kind, and then felt that the tumour came from the body of the sphenoid bone, of which he took so much away that he feared to go farther lest he might implicate the brain. He saw the patient the next year or two, and then lost sight of her for thirteen years. She then brought to Mr. Barwell her child, who was suffering with a nævus of the soft palate and pharynx. Such a nævus was very rare. Had it any hereditary connexion with the mother's disease?

Mr. Croft had operated upon such a case as that of Mr. Holmes' in 1871. The polypus sprang from the position which Mr. Callender had described in his case,—the outer wall of the nostril, close to the antrum, whence it projected back into the pharynx. Mr. Croft made an incision along the ala of the nose, then carried it outwards, reflected the skin, exposed the anterior surface of the superior maxilla, reflected the periosteum, cut away the denuded bone from the anterior wall of the antrum, and then excised the growth. Through the window in the bone he could see all the parts quite up to the base of the skull. He might have removed a tumour from the base through this limited opening, had it grown from such a position. The periosteum being relaid, re-formed bone within two months after the operation, and no deformity was present. The mass removed was a spindle-celled sarcoma. It recurred; but Mr. Croft had not pressed any further operation upon the patient.

Mr. Hulke remarked that Nélaton's method of splitting the palate gave every opportunity for the removal of small growths. He did it by two methods. Sloughing and deformity were apt to follow. Mr. Hulke had had three cases; in two of which the disease sprang from the posterior part of the nares. He would always advise the operator to save the roof of the mouth if it were possible.

Subperiosteal Excision of the Os Calcis.

Mr. Holmes exhibited a case concerning which he intended to speak at a future meeting.

Hæmoptysis in a Syphilitic Patient.

Dr. Farquharson read notes of the case. The patient, a strong, well-built soldier, was admitted into the Coldstream Guards' Hospital on August 10, 1874, under the care of Surgeon-Major Trotter, who kindly allowed the case to be brought forward. During the previous April he had been sixteen days under treatment for condylomata; but, although the cicatrix of the primary sore could readily be detected, no special history could be obtained of its nature or treatment. Three weeks before his present admission, he had begun to complain of cough and dyspnœa, and had expectorated tenacious mucus, latterly mixed with blood; but, on the above date, a careful physical examination of the chest revealed nothing abnormal. He had not lost flesh, but his aspect was rather anxious, and his face sallow and cachectic, and a syphilitic element being suspected, he was at once put upon twelve grains of iodide of potassium, and one drachm of liquor hydrargyri bichloridi, twice a day. The symptoms continued at first unchecked, consisting of a very frequent, hard, irritable cough, followed by the expulsion of sputa intimately mixed with dark blood, but not attended by constitutional disturbance nor abnormal physical signs. On the eighth day, however, marked improvement was noted; and on the 19th he was discharged from hospital, and had since continued in perfect health. The case seemed of interest in connexion with others of a similar nature observed by Mr. Trotter, and in all of which the same train of symptoms occurred in connexion with a venereal taint. The records of syphilitic diseases of the lung were chiefly pathological, and various authors had described with much fidelity the appearances observed; but clinical opportunities of tracing the early symptoms had been but rarely met with. In the present case it seemed improbable that gummata could have been deposited in the lung; but the opinion was hazarded that mucous tubercles might have been thrown out on the delicate lining membrane of the ultimate pulmonary tissue. The gradual oozing of blood, consequent

on the congestion and rupture of capillaries and its prolonged contact with the minute bronchi or air-cells, brought about the excessive lung-irritation observed; and had this not been checked, serious degenerative changes would probably have taken place. The true nature of the case, however, having been suspected from the first, specific treatment was attended by a perfectly successful result.

Dr. Cayley inquired if there were any trouble, such as ulceration, about the larynx, for there might be ulceration of the larynx without loss of voice or hoarseness. He should rather be inclined to the view that, as there was an absence of physical lung-symptoms, the disease in this case was in the larynx.

Dr. Southey remarked that hæmoptysis occurring, as in this case, in the course of syphilis, was not rare. The source of the blood was doubtful. Without previous complaint, the patient would have a sudden bad cough, and then came the blood, which, as Dr. Farquharson had said, was not frothed. The physical signs were simply loss of vesicular murmur over one part of the lungs. The hæmorrhage, Dr. Southey thought, was due to vesicular extravasation; and probably a thrombus of the minute veins in some part existed.

Dr. Buzzard inquired into the state of the patient's temperature, and said that it had been shown that if a high temperature fell under the use of iodide of potassium, it would go far to prove that the case was one of syphilis.

Dr. Farquharson thought the blood looked much more as if it had come from the lung than from the larynx. It was mixed with mucus, as if it had come after prolonged coughing.

Mr. Hulke, in proposing a vote of thanks to the President and Vice-Presidents, remarked that during Mr. Hewett's tenure of office he had been only once absent from the presidential chair.

Mr. Mac Cormac seconded the proposition, which was carried by acclamation.

Mr. Prescott Hewett thanked the meeting for the vote of thanks they had just passed, and thanked all the members for the support they had given him. He begged leave to congratulate the Society on the new President they had chosen.

OBITUARY.

DR. TRACY, OF MELBOURNE.

By the last mail from Australia we receive the sad intelligence of the death of Dr. Tracy, who, little more than a year ago, was here among us, hoping that rest and his native air might lead to a restoration of failing strength. Partly from the *Melbourne Argus*, and partly from private sources, we are enabled to give the following account of a very remarkable career:—

Richard Thomas Tracy was born on September 19, 1826, in the city of Limerick, Ireland, and, with an only brother, received an education for entrance to the University of Dublin. As several members of his mother's family were clergymen of the Church of England, it was desired that her sons should qualify themselves for this sacred calling, but at sixteen years of age the subject of this notice had made up his mind to adopt the medical profession, and his love for it never after abated.

After a year's preliminary education of a very practical kind at the County Limerick Infirmary, he went in 1845 to reside with his brother, in Trinity College, Dublin, and then entered upon a full course of medical and surgical lectures and hospital attendance. During each of the three succeeding summer seasons or vacations he volunteered for active work under the Board of Health, attending the famine fever which was then desolating Ireland, and at Celbridge, in the county of Dublin, almost succumbed to an attack of that disease caught from a patient.

In 1848 he passed his examination, and received the diploma of the Royal College of Surgeons of Ireland, and immediately afterwards visited Paris, where he saw a great deal of surgical work during that eventful year. In December of the same year he went to Glasgow with the intention of taking out a medical degree. There he became acquainted with the now venerable Dr. Andrew Buchanan, Professor of the Institutes of Medicine in the Glasgow University, and through his influence obtained the responsible appointment of Resident Surgeon to the Cholera Hospital of that city, containing 700 beds. For four months he never quitted this hospital, and at the close of the epidemic he received the thanks of the authorities, as well as a substantial pecuniary bonus.

In May, 1849, he took his degree of Doctor of Medicine in the Glasgow University, and returned to Ireland, and after a short rest took charge of a dispensary in King's County; but, unable to content himself with that limited sphere of action, he followed his brother, who was then residing as law student in Lincoln's-inn, London. His next movement was to take charge of the practice of Mr. Hooper, of Reading, Berkshire, of the old firm of Harris, Morris, and Hooper, of that town, Mr. Hooper having been ordered to give up practice for a year. At the termination of this engagement he received a nomination for an Assistant-Surgeoncy in the army, but, after due consideration, he decided to give it up. He was at this time engaged to be married. Negotiations for a share of a practice in London were nearly completed, when it was discovered that the affair was a swindle, and he was a little perplexed as to his future course of action. Letters had been received from some relatives of his intended wife, at Adelaide, stating that there was an excellent opening for practice there, and communications had also been received from relatives of his own in Canada, so that his attention was necessarily drawn to the subject of emigration. His ultimate decision was very quickly made one evening early in April, 1851. A number of his brother's friends were present, and it was humorously suggested that by the primitive method of tossing a coin they should decide whether he was to go to Australia or to Canada. Australia won, and Dr. Tracy never had reason to regret the result. That same night he wrote to his intended wife, asking if she had the courage to face the Antipodes with him. The answer was in the affirmative, and he at once proceeded to Ireland, and was married in Limerick on April 29, 1851, to Miss Sibthorpe, eldest daughter of W. G. Sibthorpe, Esq., still of that city. The newly married pair proceeded immediately to London, and daily visited that first and greatest of all national exhibitions, which was then open in Hyde-park.

On the same evening when Dr. Tracy had decided to go to Australia, he was offered the appointment of surgeon to a new ship called the *Ballangeich*, then on the berth for Melbourne and Adelaide. In this ship Dr. and Mrs. Tracy sailed on May 16, 1851, and arrived in Hobson's Bay early in August. All the passengers, except one family and Dr. Tracy's wife and himself, remained at Melbourne, where he was entertained by the passengers at a dinner. At this time the news of the discovery of gold at Turon, in New South Wales, had arrived in Melbourne, and everything was in a very dull state, in consequence of the exodus, which had already begun. After a few days they continued their voyage to Adelaide, meeting with most disastrous weather, and they were twenty-six days before reaching that port. On arrival, Dr. Tracy settled in North Adelaide. Towards the end of the year the news of the discovery of gold in Victoria emptied Adelaide of nearly all its male inhabitants; and in the middle of February, 1852, a few weeks after his eldest daughter was born, Dr. Tracy started, in company with Mr. James Bonwick, the well-known Australian author, and two other gentlemen, to try his fortune on the gold-fields. Proceeding to the Loddon diggings, and afterwards to Bendigo, Dr. Tracy first engaged in gold-digging, and with very fair results; but as soon as he could procure from town the necessary appliances, he commenced practice, and continued in active professional work until the end of June, when, his health giving way, he left the gold-fields and returned to Adelaide, whence, after a short rest, and after selling off everything, he came again with his wife and child to Melbourne. It was at that time a most difficult matter to procure any accommodation, except in tents; but, after much trouble, he finally settled down to practice in Brunswick-street, Fitzroy, commencing there on September 1, 1852.

In 1854 he built the well-known house in Brunswick-street, in which he resided until the end of 1864, when he removed into Collins-street, to the house which he had just built, and in which he died.

During his residence in Fitzroy, Dr. Tracy took a prominent part in all social movements, notwithstanding his active professional duties. In the building of St. Mark's Church, of which he was trustee for many subsequent years, he greatly interested himself. He was likewise the health officer of that district, and on two occasions he received handsome testimonials from the borough council in recognition of his services. He also gave much of his time as a magistrate on the local bench, but he never at any time meddled with politics or municipal affairs, his profession engrossing his chief attention. He was early identified with the volunteer movement,

and received the commission of assistant-surgeon to the East Melbourne Artillery Corps on its formation. He was still surgeon of this corps up to the time of his death.

In 1855, after many conversations with the late Dr. John Maund, he determined, in association with that gentleman, to start a lying-in hospital and infirmary for diseases peculiar to women and children. They were heartily supported in this movement by a number of ladies; and, as a beginning, they rented the house, 41, Albert-street, and carried on work there until the present hospital was built in 1856. The establishment of this hospital was in a great measure due to the exertions of many of Dr. Tracy's personal friends. Of the great advantages derived by Dr. Tracy from his connexion with this hospital there is no question. He himself always gratefully acknowledged them. The opportunities it gave him for practice in a particular branch of medicine determined the special direction in which his abilities from that time more distinctly showed themselves. His natural energy, his clear-headedness, and his wonderful common sense would always have given him a leading place in the profession, but the circumstances which inclined him to the subject of obstetrics as a speciality aided him also in reaching a position of eminence not inferior to that of the most celebrated obstetric physicians in the old country. But if he derived great advantages from his association with the lying-in hospital, he abundantly repaid the obligation in the diligent attention he gave to his duties. He made for it its remarkable success and prestige, and he deserved all the renown it brought him in return. When, therefore, the hospital was some years ago incorporated, the contributors only paid him his admitted due by electing him physician for life.

Dr. Tracy was also closely identified with the establishment of the Medical Society and the *Medical Journal*. Of the former of these he was President in 1860, and in his retiring address, read at the annual meeting in January, 1861, he said:—"Shortly after my coming to reside here in 1852, I was informed that a medical society was about being commenced. One had existed previously, the principal object of which had been the circulation of medical periodicals among its members. The new society was designated the Victorian Medical Association, and soon numbered in its ranks a large proportion of the medical men practising in Melbourne and its vicinity. The affairs of this society prospered for some time, and the nucleus of a library was formed. A few of the members of the former society and others united, after the lapse of about three years, and originated another society, which was termed the Medico-Chirurgical Society of Victoria. I had been a member of the Medical Society from the first; and, after watching the progress of the two societies for some time, I, in conjunction with a few others, joined the Medico-Chirurgical as well, and at once we used our best efforts to bring about a union of the two. This was after a little time accomplished, and the present Medical Society of Victoria was the result."

It was with Dr. Maund, too, that he was associated in the early struggles of the *Medical Journal*, a publication which, now in the nineteenth year of its existence, has always numbered him among its steadiest friends and most valued contributors. His papers on the subjects with which his special experience furnished him are all of the most practically interesting kind, and they show not only how thoroughly he was master of his art, but how conscientiously he kept pace with the progress of obstetric surgery in the old country. Nothing could be a more complete acknowledgment of his eminence in this direction than the compliment paid him in 1871 by the Obstetrical Society of London, who elected him an honorary fellow of their body. This is a distinction but rarely conferred, the list of British honorary fellows amounting to nine only. When the Medical School of the University was formed, Dr. Tracy was appointed lecturer and examiner in obstetrics and diseases of women and children, the duties of which office he continued to perform until the commencement of his long illness. When the Medical Benevolent Association was proposed to be started, nine years ago, he entered warmly into the project, and was one of its most active supporters and advocates, some of the pleasantest meetings of the committee being held at his house. About three years ago his health began steadily to fail. The symptoms were for a long time exceedingly obscure. He lost flesh, he had a constant pain in the right side, his appetite was impaired, and he suffered from sleeplessness. His robust, typically healthy look forsook him, and it was manifest that his disorder was a serious one. He nevertheless refused to refer these unfavourable changes to any cause other than overwork, and there seemed no good reason to doubt that this was the explanation. He had been labouring constantly for twenty-three years at his profession, taking very little rest, and giving himself very short holidays. The necessity for a long period of leisure was apparent, and his many friends therefore urged upon him the desirability of a visit to Europe. To this proposition, after some hesitation, he finally consented, and he left in the mail steamer on February 28, 1873. As soon as his intention to go home was made known, a meeting of his friends and patients was held, and the sum of £600 was subscribed to be expended by him during his visit, in the purchase of a suitable memorial expressive of their regard and respect. He was also entertained at a dinner given by the Medical Society, and an address was presented to him on the occasion. The Meridian Lodge of Freemasons too expressed their good opinion of him at a banquet, and presented him with a valuable jewel, in recognition of his long connexion with the craft. In short, his going away was generally regarded as a public event, and evidences of the high esteem in which he was held were to be found on all sides. On his arrival in London, in the summer of 1873, he expressed himself as greatly improved by the voyage, and it seemed that rest and change had done all that was hoped for. He entered with enthusiasm into the medical life of this city. A valuable paper on the statistics of the Lying-in Hospital of Melbourne was brought before the Obstetrical Society, and an important communication on ovariotomy before the Medico-Chirurgical Society. He had been the first to perform ovariotomy in Australia; and he became a daily companion of Mr. Spencer Wells, not only in his hospital work, but in private practice, and as a worthy assistant in operations far from London; among others in an extirpation of the spleen at Birmingham. He used to say that this case alone repaid him for his journey from Australia. He attended all the social gatherings of the British Medical Association in August, and then went to Ireland and Scotland. But he returned from the North with an appearance of serious disease in his face and bearing, and suffering constant pain; and after several anxious consultations with Sir W. Jenner, Dr. Wilson Fox, and Mr. Spencer Wells, he returned home, knowing full well that his fate was sealed, and that a growth, probably malignant, in the neighbourhood of the liver, was gradually advancing.

When he reached Melbourne in April, 1874, it was clear that his days were numbered. For seven months he lingered, slowly but surely wasting. He was kept almost constantly under the influence of morphia, yet his sufferings were of the severest kind, and he was unable to take nourishment save in the simplest and blandest form. His mind, however, was unclouded all the time. He showed a keen interest in all the events that occupied public attention, and he took a calm view of his approaching end. He arranged all his affairs down to the smallest particulars, and only about a week before his death he wrote with his own hand the following directions about his funeral:—"Memo. Directions for my funeral. I wish any public notice of my funeral to contain merely the date, hour, and destination. I desire that no refreshments of any kind shall be provided for those who attend my funeral, nor any distribution of scarves, gloves, or other such emblems of mourning. The hearse to be perfectly plain, no plumes or glass sides, and drawn by two horses. No attendants with feathers or plumes. As many plain mourning coaches as are necessary to convey the pall-bearers and chief mourners, as no other carriages are allowed to accompany the hearse within the gates of the cemetery. I will give the names of the eight pall-bearers. The chief mourners will be those of my sons-in-law who may be in Melbourne, and their immediate relatives." These arrangements he had decided upon before the present movement commenced relative to reform in funerals,—another of the many evidences which might be quoted of the habitual common-sense view he took of whatever concerned him. On Saturday noon, after being lifted out of bed for a little change of position, he said, "I feel very weak." He soon after became insensible, and died at half-past nine in the evening.

The *Argus* concludes thus:—

"The death of such a man as Dr. Tracy may be accounted a public loss, for though not a public man, either in a political or municipal sense, he was so well known and so thoroughly respected, both by the medical profession and the public, that he was looked up to as a social institution. He had won his success in the most legitimate way. He was both a scientific and a practical physician, and perhaps no one ever more completely inspired confidence in those who consulted him. He

was impulsive and quick-tempered, but full to overflowing of kindness and genuine warm-heartedness. He was singularly prompt in emergencies, but equally remarkable for the qualities of patience and endurance when these were required. He was a fast and true friend, and generous, liberal, and open-handed in the extreme. And though his long and painful illness may have anticipated by its shadow the darkness which now rests upon him, he will not be forgotten while rare ability, manliness, and honourable dealing continue to be the attributes of those who most worthily practise the god-like art of healing. Dr. Tracy leaves a widow and six daughters (three of whom are married), and three grandchildren. He left special instructions that a post-mortem examination should be made, so as to make clear the disease from which he died. This was performed by Drs. Motherwell and Nield, Dr. Martin and Mr. James being also present. An enormous cancerous mass was found in the abdomen, involving a considerable portion of the small intestine."

A Melbourne correspondent informs us that a mass of cancer, commencing in the root of the mesentery, on the right side, depositing a mass of about ten pounds weight of medullary cancer in the folds of the mesentery, and finally attacking the structure of the lower half of the duodenum and the whole of the jejunum, converted the bowel into a hard mass.

The funeral showed the estimation in which Dr. Tracy was held by the whole population of Melbourne. The large attendance of the leading medical men, and of those of eminence and position in Melbourne, the crowded streets, the closed shops along the route of the simple funeral procession, and the densely filled church, were all evidences that the last earthly honours were being paid to one who had been a "chief among the people,"—one who had lived an honoured life, and left a cherished name behind him.

At three o'clock, the coffin, decorated with heavy garlands of pale-coloured flowers, was placed in the hearse, which was taken slowly in the direction of St. Peter's Church, preceded by a great number of the leading medical men of Melbourne on foot, and followed by gentlemen related to the deceased as chief mourners, and those who had been named by the late Dr. Tracy as pall-bearers.

We are glad to be able to add that, although Dr. Tracy lived in a most hospitable style, and spared no expense in the education of his children, his professional earnings were so large that, although only forty-eight years of age, he has left upwards of £1500 a year to his widow and unmarried children.

MEDICAL NEWS.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed their primary examinations in Anatomy and Physiology at a meeting of the Court of Examiners on the 19th inst., and when eligible will be admitted to the pass examination :—

Anderson, Edward Guy, student of the McGill College, Montreal.
Bideu, William Price, of the Charing-cross Hospital.
Blaikie, John Robert, B.A. Cantab., of the Cambridge School.
Blake, William Farewell, of University College.
Carter, Henry Bewley, of University College.
Claremont, Constantine Cecil, of University College.
Godfrey, Robert Frederick, of the Montreal, St. Bartholomew's, and St. Thomas's Hospitals.
Griffiths, Robert, of the Dublin School.
Heelas, James, of University College.
Heslop, William John, of the Manchester School.
Jacob, Ernest Henry, of St. Thomas's Hospital.
Livy, Frederic Young, of the Manchester School.
Marks, Charles Ferdinand, of the Galway and Dublin Schools.
Mercer, Robert, of the Leeds School.
Molson, William Alexander, of the McGill College, Montreal.
Powell, Arthur Ernest, of St. Thomas's Hospital.
Procter, Henry Charles, of the Leeds School.
Ritchie, John Leichtenstein, of the McGill College, Montreal.
Sangster, John Ikin, of the Leeds School.
Snowden, George Hugh, of St. Mary's Hospital.
Stevenson, Robert Addison, of the McGill College, Montreal.

The following gentlemen passed on the 20th inst., viz. :—

Arnott, Sandford, student of King's College.
Cary, Joseph, of the London Hospital.
Cobbin, William Ingram, of University College.
Congreve, George Thomas, of King's College.
Cressey, George Henry, of St. Bartholomew's Hospital.
Crowther, William Harding, of King's College.
Cuthbert, William Wood, of St. Bartholomew's Hospital.
Duke, George Amos, of St. Mary's Hospital.
Fenwick, Kenneth Leander, of St Thomas's Hospital.
Gillard, Clarence Richard, of St. Thomas's Hospital.
Hall, Charles Ross, student of St. Bartholomew's Hospital.
Hookham, Paul, of University College.
James, Charles, of King's College.
Longstaff, George Blundell, B.A. Oxon., of St. Thomas's Hospital.
Merriman, William Semple, of the Manchester School.
Moore, George Richmond, of the Newcastle School.
Skerman, Sidney, of King's College.
Stokes, Richard Lingard, of University College.
Taylor, William Bond, of the Manchester School.
Todd, John, of Guy's Hospital.
Webb, William Henry, of St. Bartholomew's Hospital.
Willows, Robert George Edward, of University College.
Wilson, Frank, of the Newcastle School.

The following gentlemen passed on the 21st inst., viz. :—

Allen, Morgan Henry Lawrence, student of St. Mary's Hospital.
Alleyne, Joseph Lowes, of University College.
Atkinson, Henry Seymour, of King's College.
Best, George Payne, of St. George's Hospital.
Biale, John, of St. George's Hospital.
Blackley, William Percival, of St. Thomas's Hospital.
Boodle, George Adolphus, of St. Bartholomew's Hospital.
Bovand, Edgar John Don, of Guy's Hospital.
Chapman, Herbert Frederick, of St. Bartholomew's Hospital.
Clowes, Joseph Smith, of Guy's Hospital.
Floyer, Hubert Martyn, of St. Bartholomew's Hospital.
Hallsworth, Francis Arthur, of St. Bartholomew's Hospital.
Hornsby, George Harcourt, of the Birmingham School.
Howat, George Rutland, of St. Bartholomew's Hospital.
Langdon, John Wickley, of St. Bartholomew's Hospital.
Lowe, Howard Griffiths, of the Birmingham School.
Owen, Robert, of the Charing-cross Hospital.
Walcott, Hamilton Lewis, of St. Bartholomew's Hospital.
Weller, John, of the London Hospital.
Wilkinson, John Cooper, of Guy's Hospital.

Out of the 108 candidates examined, forty-four were referred to their anatomical and physiological studies for three months.

Licentiates in Dental Surgery.—The following gentlemen, having undergone the necessary examinations, were admitted Licentiates in Dental Surgery of the Royal College of Surgeons, at a meeting of the Board of Examiners on the 15th inst., viz. :—

Atkinson, Jonathan Ottley, Kendal.
Bayliss, Henry MacFord, Oxford-road, Islington.
Cartwright, Alexander, Old Burlington-street; diploma of Membership of the College dated May 19, 1874.
Gill, Henry Beadnell, Arnold-terrace, Bow-road.
Henry, William Francklin, Cornhill.
Keeling, George Ratcliffe, Ormond House, Epsom.
Silvester, Simeon Talbot, Whitgift House, Croydon.
Wallis, Charles James, Pau, Basses Pyrénées, France.
Watson, David, Torquay, Devon.

Six candidates, having failed to acquit themselves to the satisfaction of the Board, were referred to their studies.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

COLE, R. M., L.R.C.P. Lond., M.R.C.S. Eng., L.S.A.—Assistant-Surgeon to the Gloucester Infirmary, *vice* H. E. Waddy, L.R.C.P. Lond., M.R.C.S. Eng., appointed Surgeon.

WADDY, H. E., L.R.C.P. Lond., M.R.C.S. Eng.—Surgeon to the Gloucester Infirmary, *vice* J. P. Wilton, M.R.C.S. Eng., L.S.A., resigned.

BIRTHS.

HILTON.—On January 17, at Hedingham House, Clapham Common, the wife of John Hilton, F.R.S., of a daughter.

COPLAND.—On January 16, at 87, Ladbroke-grove, Notting-hill, the wife of James C. Copland, M.R.C.S. Eng., L.S.A., of a daughter.

HODDER.—On November 18, at Port Blair, Andaman Islands, the wife of F. W. L. Hodder, M.B., M.R.C.S., Surgeon Detachment of H.M. 45th Regiment S.F., of a son.

MCCLURE.—On January 10, at Worle, near Weston-super-Mare, the wife of Thomas McClure, F.R.C.S. Edin., L.R.C.P. Edin., of a son.

ORPHOOT.—On January 14, at 113, George-street, Edinburgh, the wife of P. Orphoot, M.D., of a son.

PERIGAL.—On January 12, at Wheatley, Oxon, the wife of Arthur Perigal, M.D., of a son.

TURNER.—On January 4, at St. Clement's, Norwich, the wife of Horace Turner, M.R.C.S., of a daughter (Helen Louisa).

MARRIAGES.

ARBUCKLE—BASSETT.—On January 19, at St. Andrew's Church, Nottingham, Hugh Wight Arbuckle, M.D., of Thorne, Doncaster, to Martha Elizabeth (Lizzie) Bassett, eldest daughter of the late Richard Bassett, of Mapperley-road, Nottingham.

BOUCHARD—RUFFER.—On January 12, at the Swiss Church, Endell-street, Dr. Charles Bouchard, Professeur Agrégé à la Faculté de Médecine de Paris, to Hélène, eldest daughter of A. Ruffer, Esq., of Herne-hill.

SCATLIFF—HARRIS.—On January 14, at St. Saviour's Church, Haverstock-hill, J. M. E. Scatliff, M.B., C.M., M.R.C.S. Eng., of Brighton, to Edith, only daughter of the late James Harris, Esq., Actuary of the Sun Life Office.

SQUIRE—WOOD.—On January 14, at the parish church, Ilfracombe, Robert Hemington Squire, B.A., of Whittingham, Preston, Lancashire, to Bertha St. Barbe, youngest daughter of Alfred J. Wood, M.D., late of Barnwood, Gloucestershire.

WALSH—STEPHENS.—On January 14, at the parish church of Finchley, Charles Frederick Walsh, of Hiogo, Japan, to Marthe, eldest daughter of the late Henry Stephens, M.R.C.S., of Grove House, Finchley, Middlesex.

WALTERS—PENWARNE-WELLINGS.—On January 14, at St. Denys Church, Stanford-in-the-Vale, Berks, James Hopkins Walters, M.R.C.S. Eng., L.S.A., of Faringdon, to Victoria Blanche, only daughter of G. Penwarne-Wellings, Esq., formerly of H.M. Paymaster-General's Office.

DEATHS.

ANDERSON, SIBELLA MARY, widow of the late James Anderson, Surgeon H.E.I.C.S. Bombay Establishment, at 186, Richmond-road, Dalston, on January 17, aged 68.

CONQUEST, JANE, widow of J. T. Conquest, M.D., F.L.S., and daughter of the late Robert Steven, Esq., of London, at The Oaks, Plumstead, Kent, on January 8, in her 84th year.

DAVEY, ELIZABETH, beloved wife of Richard Gibbon Davey, M.R.C.S., J.P., at Hill House, Upper Walmer, Kent, on December 10, in her 67th year.

DAWSON, JAMES, F.R.C.S., at Wray Castle, near Ambleside, on January 17, aged 96.

JONES, SOPHIA ELIZABETH, beloved wife of Llewellyn Jones, M.D., at Beaumaris, on January 12, aged 72.

LIVINGSTONE, WILLIAM, M.D., of Kilsyth, Stirlingshire, Scotland, at St. John, New Brunswick, on January 1, aged 71.

MCILLREE, ANNIE, beloved wife of J. D. McIllree, Surgeon-General and Principal Medical Officer in Ireland, at 27, Lower Fitzwilliam-street, Dublin, on January 16.

PICKFORD, JAMES HOLLINS, M.D., L.K.Q.C.P.I., M.R.C.S. Eng., J.P., and Deputy Lieutenant for the County of Sussex, at his residence, 1, Cavendish-place, Brighton, on January 18, in his 74th year.

SARELL, ANNA MARIA, beloved wife of Richard Sarell, M.D., of Constantinople, at 11, Rue Serkis, Pera, Constantinople.

SCOTT, R. T. C., Deputy Inspector-General of Hospitals and Fleets, at Melby House, Shetland, after a short illness, on January 6, aged 63.

THOMAS, ANN ARABELLA, widow of Thomas Thomas, Assistant-Surgeon H.E.I.C.S. Madras Establishment, and youngest daughter of the late John Bulley, Esq., of The Forbury, Reading.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made, and the day of election (as far as known) are stated in succession.

PAISLEY INFIRMARY.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to Mr. Wm. Hodge, Writer, Paisley, on or before February 6.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, CITY-ROAD, E.C.—Physician. Candidates must be F. or M.R.C.P. Applications, with testimonials, to the Secretary, on or before February 15.

ROYAL INFIRMARY FOR CHILDREN AND WOMEN, WATERLOO-BRIDGE-ROAD, S.E.—Physician. Candidates must be M.D. and M.R.C.P. Applications, with testimonials, to the Secretary.

TRINITY COLLEGE, DUBLIN.—Professor of Chemistry. Applications and testimonials to the Registrar, on or before January 23, 1875. Further particulars may be obtained from the Rev. Dr. Haughton, Medical Registrar, Trinity College, Dublin.

UNIVERSITY COLLEGE HOSPITAL.—Resident Medical Officer. Applications, with testimonials, to John Robson, B.A., on or before February 13.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Bromsgrove Union.—The Bromsgrove District is vacant; area 13,497; population 12,889; salary £60 per annum. Also the Workhouse; salary £30 per annum.

Grantham Union.—Dr. Thos. E. Shannon has resigned the Ropsley District; area 12,057; population 1829; salary £26 10s. per annum.

Thingoe Union.—Mr. F. G. Lawrence has resigned the Seventh District; area 13,710; population 1809; salary £70 per annum.

Ulverstone Union.—Mr. J. H. M. Gallwey has resigned the Hawkshead District; area 33,566; population 3357; salary £40 per annum.

Wisbech Union.—Dr. Sturkey has resigned the Third District; area 3848; population 868; salary £15 per annum.

APPOINTMENTS.

Auckland Union.—John G. Todd, L.R.C.P. Edin., L.F.P. and S. Glasg., to the Byers Green District.

Axbridge Union.—Thos. McClure, L.R.C.S. Ire., L.R.C.P. Edin., to the Second District.

Castle Ward Union.—John H. M. Gallwey, M.B. and C.M. Glasg., to the Ponteland District and the Workhouse.

Kendal Union.—George W. Brumwell, M.R.C.S. Eng., L.R.C.P. Edin., L.S.A., to the Scalthwaiterigg District.

Leek Union.—Arthur Wanklyn, B.M. and M.C. Camb. Univ., to the Endon District.

Mitford and Launditch Union.—Stephen M. Hopson, M.R.C.S. Eng., L.S.A., to the Workhouse.

North Bierley Union.—Wm. J. Smyth, M.D. Queen's Univ., Ire., L.R.C.S. Edin., L.R.C.P. Edin., to the Seventh District. John Treharne, B.M. and M.C. Edin., to the Thirteenth District.

Saffron Walden Union.—Andrew D. Maddeo, L.R.C.S. Ire., L.A.H. Dub., to the Fourth District.

Tendring Union.—Samuel Evans, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., to the First and Second Districts.

Woolwich Union.—Henry W. Webster, M.R.C.S. Eng., L.R.C.P. Edin., to the Workhouse and Infirmary.

Worcester Union.—J. R. Buck, L.R.C.P., M.R.C.S., to the First District.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—At a special meeting of the Council, held on Thursday, January 14, 1875, John Cronyn, F.R.C.S. Ire., was elected Professor of Midwifery, in the room of Dr. Sawyer, resigned.

NAVAL MEDICAL SUPPLEMENTAL FUND.—At the quarterly meeting of the directors of the Naval Medical Compassionate Fund, held on the 12th inst., Sir Edward Hilditch, Inspector-General, in the chair, the sum of £75 was distributed among the various claimants.

DEATH OF DR. ROBERT ADAMS, OF DUBLIN.—A grievous blow has fallen upon the School of Surgery in Ireland. On Wednesday, January 13, Robert Adams, the veteran Regius Professor of Surgery in the University of Dublin, passed away, full of years and honours. Next week we hope to give some account of the life of this celebrated surgeon, who has thus died in a green old age, leaving a host of friends to deplore their loss.

TREATMENT OF SYCOSIS.—Sycosis is a very common affection among soldiers, and difficult of cure by the means usually employed. The treatment I have pursued has always succeeded in a few days. Morning and evening for two days I rub into the eruption mercurial ointment, the size of a haricot bean. The friction should be made with the finger, and should be continued until the ointment has all disappeared. The whole surface is then covered with a piece of wadding. On the third and the fourth day tincture of iodine is applied night and morning over the mercurial friction by means of a pencil—nothing being cleansed off. We have only to wait until the iodine disappears, and the cure will be found complete.—*M. Touraine in Rec. de Méd. Mil.*, December.

PROFESSOR CHEVREUL.—The Minister of Public Instruction, having waived the appointment of M. Dareste, which led to the resignation by this distinguished *savant* of his post of Directeur du Muséum d'Histoire Naturelle, he has consented to withdraw his resignation. At the beginning of the year, also, he was raised to the dignity of Grand Croix de la Légion d'Honneur, a recompense which will be generally applauded, especially as it is very rarely accorded to mere *savants*. Men of science, however, are not a little surprised at finding that it is not accorded to M. Chevreul as the great chemist and professor, but as "Président du Comité Consultatif des Arts et Manufactures," and therefore on the preposition of the Minister for Agriculture and Commerce and not of the Minister of Public Instruction. Probably the latter official did not relish having to propose so distinguished an honour for one whom he had so lately snubbed.

ANATOMICAL AND PHYSIOLOGICAL EXAMINATIONS.—The following were the questions submitted to the candidates at the primary examination for the diploma of membership of the Royal College of Surgeons on Saturday last. It is now compulsory on the candidates to answer one of the two questions on Physiology, and at least three out of the four on Anatomy:—1. What evidence exists of the influence of the nervous system on the functions of secretion and excretion? Explain how such influence may be exerted; and illustrate the subject by examples. 2. How much oxygen is consumed by a healthy adult person, under ordinary circumstances, daily? What are its principal purposes in the system? and in what forms is it chiefly eliminated? 3. Describe the diaphragm—its attachments, relations, and action. 4. Describe the thyroid and cricoid cartilages. Enumerate the muscles connected with them; and state the exact attachment of each. 5. Mention in order, from before backwards, the several structures which are in contact with the first rib. 6. Mention the structures exposed on removal of the palmar fascia; and describe their relative position. There were 108 candidates examined orally—viz., 36 per diem. On the first day 15 were rejected, on the second day there were 13, and on the third and last day 16, making a total of 44. It is a sad reflection that no less than 61 out of the 108 candidates examined had been previously rejected varying from once to *five* times.

THE POLLUTION OF AIR IN THEATRES.—*Le Journal de St. Petersbourg* publishes some interesting observations by Dr. Hubner on the progressive alteration the air underwent in the Marie Theatre. The experiment was made on December 1, in a central box of the second circle. The temperature rose from quarter of an hour to quarter of an hour, although the quitting the theatre between the acts contributed to introduce some fresh external air. At the rising of the curtain the temperature was 18° C.; by the end of the first act it had reached 24°, and 25° by the commencement of the

second. The humidity of the air increased less rapidly, but yet in two hours it had increased by 30 per cent., and by the end of the fourth act it was greater than that of the external air. At the commencement the humidity was from 40 to 60 per cent., or such as may be found in healthy and well-ventilated abodes; but by the end it had reached 85 per cent., equalling that of abodes which exert a mischievous influence on their inhabitants. The carbonic acid had by the second act exceeded six times the normal proportion, being 1·9 per 1000 cubic metres. At the end of the performance it was 4·3 per 1000, constituting an atmosphere capable of producing toxical action on the lungs of people habituated to respire pure air.—*Union Méd.*, January 14.

Protection from Flies by a Net.—Surgeon-Major Tourainc, detailing in the *Recueil de Médecine Militaire* for December numerous plans of employing surgical knots and ligatures while campaigning, mentions incidentally that while suffering in 1860 from a siroceo at Sétif, and the victim of the incessant attacks of the common fly, which quite precluded sleep, he bethought himself of an old writer on fishing who states that these pests will never traverse the meshes of a net. Happening to have a small white net with meshes of a centimetre, he covered his face and hands with it, and was delighted to find that the flies hopped from mesh to mesh without ever penetrating these or even attacking his nose, which projected beyond them. Nay, when by chance a fly fell through it wriggled about until it succeeded in escaping. Since then he has observed that the Arab *perruquiers*, especially those of Constantine, close their shops with nets having large meshes, which serve as doors; and although the smell of soap is very attractive to flies, very few are ever seen inside. He has often employed nets to protect soldiers suffering from typhoid from annoyance by flies, and has derived far better results from this means than from employing persons to watch and drive away the flies.

M. Verneuil on Forcipressure.—To the various forms of "pressure," such as acupressure, uncipressure, *serres fines*, etc., M. Verneuil, in a communication to the Surgical Society, calls attention to another—forcipressure. He relates twelve cases, in which, from various causes, ligature of small vessels was difficult or impossible. He succeeded in permanently arresting hæmorrhage by seizing the vessel in a forceps, and having fixed them with a cord, leaving them in the wound for several hours, or even some days. Without claiming any novelty for the practice, he thinks, as a very successful procedure when hæmorrhage is often difficult to restrain, that it is deserving to be generally more known.—*Gaz. des Hóp.*, January 9. [In the *Gazette Médicale*, January 6, two *internes* of M. Péan publish a paper, in which it is stated that during the last ten years he has renounced the use of ligatures in surgical operations, employing a hæmostatic forceps of his invention, which may be so adjusted as to act preventively, temporarily, or definitively.]

We next examine the state of the patient by the inspection of his thorax and neck, noting first whether there is any undue pulsation in the carotid arteries or in the tracheal fossa; whether the veins are enlarged, and whether they pulsate or not. And to determine this in anæmic patients is sometimes a matter of some nicety, especially if they be young, as the veins are then small, and apt to be hidden by the subcutaneous fat, which is always more abundant than in older patients. When the individual is lying flat, a mere flicker at the root of the jugular is of no importance, as it is found in most healthy people. A simple undulation in the jugular is a sign of considerable congestion of the right auricle, with propagation through it of the systolic impulse of the ventricle, the valves at the root of the jugular remaining intact. But when we have distinct systolic pulsation propagated into the jugular veins, usually most evidently into the right one, and made most plain by pressing up the blood in the vein to the middle of the neck with the finger, when the vein is seen to fill from below by regular pulsations synchronous with those of the heart, then we know that we have to do with dilatation of the right side of the heart of some standing, which has rendered incompetent the tricuspid valve as well as the venous valves at the root of the neck, and must therefore have interfered injuriously with the systemic circulation. Visible venous pulsation is therefore invariably a sign of considerable dilatation, with or without hypertrophy of the right ventricle, and its distinctness may be accepted as a measure of the persistence and degree of that dilatation: but visible arterial pulsation is occasionally found, especially in the peripheral vessels, in the normal condition, and is still more marked when these vessels are atheromatous and tortuous, as they frequently are in advanced age; but if we confine our inspection simply to the carotids, the tracheal fossa, and the brachials, and if we find well-marked, excessive, and symmetrical pulsation there, in the erect or semi-erect position, this will invariably be found associated with regurgitation through the aortic valves, and with coexistent dilatation and considerable hypertrophy of the left side.—"*On the Diagnosis of Disease of the Heart*," *by George W. Balfour, M.D., F.R.C.P.E.* (*Edinburgh Medical Journal, June*, 1874).

Average Composition and Quality of the Metropolitan Waters in the Year 1874.—The following are the returns (by Dr. Letheby) of the Society of Medical Officers of Health:—

Names of Water Companies.	Total Solid Matter per Gallon.	Oxygen required by Organic Matter, &c.	Nitrogen.		Hardness.	
			As Nitrates &c.	As Ammonia.	Before Boiling.	After Boiling.
Thames Water Companies.	Grains.	Grains.	Grains.	Grains.	Degs.	Degs.
Grand Junction .	18·46	0·069	0·114	0·002	14·5	3·6
West Middlesex .	17·98	0·039	0·125	0·000	14·2	3·5
Southwark & Vauxhall . . .	18·61	0·071	0·119	0·002	14·6	3·7
Chelsea . . .	18·43	0·067	0·118	0·002	14·4	3·6
Lambeth . . .	18·44	0·068	0·119	0·002	14·4	3·6
Other Companies.						
Kent	27·74	0·002	0·233	0·000	21·0	5·8
New River . .	18·49	0·019	0·122	0·000	14·6	3·5
East London . .	18·54	0·039	0·146	0·002	14·7	3·7

Note.—The amount of oxygen required to oxidise the organic matter, nitrites, etc., is determined by a standard solution of permanganate of potash acting for three hours; and in the case of the metropolitan waters the quantity of organic matter is about eight times the amount of oxygen required by it.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—Bacon.

Dr. F. A. Otis.—Communication (with enclosure) received.

Dr. Bishop, Paris.—Communication (with enclosure) received.

C. C., Norfolk.—Yes. The only "surgeon to the King" was Wardrop. George IV. established a new title to confer on his favourite. There has been no subsequent possessor of this distinction.

Samuel Tomlinson.—You will find it better to apply to a good physician near you than to continue trying pots of ointment.

Dr. F. D. Edgerton.—Your communication (with enclosure) was received on January 2.

A Tutor.—Your pupil has by this time received the verdict of his examiners, at the recent Arts Examination of the Royal College of Surgeons, as we understand all the announcements were sent out a few days ago. If possible, and when we can find space, the list shall be published.

J. C., St. Bartholomew's.—On inquiry, we find that no portrait, photographic or otherwise, has been published of the late Mr. Wormald. The deceased gentleman had a great aversion to it; but a few years ago, when visiting Paris, he was induced to sit for his photograph, from which we believe Mrs. Wormald had a few copies made for private distribution.

F. K.—As an illustration of "the ruling passion strong in death," it is reported of the celebrated Sidney Smith that his wit was so inexhaustible that even the hand of death did not disturb it. The nurse who tended him in his last illness confessing to having given him a bottle of ink instead of a bottle of physic, the dying wit exclaimed, "Then bring me all the blotting-paper there is in the house!"

M. W., Gloucester.—Parliament voted Dr. Jenner for his discovery £10,000, on June 2, 1802. To show their appreciation of medical services to the public, the same body voted a similar sum to Mrs. Stevens for her assumed "cure for the stone." This precious remedy consisted of administering small doses of liquor potassæ in veal-broth! A sad discouragement to the great benefactors of mankind. A great encouragement to pretenders and charlatans.

G. O., Chesterfield.—The medical department of the Laporte University, Indiana, was formed in 1846.

Inquirer.—Hospitals were spoken of as being well known in the Council of Nice, A.D. 325. The most celebrated one was that of Cæsarea, endowed by the Emperor Valens, 370; the hospital of Chrysostom, at Constantinople, was the next in size. Twenty-four hospitals were known in Rome in the ninth century. The first foundling hospital was established at Milan, 787.

Mr. Manley.—The pass examination for the diploma of Membership of the College commences this day (Friday).

M.D. Oxon.—The Archbishop of Canterbury had the power of conferring the title of Doctor of Medicine upon any person he thought worthy of that "honour." The Medical Act of 1858 deprived his Grace of this absurd privilege. As far as we know, not one of the Lambeth M.D.'s has the slightest claim to be remembered.

A Goth is anxious to know where particulars can be read of the old Roman practice of infibulation; also if any information exists respecting the origin of the custom of piercing the ears.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Pharmaceutical Journal—Allgemeine Wiener Medizinische Zeitung—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—La Tribune Médicale—Le Mouvement Médical—La France Médicale—Le Progrès Médical—Bulletin de l'Académie de Médecine—The High Peak News—Cincinnati Lancet and Observer—Glasgow Herald—Bradford Daily Telegraph—New York Medical Record—Students' Journal and Hospital Gazette—National Food and Fuel Reformer—Repertorio Jaliscieuse de Medicina y Cirugia Practicas—New York Medical Journal—Philadelphia Medical Times—Boston Journal of Chemistry.

BOOKS AND PAMPHLETS RECEIVED—

Dr. Scoresby Jackson's Note-Book of Materia Medica, edited by Dr. A. Macdonald—Contributions to the Mechanism of Natural and Morbid Parturition, by Dr. Matthews Duncan—Catalogue of the Preparations of Comparative Anatomy in the Museum of Guy's Hospital, by Dr. Pye-Smith—Dobell on Winter Cough, third edition.

COMMUNICATIONS have been received from—

Dr. Sclanders, Nairn; Mr. Yewdall, Leeds; Dr. T. Peacock, Liberton; Dr. W. Millea, Londonderry; Mr. C. J. Pyle, Amesbury; Mr. R. G. Davey, Walmer; Mr. J. L. Worship, Sevenoaks; Mr. Hockin, London; Dr. T. Evans, Gloucester; Mr. J. North, Brecon; Mr. Jarmain, Huddersfield; Mr. Stone, London; Dr. Orme Dudfield, London; The Registrar-General, Edinburgh; Mr. B. Vincent, London; Dr. J. M. Finny, Dublin; Mr. J. Wolfe, Glasgow; A Goth; Mr. A. Morrill, London; Dr. A. Paterson, Hawick; Mr. T. F. Sagar, Leeds; Dr. Bradshaw, Carrick-on-Shannon; Dr. Sparks, London; Dr. Taylor, London; Mr. Henry Morris, London; Mr. Hulke, London; Mr. J. Goaham, Tunbridge, Kent; Dr. T. H. Gaben, London; Dr. W. R. S. Jefferiss, Badcall, N.B.; Mr. J. Chatto, London.

APPOINTMENTS FOR THE WEEK.

January 23. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 9 a.m. and 2 p.m.; Hospital for Women, 9½ a.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

Royal Institution, 3 p.m. Mr. E. Dannreuther, "On Beethoven" (with Pianoforte Illustrations).

25. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

Medical Society of London, 8 p.m. Mr. Richard Liebreich will show a New Instrument for Operating in Fistula Lachrymalis. Mr. Braine, "On a Case of Hysterical Anæsthesia." Dr. L. S. Forbes Winslow, "On Religious Insanity."

26. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Anthropological Institute, 8 p.m. Anniversary Meeting.

Royal Institution, 3 p.m. Mr. E. Ray Lankester, "On the Pedigree of the Animal Kingdom."

Royal Medical and Chirurgical Society, 8½ p.m. Dr. Theodore Williams, "On the Temperature of Phthisis Pulmonalis, and on the various conditions influencing it."

27. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Hunterian Society (London Institution), (Council Meeting, 7½ p.m.), 8 p.m. Dr. Burton Brown, "On the Poisons of Northern India."

28. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.

Royal Institution, 3 p.m. Prof. P. M. Duncan, "On the Grander Phenomena of Physical Geography."

29. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

Royal Institution (Weekly Evening Meeting, 8 p.m.), 9 p.m. Prof. Huxley, "On the Recent Work of the *Challenger* Expedition, and its Bearing on Geological Problems."

VITAL STATISTICS OF LONDON.

Week ending Saturday, January 16.

BIRTHS.

Births of Boys, 1220; Girls, 1261; Total, 2481.
Average of 10 corresponding years 1865-74, 2276·2.

DEATHS.

	Males	Females.	Total.
Deaths during the week	926	985	1911
Average of the ten years 1865-74	802·1	805·6	1607·7
Average corrected to increased population	...	...	1720
Deaths of people aged 80 and upwards	...	...	95

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	...	8	2	10	1	8	3	1
North	751729	1	...	16	1	10	1	5	...	3
Central ...	334369	1	...	4	2	...	...	2	...	...
East	639111	...	1	12	1	16	1	4	4	4
South	967692	3	11	19	8	17	1	10	3	5
Total	3254260	5	12	59	14	53	4	29	10	13

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·727 in.
Mean temperature	46·0°
Highest point of thermometer	51·5°
Lowest point of thermometer	36·5°
Mean dew-point temperature	43·1°
General direction of wind	S.W.
Whole amount of rain in the week	0·32 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, January 16, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1875.)	Births Registered during the week ending Jan. 16.	Deaths Registered during the week ending Jan. 16.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3445160	45·7	2481	1911	51·9	38·7	45·9	7·72	0·33	0·84
Portsmouth ...	122632	27·3	74	57	...	38·0	...	...	0·45	1·14
Norwich	82842	11·1	57	49	51·8	36·0	43·3	6·28	0·14	0·36
Bristol	196186	44·1	147	140	54·4	41·2	47·6	8·67	0·52	1·32
Wolverhampton ...	71718	21·1	56	44	54·9	39·8	46·3	7·95	0·50	1·27
Birmingham ...	366325	43·6	328	252	54·5	39·2	46·6	8·12	0·70	1·78
Leicester	109830	34·3	62	60	55·0	38·0	46·1	7·84	0·49	1·24
Nottingham ...	92251	46·2	80	63	54·5	37·6	44·4	6·89	0·54	1·37
Liverpool	516063	99·1	441	372	55·4	39·4	45·8	7·67	0·63	1·60
Manchester ...	356626	83·1	314	286	55·0	40·0	45·5	7·50	1·00	2·54
Salford	135720	26·3	139	85	57·0	38·9	46·0	7·78	1·03	2·62
Oldham	87437	18·7	79	50	...	...	...	...	...	...
Bradford	168305	23·3	125	72	54·2	39·0	45·7	7·61	0·75	1·90
Leeds	285118	13·2	179	162	55·0	38·0	44·1	6·73	0·74	1·88
Sheffield	267881	13·6	212	128	56·5	38·0	45·8	7·67	0·61	1·55
Hull	133932	36·8	113	69	56·0	36·0	42·7	5·95	0·42	1·07
Sunderland ...	106342	32·2	94	62	59·0	38·0	45·6	7·56	0·42	1·07
Newcastle-on-Tyne	137065	25·5	79	85	...	...	...	...	...	...
Edinburgh	211626	30·5	148	138	...	...	...	...	...	...
Glasgow	531765	88·1	402	445	53·3	36·5	45·2	7·33	0·93	2·36
Dublin	314666	31·3	186	256	56·6	27·5	47·2	8·44	0·18	0·46
Total of 21 Towns in United Kingdm	7739490	37·0	5796	4789	59·0	27·5	45·5	7·50	0·58	1·47

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·73 in. The highest was 29·95 in. on Thursday evening, and the lowest 29·44 in. on Saturday morning.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

LECTURES ON EXPERIMENTAL AND PRACTICAL MEDICINE.

By BENJAMIN W. RICHARDSON, M.D., F.R.S.

ON THE SCIENCE AND ART OF EMBALMING.

Lecture III.

(*Continued from page 57.*)

Embalming with a Post-mortem Examination.

It occasionally happens that a body which is to be embalmed requires to be subjected to a scientific examination in order to determine the cause of its death. Under such circumstances the process of embalming is more complicated than has been described in the former part of this lecture; but if the operator who is to embalm may himself make the post-mortem inquiry, the difficulties that are added need not be very great. Such modifications of the embalming process as occur under these circumstances I am now about to explain in brief detail.

In conducting the post-mortem the incision along the body must be made in one straight line only: the two lateral incisions usually made beneath the diaphragm are to be omitted. The skin must then be very neatly reflected from the chest, without cutting through muscular fibre, and wherever the scalpel goes care must be taken to avoid large bloodvessels. The cartilages of the ribs must be divided with evenness and regularity, and the division should not extend quite so high upwards as the sterno-cleido articulation. If it be carried too high there will be danger of cutting through the large vessels, and much after trouble may ensue. When the incision through cartilage has been carried on each side up to the point named, the sternum is to be carefully divided transversely, and the anterior part of the chest-wall that has thus been separated is to be removed altogether.

The thoracic viscera being now exposed, the viscera of the abdomen are to be laid open by a straight incision, in the line of the linea alba, through the peritoneum. The diaphragm should be left in position and without injury.

The visceral organs of the abdominal cavity should be first examined in detail, with this precaution,—that every organ that is to be incised be removed whole, and before removal be ligatured firmly beneath, with a strong waxed thread. Thus the vessels connecting each organ with the great channels of the circulation, through which the preserving solution will have to run, will be sealed up. Patience and care only are necessary to render every step of these removals complete. The whole of the intestines and the stomach can, in this manner, be separated, and the aorta be left unopened in every part of its course. If it be necessary to make incisions into the lungs, which organs should next be examined, they must be carefully lifted from the thorax one by one, and firmly tied at their root, a sufficient portion of pulmonary substance being left between the ligature and the incision to allow of a firm hold for the ligature. If the lungs need not be incised, they are best left *in situ*.

The heart must be left in its natural position. In examining it an incision must be carried from the apex of the anterior wall of the right ventricle into the right auricle, so as to lay open the right auricle and ventricle. Another incision must then be made through the infundibulum into the pulmonary artery, so as to disclose the pulmonary semilunar valves, if they are to be looked at. The right side of the heart disposed of, the left side is to be examined by an incision extending from the apex of the left ventricle into the left auricle, so as to expose to view both auricle and ventricle. When the left ventricle is thus laid open, the finger of the operator is to be passed behind the mitral valve into the aorta, and the aortic valves are to be felt. If to the touch they convey no sign of disease, they need not be examined further.

At this stage of the process a tube three inches long, and slightly curved, is to be passed into the aorta from behind the mitral valve. It is to be pushed along the aorta in the course of the arch until it is plainly perceived in the upper third of the ascending portion. Then, with the aneurismal needle, a strong ligature is to be passed round the vessel in the first third of the ascending part, and the tube is to be firmly tied in the aorta. If the pulmonary artery be included in the ligature, no harm will be done; and should the tube feel unsteady, a second ligature may be applied half an inch, or from that to an inch, above the first.

The tube introduced, and tied into the aorta, is to be connected ultimately with the injecting bottle, and through it the embalming solution is to be conveyed into the vessels of the body. It may be made either of light metal, of vulcanite, or of guttapercha. I have used one made of the last-named material, bent into shape by gently warming it until it is pliable. The diameter of the tube must vary according to the size of the vessels of the subject: in an adult subject it may be half an inch in diameter in the clear.

If it be necessary to make an examination of the contents of the cranium, that must next be proceeded with in the usual way, but with more than usual care. The skull must be cut through with a fine saw, and the line of the incision made by the saw must be exceedingly regular. The cerebrum and cerebellum must both be removed, and all fluid matter must be sponged up from the base of the skull.

Before proceeding with the embalmment, all the organs that have been removed are to be finally examined. If any of them are to be retained for anatomical or other purposes, they should be put into the vessels prepared for them and set aside. Whatever are to be preserved, together with the body, are to be immersed at once in a separate portion of the solution of chloride of zinc, and to be left to saturate in that solution for at least six hours.

The post-mortem examination of the structures of the body may now be considered completed, and the embalming process may commence. An indiarubber tube is attached by one of its ends to the tube that is tied in the aorta, and by its other end to the injecting bottle or syringe. Then a gentle injection of the fluid is made through the vessels of the body. It will be found, as the injection is pressed, that the fluid escapes wherever an artery has been divided. There will be escape by an intercostal vessel at every divided rib; there is sure to be escape by some vessel in the abdomen, and by the vessels at the base of the cranium. These vessels must all be tied. The intercostals are easily tied by carrying a ligature round each rib, and enclosing the vessel in it; the vessels in the abdomen can be picked up and tied separately. The fluid in the cranium that exudes up from the spinal canal can be controlled by pushing a firm, rounded wedge of soft wood down the canal, and the other vessels can be tied singly.

The escape of a little fluid by the arteries does no harm, and all that escapes by the veins is of no moment whatever, because the fact of its loss through them proves that the tissues have been saturated with it.

In this modified form of embalming, the quantity of preserving fluid that has to be used is very much greater than in the simpler process, where the body is entire and the vessels are closed; for, do what you may, there will be a continual escape of the fluid, which escape must be met by laving the tissues with more fluid. For this same reason the injection must be conducted more slowly; indeed, the solution must never be pressed so forcibly as to cause a distinct jet from an open artery. At intervals it is good practice to rest for an hour, in order to let the tissues absorb the fluid, and then renew the injection. In time it will be found that the surface of the body is mottled in points from the effects of the injection; then the saturation may be considered complete, and the operator, ceasing to inject, may leave the body for several hours, as already described, in order to allow the tissues to become fully saturated.

Returning to the body after the necessary interval of time has elapsed, if the whole of the structures be found firm and rigid, the re-adaptation of the parts which have been removed may be carried out. The organs which have been lying in the solution of chloride of zinc must be removed from the solution, dried with a sponge, and painted over with the zinc colloid. Next, the surfaces of all the visceral cavities are to be painted over with the same colloid, and the organs are to be returned to their respective cavities. Interspaces may be filled up with sea-tangle or tow saturated with the colloid. If there are no organs to be put back into a cavity it should not be left empty, but should be filled with gypsum to which has been added a quarter of an equal measure of tannin and a little myrrh.

To replace firmly and neatly the anterior part of the chest-wall and the calvarium, and to retain these in a fixed state, it is requisite to put the divided bones carefully in apposition, and bind them so with gold or silver wire. I use for this

purpose a small archimedean drill. I make, with this, a hole through the bone on each side, pass a loop of wire through each, and with pliers twist the wire firmly, cutting off the ends closely. To fix the calvarium five wires are required—two for the parietal part, one for the centre of the occiput, and two intermediate. No wire should be inserted in the frontal space; it would produce disfigurement on the brow.

The divided integuments of the abdomen and head are to be brought neatly together with thread by the ordinary anatomical stitch.

This modified mode of embalming with a post-mortem can be made exceedingly perfect. It may, indeed, be perfected equally with the first method, but it calls for more time, and it entails a little more care in some of the manipulative proceedings.

In certain cases the body has to be embalmed after a post-mortem examination has been conducted by some other operator, and when the parts are left incised in such a manner that neither the aorta nor any other vessel commanding the whole arterial circuit can be found. In this instance it is necessary to inject each part with the preserving solution in detail. The head must be injected through the common carotid arteries; the arms through the axillaries; the lower limbs through the common iliacs. The visceral organs must be saturated with the zinc solution as before, and the visceral cavities should be left charged for six hours at least with the fluid, in order that it may diffuse thoroughly into the muscles of the trunk by simple contact. Thus a great deal of fluid will find its way through the open mouths of the vessels that have been divided, and some will traverse the membranous structure. The after proceedings are identical with those which have been recorded.

(*To be concluded.*)

ORIGINAL COMMUNICATIONS.

NOTES ON THE

PATHOLOGY OF PULMONARY PHTHISIS.

By T. HENRY GREEN, M.D., F.R.C.P.,
Physician to Charing-cross Hospital, and Lecturer on Pathological Anatomy in the Medical School.

VII.—Etiology of Phthisis.

The Inherent Weakness of Lungs—Predisposition—Susceptibility of Lungs to various kinds of Injury—Incapacity of Recovering from Effects of Inflammatory Process—Development of Lymphoid Growth—The Several Methods by which Injuries may be Inflicted on the Lungs: 1. *By Injuries Inflicted upon the Surface of the Body, "General Chill"; 2. By Injuries Inflicted through medium of Bronchi—Bronchial Catarrh as a Cause of Phthisis—Two Ways in which Catarrh of Bronchi may cause Pulmonary Consolidation:* 1*st. By Changes resulting from Retained Bronchial Secretion—Inhaled Mucus—Broncho-Pneumonia—Why is Phthisis an Apex Disease?*

Thus far I have attempted to show that the various kinds of pulmonary consolidation met with in phthisis are the results of inflammatory processes, and that the differences in the variety of lesion which predominates, together with the kind of secondary change which takes place in the consolidated tissue, are mainly owing to differences in the intensity and duration of the inflammation. In describing the several lesions as *inflammatory*, I would again repeat that I merely mean to imply that they owe their origin to some kind of injurious irritation of the pulmonary tissues. I proceed now to consider more particularly the etiology of the disease.

In studying the etiology of pulmonary phthisis it will be necessary to consider—in the first place, that inherent weakness of the lungs which exists so frequently in this disease, and to see how far this weakness explains the marked susceptibility of the organs to injury, and those peculiarities which have been seen to exist in the histological characters of the textural alterations and in the subsequent changes which take place in the consolidated tissue; secondly, to examine into the several methods by which injuries may be inflicted on the lung in such a way as to set up an inflammatory process; and, lastly, to point out in what way the occurrence and progress of the disease is influenced by the general health of the individual.

Firstly, with regard to the inherent weakness of the lungs. That some abnormal condition of the lungs which is quite independent of any material change, or at all events of anything either chemical or anatomical which we are able to recognise, is present in a large proportion of the cases of phthisis, will, I presume, be very generally admitted. This weakness is in most cases an inherited one, and it is usually spoken of as a "constitutional tendency" or "predisposition." Although it is undoubtedly in most cases inherited, it would appear to me to be probable that a weakness precisely similar in its results may sometimes be primarily induced by previous attacks of pulmonary inflammation; that a lung which is constitutionally strong may thus be rendered weak, although the inflammatory process has left behind it no recognisable structural change. Whether this hypothesis be true or not, there can be no doubt that any weakness of a lung which may exist as the result of hereditary taint will be increased by the occurrence in the organ of an inflammatory process. Lastly, it must be borne in mind that a weakness of the lungs may exist in common with a weakness of the tissues generally. A low standard of health in the individual produces a general weakness, in which the lungs participate, quite irrespectively of any *special* predisposition of these organs. This will be again alluded to when speaking of the general health as influencing the occurrence and progress of phthisis.

The most important result of this inherent weakness of the lungs is that it renders them abnormally susceptible to the various kinds of injurious irritation, and they are consequently especially liable to become the seats of inflammatory processes. The frequency with which people who inherit this weakness of the lungs suffer from attacks of broncho- or pulmonary inflammation of varying degrees of intensity, is a matter of everyday clinical experience. Such people are usually spoken of as "delicate"; they are very susceptible to cold, and it is their respiratory organs that suffer; and ultimately they often become phthisical.

Another consequence of this pulmonary weakness, almost equal in importance to the preceding, and one to which I have already alluded, is that the lungs are less capable of recovering themselves from the effects of an inflammatory process than are healthy organs. The inflammation has a greater tendency to become chronic. If active changes cease they are very readily reinduced, the new tissue has less power to undergo progressive (fibroid) development, and the tendency to retrograde change is more marked.

In connexion with this inherent weakness of the lungs, I would allude to that development of small-celled lymphoid growth in the walls of the alveoli and in other parts which has been seen to be the histological change which is the most characteristic of phthisis. This growth, it must be remembered, originates from the connective-tissue elements and from the nodules of lymphoid tissue which are situated in the immediate vicinity of the bronchioles; and inasmuch as it is developed very much more readily in phthisis than in other forms of pulmonary inflammation, it becomes a question as to whether in this disease the elements from which it originates are especially prone to respond to irritation. In other words, does the inherent weakness of the lungs, which so often exists in phthisis, reside more particularly in these connective-tissue cells and nodules of lymphoid tissue? In attempting to answer this question, it is important to bear in mind the relation which subsists between the connective-tissue elements and the lymphatic system. The connective-tissue cells lie in the serous canals, and those which are situated beneath the epithelium of the alveolar walls send a process between the epithelial cells into the alveolar cavity, so that the most important system of pulmonary lymphatics (the perivascular) take their origin in the walls of the alveoli (Klein).(a) These connective-tissue cells, therefore, as well as the nodules of lymphoid tissue, are in intimate connexion with—if they do not belong to—the lymphatic system. When, in addition to this histological fact, is remembered the extreme frequency with which lymphatic structures in other parts undergo active changes in phthisis—*e.g.*, the bronchial and other lymphatic glands, and the lymphatic structures in the bronchial and intestinal mucous membranes,—there would appear to be an especial susceptibility of elements belonging to the lymphatic system to respond to irritation, and it would appear probable that the inherent weakness of the lungs resides more particularly in these elements, and consequently lymphoid growth constitutes so prominent a feature in most cases of the disease.

(a) "Anatomy of the Lymphatic System of the Lungs" (*Proceedings of the Royal Society*, No. 149, 1874).

I proceed now to consider the several methods by which injuries may be inflicted on the lungs in such a way as to set up an inflammatory process (excluding wounds and surgical injuries). These methods are three in number:—1st, by injuries inflicted upon the surface of the body; 2nd, by injuries inflicted through the medium of the bronchi; and 3rd, by infection.

By injuries inflicted upon the surface of the body, I mean that general chilling of the surface which results from exposure to cold. That such chilling frequently causes inflammation of some internal organ is well known. Whether it does so by injuring the superficial sensory nerves, and the impression thus received is reflected from these to the internal organ; or whether by lowering the temperature of the blood and producing internal congestion; or by checking the exhalation from the skin, and so causing an accumulation in the blood of products which should be eliminated, and these products act as direct irritants to the organ,—it is not my purpose now to discuss. I am merely desirous to state that such superficial injury is one of the means by which inflammatory processes may be induced in the lungs in common with other internal parts. Which organ suffers as the result of the injury appears in great measure to depend upon predisposition or *weakness*. In some people one organ is especially liable to become inflamed; in others, another. If the lungs be the weak organs, as they so very frequently are in phthisis, the exposure to cold may be followed by a bronchial catarrh, a pulmonary congestion, or by a more intense pneumonic process; and the inflammatory affection may lead to pulmonary disorganisation. If the result be an acute pneumonic process, the consolidated lung may not undergo resolution, but rapidly become disintegrated. This is probably the way in which many of the most acute forms of non-infective phthisis are induced. In such cases, although the consolidation is usually most marked in the upper portions of the lung, its macroscopical characters are precisely similar to those of ordinary grey hepatisation; and any excavations which exist have soft, friable, and have usually irregular walls. Of the relation which exists between bronchial catarrh and phthisis I shall speak in the following paragraph.

A more important cause of inflammatory processes in the lungs than the preceding is injuries inflicted through the medium of the bronchi. The bronchi, communicating as they do with the external air, are especially liable to injury. The result of such injury may be simply a bronchial catarrh affecting the larger or smaller tubes. The question here which especially concerns us is, how far such bronchial catarrh may be a cause of phthisis. Some observers state that catarrh of the bronchial mucous membrane can under no circumstances be a cause of phthisical disease, whilst others maintain that it is the most important one. For my own part, I doubt the possibility of bronchial catarrh causing phthisis—except under exceedingly exceptional circumstances—in the absence of a *predisposition* to the disease. Given the predisposition, however, such catarrh becomes a most important causative element.

There are two ways in which catarrh of the bronchi may become a cause of pulmonary consolidation. One of these, and that which is the most important, is by the changes which are induced in the lung as the result of retained bronchial secretion. These changes are exemplified by what so often occurs as the result of capillary bronchitis, especially in children. One of the most common results of this bronchitis is, that the richly cellular bronchial secretion becomes drawn into the air-vesicles during the inspiratory act; so that disseminated patches of consolidation are produced in the lungs, which consist merely of groups of alveoli filled with the inhaled mucus. This is one of the conditions so commonly known as "catarrhal," "lobular," or "broncho-" pneumonia, although it often exists without any marked active changes taking place in the alveolar epithelium. In other cases the retained secretion produces a considerable amount of epithelial proliferation, and even some small-celled growth in the alveolar walls.

Another well-known consequence of retained bronchial secretion is the pulmonary collapse and attendant changes which it may produce. The mucus, by preventing the entrance of air into certain groups of air-vesicles, causes the collapse of these vesicles. The occurrence of the collapse is followed by hyperæmia and œdema of the collapsed portions, and this by active changes in the alveolar epithelium. This, which often occurs coincidently with the inhalation of mucus, and gives rise to very similar macroscopical appearances, constitutes another of those changes known as "broncho-" or "catarrhal" pneumonia.

These changes, when occurring in previously healthy lungs, if they are not quickly followed by death, usually terminate in complete recovery. The accumulated alveolar products undergo fatty metamorphosis, and are in most cases completely got rid of by expectoration and absorption; although in some portions of the lung they may remain and form small caseous masses, which ultimately become encapsuled. When, on the other hand, they take place in a lung which is constitutionally weak—one in which there exists a predisposition to phthisis—the result is different. In such a lung, owing to the abnormal susceptibility of the pulmonary tissue to injury, the irritation of the products which have accumulated within the alveoli is sufficient to cause active changes in the alveolar walls; these become thickened by a small-celled growth, and caseation and necrosis is the ultimate result.

In comparing the pulmonary changes which are produced by the bronchial secretion in a case of capillary bronchitis in a child with those which constitute phthisis we are, however, met by this difficulty—that the seat of the pulmonary consolidation differs in the two cases. Whereas the simple broncho-pneumonia which results from a capillary bronchitis is most marked in, and often exclusively confined to, the lower portions of the lungs, the consolidation of phthisis almost invariably commences at the apices. The explanation of this difference involves the explanation of the fact that phthisis is *par excellence* an apex disease. On this subject we can, I believe, at present be little more than hypothetical. We are still unable to explain how it is that an acute croupous pneumonia occurring in a healthy person almost invariably originates at the extreme base of the lung. Aufrecht attempts to account for the situation of phthisical consolidation by stating that the expiratory power of the apices is not so great as that of the lower portions of the lungs, and that, consequently, inflammatory products which have accumulated in the smaller bronchi and air-vesicles are less readily removed by expectoration from the former than from the latter situation.(b) Whether this be so or not, there can be no doubt that clinically we often find, in cases of simple bronchial catarrh occurring in debilitated subjects or in those suffering from acute diseases, that the moist and dry râles persist at the apices for some time after they have disappeared from the lower portions of the lung, and in some cases the physical signs are even confined to the apices without there being any evidence of phthisis. In attempting to explain the peculiarity in the situation of phthisical consolidation, it must, at all events, be admitted as possible that the upper portions of the lungs are those which are especially predisposed to disease.

(*To be continued.*)

NOTE ON THE LOCALISATION OF THE FUNCTION OF LANGUAGE.

By Dr. JOSEPH COATS,
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In relation to the localisation of the function of speech, and in connexion with the subject of aphasia, a case which occurred in Glasgow Royal Infirmary in October last seems to me of some interest. The case was that of a boy, fourteen years of age, in whom after death there was discovered one lesion, among others, specially related to the inferior left frontal convolution at its posterior extremity. This was a pretty large collection of pus, measuring three inches and a quarter in diameter, and occupying the membranes of the base just at the fissure of Sylvius. The abscess did not appear to involve the brain substance directly, but, situated at the anterior extremity of the left fissure of Sylvius, it partially opened up the fissure, crowding the convolutions of the frontal lobe forward, and those of the temporal lobe to a less extent backward. There was in addition considerable acute meningitis, and a small abscess in the substance of the brain in the right temporal lobe. The primary affection was caries of the right temporal bone. During life the boy complained of great pain in the head, and seemed in a stupid state; could hardly tell his name, and was disinclined to answer questions. The symptoms which seem to me of importance in connexion with the lesion described

(b) "Die Chronische Bronchopneumonie und die Granulie." Dr. E. Aufrecht, 1873.

above are those described by the House-Surgeon in these rather graphic words: "For three days before death he was exceedingly restless, and annoyed the whole ward—roaring, screaming, shouting, and using the most filthy and obscene language a human being could utter." These symptoms are suggestive of an acute irritation of the organ of language, the boy indulging in that style of speech to which he had been accustomed as a city Arab before he came under the careful training in the *Cumberland* training-ship. And the lesion described is just such as would produce a surface irritation of Broca's convolution, and of that part of it which is supposed to be specially the seat of the organ of language—namely, the posterior portion of the inferior frontal convolution.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

KING'S COLLEGE HOSPITAL.

PLASTIC OPERATIONS: CASES UNDER THE CARE OF MR. JOHN WOOD.

New Operation for the Cure of Hypospadiasis.

THERE are at the present time in Mr. Wood's wards at King's College Hospital several patients upon whom plastic operations have been performed with much success. These consist of persons with deformities, resulting from disease, of the nose and eyelids, and of others with congenital malformations of the organs of generation—viz., epispadiasis and hypospadiasis. In the present report we shall confine our remarks to the operation for remedying the defect of hypospadiasis, leaving the other cases to which we refer to comment upon, as we hope, at another time.

Now, the means which surgeons have hitherto adopted for the improvement of this state of the urethra have not been followed by encouraging results; and many of our readers, as their eyes catch these lines, will be likely to say to themselves—"Plastic operation for the cure of hypospadiasis. Ah! sure to fail. All attempts have done." If, too, they look to standard works on surgery, they will find this view pretty generally held by authors as well as by themselves.

It will perhaps interest many surgeons who will not take the trouble to refer to the originals if we quote opinions from several sources to which at the moment we have access.

Sir William Fergusson's work on Practical Surgery contains an instructive page and a half on hypospadiasis; but while considering it an irregularity of the urinary organs which deserves the surgeon's special attention, he cannot say much for the modes of treatment. He tells us—"I have repeatedly tried to lengthen the canal, but although I have succeeded admirably at the time, I have always been foiled in securing the permanent effect. Generally, in such a proceeding, I have brought the skin on each side of the deficiency, where there is a furrow in the lower part of the penis, round a catheter, and united the two flaps by suture; but satisfactory union has never taken place."

Erichsen alludes to the different degrees of the deformity, and dismisses the subject of hypospadiasis in eight lines, with the statement—"These conditions are mostly incurable, though plastic proceedings have occasionally been devised for their relief." No description, however, is given of any such plastic proceeding. Mr. Erichsen, in another place, like other authors we refer to below, of course describes the operative methods for the cure of penile fistulæ, and illustrates the operations of Nélaton, Le Gros Clark, and Ricord.

Bryant devotes less than twenty lines to the subject, and in this short account refers to a case in his own practice, in which testitis existed from ungratified sexual passion, the stunted penis being held down by a band of integument to such a degree as to arch the penis during erection, and entirely prevented coition. His only reference to treatment is briefly this —"Nothing can be done for these cases."

Hamilton, of the Bellevue Hospital, New York, in his "Principles and Practice of Surgery," writing on the surgery of the genito-urinary organs, says of hypospadiasis—"Inasmuch as the penis is generally in other respects tolerably well developed, it is proper in certain cases to attempt its relief. Whenever the urethral canal terminates at the abnormal opening it will be necessary first to establish a channel, in imitation of the natural urethra, through the corpus spongiosum and glans penis; and subsequently the eloaca may be closed by freshening the margins, and closing the edges over a silver catheter already placed in the newly formed urethral canal. The surgeon should be advised, however, that nothing but the most extreme care with patient perseverance is likely to be crowned with success in these cases, and that he must not be greatly disappointed if all his efforts result in complete failure."

Gant, in his "Science and Practice of Surgery," gives six lines to the subject, and afterwards says, when speaking of the treatment of urethral malformations, it will be best to leave them alone. He continues—"When, however, the urethral deficiency exists to an extent which practically renders the person impotent, the hypospadias or the epispadias may perhaps be remedied by a plastic operation. The edges of the opened portion of urethra should be pared, and brought together by suture over a catheter."

Druitt, in his "Vade Mecum," says that an attempt to relieve may be made by paring the edges of the skin on each side of the fissure and uniting them by sutures, and he refers to an American surgeon who has proposed to make raw the surfaces without hæmorrhage or loss of substance by cauterising the edges of skin, and then scraping off the eschars.

We find in Guersant's work on the Surgical Diseases of Children a fuller description of hypospadiasis than any to which we have referred. Guersant divides the varieties of this affection into "hypospadias of the base of the glans," and "hypospadias of the penis and the perineum." In cases of the former kind he has attempted, as others have done, "to restore the meatus urinarius to the top of the glans to its usual location, either by making a puncture by means of a trocar, or by an incision from the base of the glans, where the meatus urinarius exists, to the summit of the glans"; but he has never succeeded, and, having often failed, he has renounced an operation for the restoration of the canal. When the meatus urinarius in its abnormal situation is very contracted, he enlarges it by making an incision towards the upper part of the glans, and afterwards insists on the patient wearing for some time the end of a catheter to maintain the enlarged orifice dilated. He describes this operation in some detail, and speaks favourably of it. With regard to cases of the second variety, he says he has attempted several methods and operative procedures, but only to fail in them, so that in such cases he now generally refrains from operating altogether.

The conclusions to be drawn from these quotations, therefore, are—first, that all methods known to the authors for remedying the malformation are so unsuccessful in their ultimate results that they are scarcely worthy of further trial; secondly, that the different methods of treatment hitherto tried (not including the means employed for simply enlarging a contracted abnormal meatus urinarius) are two—viz., puncture or incision to endeavour to lengthen the urethral canal and to make it open in the glans penis, and the closure of the deficient urethra by vivifying and bringing together the longitudinal edges of the skin of the fissure.

Holmes' treatise "On the Surgical Treatment of Children's Diseases" contains a more detailed account of hypospadiasis than any of the above works (not excepting Guersant), and shadows forth the advisability of more elaborate plastic operations. In considering the operative treatment of hypospadiasis he has availed himself of M. Bouisson's treatise in the "Tribut à la Chirurgie." He considers treatment advisable only when the deformity is inconsistent with the power of impregnation, or when the opening is so small as to afford a real obstacle to the passage of the secretions. When the orifice is at the root of the penis, the thing is, Holmes considers, to form a fresh conduit to serve as a urethra along the whole length of the penis; but, he adds, "I do not believe that this is absolutely impossible, but I am not aware that it has as yet been accomplished." Further on, after having spoken of boring a channel through the substance of the penis, he continues—"A more promising, at least a more surgical, method of proceeding is that which proposes to form a new urethra of skin borrowed from the sides of the penis, and turned with its raw surface outwards, and the cutaneous surface towards the interior. If the flaps so transplanted could be supported by others laid on them in the opposite position, so that the raw surfaces of both were in contact, I believe the operation might occasionally succeed, provided too much be not attempted at once. By a series of such operations the orifice of the urethra might

possibly be brought much further forward. I have, however, only tried this once, and then without success."

We are now in a position the more fully to appreciate the method introduced and practised by Mr. Wood.

Operation by Mr. Wood.—Mr. Wood takes advantage of the hood-like prepuce which as a rule exists over the upper part and sides of the glans penis. This he transfixes close to the place of its attachment to the body of the penis, and then makes a transverse incision along this attached border through a considerable part of its extent; the glans penis is then pushed up through the resulting buttonhole-like aperture in the prepuce. After this is done, the next step is partly to dissect off a portion of the skin from the under surface of the penis, and, if occasion require it, from the anterior part of the scrotum also. This flap is drawn forwards and brought into apposition with the displaced prepuce, and these are stitched together, by means of wire sutures, with their raw surfaces in contact.

The operation requires much care and great nicety in its execution. In the first place, the incision of the prepuce must be free enough to avoid strangulating the glans penis after the glans has been passed through it; in the second place, the flap of skin must be detached with extreme caution, both because of its exceeding thinness and the absence of subcutaneous areolar tissue beneath it, and also because there is here present no corpus spongiosum beneath the skin. Then the size of the flap must be carefully judged, as it must be broad enough to form an ample floor for the urethra and to allow for subsequent contraction. Silver sutures should be used, so that they may be left in until they ulcerate their own way out.

After the operation a catheter is passed into the bladder and allowed to remain three or four days, by which time the greater part of the raw surfaces has united. A sinus may possibly remain at some part for a little time, but this contracts, and soon closes; if it does not do so readily, it is only necessary to touch it with a fine wire cautery. When the operation has succeeded, the floor of the urethra to the end of the glans penis is made good, and the patients can eject their urine beyond their trousers, instead of being annoyed by its dropping short just beyond the scrotum, or even by having to pass it in a crouching posture. If there be any redundancy of skin after complete cicatrisation has occurred, this can be trimmed off.

The two cases which we have seen, upon which Mr. Wood has operated, are very successful. In each the hypospadiasis extended over half the length of the penis, or more; and in one the abnormal orifice of the urethra was extremely small, and a second aperture existed still further back. By the operation the urethra in each case has been closed in along its floor, and the prepuce forms a good projecting spout for the urine beyond the tip of the glans. In one case no sinus exists in the cicatrix; in the other a very small one, through which little or no urine escapes, is gradually filling up.

It may be remarked, and of course correctly, that in some of the worse cases this operation is not possible, as no prepuce exists; Holmes, however, states that an "aggregation of the skin of the prepuce on the dorsal aspect of the penis is so common in hypospadias that I never saw a case without it, though we can hardly regard the connexion as a necessary one." It may, too, be objected by some that the arching of the penis in the state of erection will not be prevented by Mr. Wood's method. If this complication be entirely owing to the deficiency of the corpus spongiosum and its relative changes to the corpora cavernosa after growth is completed, the arching will not be altogether prevented by the operation, though in all probability it will be diminished in degree by freeing the skin and increasing the amount of tegumentary tissues below the urinary channel. It may be doubted, however, whether this arching of the penis is the worst effect of the malformation, or the chief one to remove; and whether the annoyance with the urine, which seems to be well remedied by the operation, is not the worst.

This and other points, however, will be decided by lapse of time, after the little patients who have been operated upon have passed into young adult life. Further information, too, will no doubt be furnished to the profession by Mr. Wood, who will, we hope, take some trouble to make known his method of operating, and the results attending it.

We are not aware that any operation like Mr. Wood's has been published or performed by others, though we find, in Liston's work on Operative Surgery, mention made of the prepuce being employed in remedying the defect of hypospadiasis. He says—"I have sometimes succeeded—and in cases where other means have been tried unsuccessfully—in protecting the exposed and irritable membrane of the passage, and carrying that forward to the apex of the organ *by turning back a portion of the prepuce and uniting it without any twist*,(a) the lining membrane presenting outwards. Patients have been thus relieved from the frequent calls to make water, the nocturnal emissions, and other unpleasant consequences."

THE LONDON HOSPITAL.

CLINICAL REMARKS ON THE SIMULATION OF DISLOCATION INTO THE AXILLA AFTER UNION OF FRACTURES THROUGH THE TUBEROSITIES OF THE HUMERUS.

(By Mr. HUTCHINSON.)

Mr. Hutchinson devoted this lecture chiefly to an explanation of the resemblances and differences between unreduced sub-coracoid dislocation of the humerus and united fractures of the bone through the parts above the surgical neck. The remarks were elicited by the case of a middle-aged man who was brought into the theatre. Several months ago this man had received a severe injury to his right shoulder. The surgeon who attended him in the first instance thought that the parts were only severely bruised. Three weeks after the accident he was told, at a provincial hospital, that the bone of the arm was fractured near the shoulder; and again, some time later, after he had left the hospital, the diagnosis of unreduced dislocation of the humerus was made. Subsequently an attempt at reduction under chloroform was made. He was next sent by his surgeon to the London Hospital, to know whether anything further could be done to put it into its place again. Some of the signs of sub-coracoid dislocation were absent, while those that were present existed in only a modified form: thus, while there was no inability to bring the elbow to the side, and no stretching of the deltoid muscle, there was considerable flattening of the shoulder, with marked hollowness under the acromion and a prominence of bone in the axilla. The last two symptoms were, however, less marked than in cases of dislocation; and while the altered outline of the shoulder was in great part due to atrophy of the deltoid, the prominence in the axilla was caused in part by general thickening of the upper part of the humerus, but chiefly by a partial displacement of the head subsequent to the fracture.

Mr. Hutchinson conjectured that the bone was broken irregularly through the tuberosities, perhaps comminuted; that the shaft was pushed upwards slightly, and had tilted the head of the bone in such a way that its articular surface thenceforth looked inwards. Such a displacement would produce a slight rounded prominence in the axilla, but would not prevent the arm from being brought to the side; it would also produce, after union, considerable general thickening of the upper part of the humerus. The atrophy of deltoid, and consequent simulation of the acromial prominence present in dislocation, was to be accounted for by direct injury to the circumflex nerve.

The wasting of the deltoid, and therefore the flattening of the shoulder, do not come on until many weeks after an injury of this kind; consequently, it is generally when the patient goes to a fresh medical man two or three months after the accident that the diagnosis of unreduced dislocation is made. Mr. Hutchinson believes that this mistake (aided as its commission is by the bony prominence in the axilla) is not unfrequently made, and that thus the reputation of the surgeon who first saw and treated the case is often seriously damaged. He related a case in which he had, he believed, made the mistake in question. An attempt at reduction of the supposed dislocation was followed by very decided crepitus about the shoulder, but, although the bone was thus broken afresh, the patient in the end gained much more movement at the shoulder than he had enjoyed before the traction had been applied; probably some old adhesions were broken down.

In another case the state of things was ascertained by dissection. A lunatic had died in an asylum about a year after having been treated for what was diagnosed as fracture in the upper part of the humerus. On the post-mortem table a conspicuous hollow was noticed under the acromion, and so deceptive were

(a) The italics are our own.

the conditions that the resident medical officer who had treated the case manifested much anxiety lest the dissection should reveal a piece of bad surgery and prove that he had overlooked a dislocation. This was, however, not the case. The dissection showed a united fracture through the tuberosities, with deformity so as to make the head of the humerus somewhat resemble that of the femur, and some displacement downwards in the glenoid, but no true dislocation. The deltoid was wasted, but, unfortunately, the opportunity for dissecting the circumflex nerve was neglected.

The examination of this case had helped Mr. Hutchinson to a confident opinion as to the true nature of the injury on many subsequent occasions, and he had, he believed, not infrequently prevented attempts at reduction which would have been useless, as well as saved the surgeon first consulted undeserved loss of repute. In reference to the latter point he insisted strongly on the importance of the knowledge *that old united fractures, though the shoulders of the humerus very often present remarkable deformity, closely simulate dislocations.* In the production of this simulation, paralytic atrophy of the deltoid plays, he said, a very important part. This paralysis may be partial or complete, and its frequency after these fractures can excite but little surprise if we remember the close proximity of the circumflex nerve to the bone, and its consequent risk of injury.

A case was next shown, side by side with the above, in order to illustrate the effect of total atrophy of all the muscles around the shoulder-joint. In these cases the acromion becomes abnormally prominent by reason of the muscular atrophy, but there is no prominence of bone in the armpit, no difficulty in bringing the elbow to the side, nor any stretching of the fibres of the deltoid. The capsular ligament elongates and allows the head of the bone to leave the glenoid cavity, but the normal relation between the two articular surfaces can at once be restored by lifting the humerus upwards. The paralysis, which was total and affected the whole extremity, in this case followed a severe fall on the shoulder, in which the clavicle was broken (without much displacement), and the brachial plexus probably torn across.

The late Mr. Kiernan.—At the last meeting of the Council of the Royal College of Surgeons it was resolved unanimously—"That the President be requested to communicate to the family of the late Mr. Francis Kiernan, F.R.S., the sincere regret with which the Council have received the intelligence of his decease, and to express the warm regard they entertained for him personally, and their appreciation of the eminent services rendered to science by Mr. Kiernan as an anatomist and physiologist."

Professional Examinations.—The following were the questions on Surgical Anatomy and on the Principles and Practice of Surgery submitted to the candidates now undergoing their oral examination for the diploma of Membership of the Royal College of Surgeons, viz.:—1. Describe the operation of tying the external iliac artery; and state how the collateral circulation would be established. 2. What muscles may act to displace the fragments in fracture of the lower jaw, in various parts of the bone? 3. Describe the structure of, and mode of healing by, granulations. 4. What symptoms, before operating, would lead you to conclude that the contents of a hernial sac are in a state of gangrene? and what treatment would you adopt in such a case? 5. When the radius or the ulna is broken alone, at what part of the bone, in either case, does the fracture usually occur? State the reasons why these particular fractures happen, and how you would treat them. 6. Enumerate the several causes of retention of urine in the male; and describe the means you would adopt in each case for its relief. Candidates were required to answer at least four (including one of the first two) out of the six questions. The following were the questions on the Principles and Practice of Medicine, viz.:—1. Describe a case of typhoid fever, giving the incubation, the various stages of the disease, the process which goes on in the intestines, together with the modes of death and the treatment. 2. Define and illustrate the following terms:—Puerile respiration; bronchophony; pectoriloquy; ægophony; fine crepitation; sibilant râles; cracked-pot sound; metallic tinkling; dulness on percussion. 3. Mention some of the principal causes of vomiting, and the remedies you would use to arrest it. Write two of the prescriptions in full.

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Medical Times and Gazette.

SATURDAY, JANUARY 30, 1875.

VIVISECTION AGAIN!

It is tolerably clear that preparations are being made for a crusade against what its originators are pleased to call vivisection—a term we utterly repudiate. On Monday last a deputation waited on the Society for the Prevention of Cruelty to Animals, urging the Society to take steps to put a stop to the practice of vivisection. The proceeding in many respects resembled the process of constituting yourself a deputation to yourself; but this deputation brought with it a petition or memorial signed by many respectable names, many of them due to the active intervention of Miss Power Cobbe, but there was mentioned a series of counter-signatures of at least equal authority. This is not a matter to be settled by counting noses. The matters in dispute are in a sense technical, and the opinion of one who knows nothing on the subject is worth exactly the same—*i.e.*, nothing. Even the term so unjustly made use of—vivisection—is in dispute as to its exact meaning, and is rejected by physiologists with indignation. Vivisection, as the word was originally used, occurs nowhere in Britain, so far as our knowledge extends. The word was applied to the dissection of living animals for anatomical purposes, as was the case at the Veterinary School of Alfort. Physiological experiments have no relation to these; they are performed for purposes of instruction or direct investigation, both of which are held by the vast majority of the profession to be perfectly justifiable. Sure of this we are,—that not for a single moment would anything like cruelty to animals in the ordinary sense be tolerated among them. The only name of professional distinction we see appearing on the list of adherents to the memorial referred to is that of Sir William Fergusson. Nor, we confess, are we surprised at this after his appearance at Norwich in connexion with the attempted prosecutions there. His statements on these occasions especially have roused in our profession a feeling of profound disapprobation—not the less profound because unspoken; and in this, as in a good many other matters, we

refuse to be led by Sir William Fergusson, or to allow the public to imagine that we are so led.

The memorial ended with certain suggestions, which must surely have been appended after the signatures had been obtained accepting the general principle, for we can hardly imagine any man or woman of sense signing anything of the kind. The memorialists propose to act either—

"1st. By the appointment of a sub-committee expressly to deal with the subject, to be called the 'Sub-Committee for the Restriction of Vivisection.'

"2nd. By instructing Mr. Colam to undertake as many prosecutions of cases of vivisection involving severe animal suffering as may prove to come within the scope of the existing law, and so to bring the matter prominently before the public eye.

"3rd. Should it be found that grounds for such prosecutions are rarely to be obtained, owing to the secrecy with which vivisections are usually performed, or that when undertaken the state of the law renders them ineffectual, it may then be considered whether a Bill should not be introduced into Parliament making the publication of any cruel experiments in a scientific journal or other work a legal ground for the prosecution of the publisher, and thus throw upon the operator the *onus* of justifying the act. In view of the ambition for scientific notoriety, which may be deemed a not insignificant motive for the performance of many of these experiments, it is believed that this provision would be eminently effective.

"4th. If a Bill on the subject were found advisable, it might properly contain other provisions, such as—(1) The prohibition of all painful experiments on animals except in authorised laboratories and by registered persons, whose experiments should be also registered as to number, nature, and purpose; (2) the absolute prohibition of painful experiments as illustrations of lectures; and (3) the extension to six months of the interval of a single month now allowed by law for the prosecution of cruelty to animals after the commission of the offence. All the provisions of such an Act would, of course, be carefully weighed by Parliament in debate; and while physiologists would contend for such liberty as they might be enabled to justify to the conscience of the nation, the Society would endeavour to obtain security against its abuse."

To the first proposition we can have no objection. To the second we reply that Mr. Colam is as welcome as ever he was to do anything lawful in the matter. The third proposition is simply infamous—an interference with public right to such an extent as to involve the very existence of a free press. The fourth is merely puerile, and involves a machinery at once superfluous and useless. It is clear that the whole thing depends on a definition of what is "vivisection" and what is not: what amount of cruelty may be lawfully involved in this,—for it is plain that some amount may be lawfully involved if Proposition 2 is anything more than a form of words. In such unlawful experiments is there to be included the use of injections of remedies beneath the skin, by which means we have been able to obtain some of the most valuable facts in therapeutics? Is the use of the minute needle to constitute this experiment an unlawful act, or shall we be compelled to use much more violence to make the animal swallow the drug? If the animal swallow the drug, and die in consequence of its administration in this way, can this—an act which cannot, as far as we see, be included in any definition of the word "vivisection"—be considered innocent and the other criminal?

Mr. Colam, as became a salaried officer of the Society, was, we understand, particularly violent in his statements, going so far as to assert that some ladies were in the habit of going about to schools, demonstrating experiments on pigeons, rabbits, and so on. Why does he not produce a single example of this? Why does he not bring those concerned before a magistrate, in place of making such statements? He also says that the experiments are carried on so secretly that neither he nor his emissaries can obtain admittance to the doings. Surely this contradicts what is elsewhere said. Doors are not bolted and guarded, nor spies set to watch for Mr. Colam's appearance. Physiological instruction is carried on in schools in exactly the same way as is any other subject, openly and publicly. If it is necessary to make such instruction clear, and if a frog is sacrificed for that purpose whilst hundreds of students are looking on, surely witnesses would not be difficult to get, did anything appeal to the consciences of those present as wrong! Whatever is there done is done for a definite purpose,—that is, instruction. Experiments carried on in the presence of Mr. Colam and his allies could have no such end. Experiments on living animals are quite as justifiable as killing animals for the purposes of experiment after death, if rightly undertaken; neither are justifiable if not so undertaken. Unfortunately, many kind-hearted people are far too apt to let their feelings run away with them when such matters are under discussion, excited by wild, mischievous, and senseless statements. If we are to have a controversy on the subject, let us get rid of this misled sentiment, and let us have some common sense in the matter.

A CORNISH MEDICAL SCANDAL.

From the reports which reach us from the provinces from time to time, we are induced to believe that it is not an infrequent occurrence for country medical practitioners to be interfered with in the treatment of their patients by all kinds of unqualified practitioners. At one time it is a "quack," pure and simple, who supplants the regular medical attendant; at another it is an ignorant but conceited local chemist; and in other cases we have known some particularly wise old woman undertake the treatment and pocket the fees.

The last case of this kind that has come under our notice reaches us from the extreme West of England, and is a particularly painful one, as the life of the patient appears to have been lost through the neglect of his friends to carry out the instructions of the original medical attendant.

The facts of the case, as revealed at the coroner's inquest, are briefly as follows:—On December 17 last the driver of an omnibus at Redruth, Cornwall, named Carkeek, fell on the ice and injured his elbow, but not seriously, as he was able to drive his omnibus to Falmouth and back, as usual, the next day. On Sunday, the 20th, the joint became very painful and inflamed, and Mr. Hichens, an old-established surgeon of Redruth, was called in, he being the deceased's club doctor. Mr. Hichens prescribed hot poultices to the joint, and medicines internally. By the following Tuesday symptoms of cellulitis had set in, and the wife of the deceased called in the aid of a chemist named Rowe, who undertook the treatment of the case, and prescribed an ointment to be applied to the arm instead of the poultices. On the Wednesday Mr. Hichens, finding that his treatment had been interfered with, remonstrated with the wife for not obeying his instructions. The next day the arm was much worse, and Mr. Hichens discovered for the first time that Rowe was in actual attendance on the case, and that Rowe's treatment was being carried out to the neglect of his own. Mr. Hichens here very properly retired from the case, at the same time cautioning the deceased that if Rowe's advice was followed mortification would probably set in, and that he might lose his life. Rowe continued his attendance until the following Tuesday, the 29th, when Dr. Hudson, of Redruth, was, by the advice of a neighbour, sent for. He found the arm swollen to twice its natural size, and in a state of commencing gangrene. Ointment was still being applied; and up to this time Rowe had encouraged the friends with hopes of ultimate recovery. The condition of the arm appeared to improve under Mr. Hudson's treatment up to January 2, on which day grave constitutional symptoms set in, and the deceased gradually sank until death took place on the 7th instant. At the inquest it transpired that the deceased was visited on Christmas-day, at the request of Rowe, the chemist, by Mr.

John Crossman, who has just received his qualification to practise, and who was at Redruth on a visit. The latter gentleman stated in his evidence that he had held the appointment of house-surgeon at St. Thomas's Hospital; that he visited the deceased at Mr. Rowe's request, and found him suffering from acute cellulitis of the arm, which was greatly swollen from the wrist to the shoulder. In the neighbourhood of the elbow-joint the arm was œdematous and boggy, and the skin in places dark and sloughy. He quite approved of Mr. Rowe's treatment of the case, except in the matter of the ointment. In cross-examination, when asked by Mr. Hichens what treatment he would have adopted, Mr. Crossman sharply replied, "My treatment would not agree with yours"; but he offered no explanation as to the points that were wrong in Mr. Hichens' treatment of the case.

Whether, however, Mr. Hichens' treatment was right or wrong—and with the facts before us we cannot see wherein he erred,—it is pretty clear that Mr. Crossman's conduct was wholly in the wrong. It is no part of a surgeon's duty to visit patients at the request and on the behalf of unqualified and incompetent men, especially when it is palpable that the condition of the patient is of the gravest character. We might, moreover, remark that he would find it more creditable to treat his seniors in the profession with more courtesy than he appears to have shown towards Mr. Hichens, whose conduct, we are pleased to observe, was amply vindicated by the coroner's jury, who expressed their unanimous opinion that Mr. Hichens was perfectly justified in withdrawing from the case when he found that his treatment was not being carried out.

THE SUBACUTE SPINAL PARALYSIS OF ADULTS.

No. II.

If we compare the symptoms which Duchenne has assigned to his "*paralysie générale spinale antérieure subaigué*" with those which were observed to be present in the case of Caroline H., we shall see how closely they resemble one another. In Duchenne's disease we have (1) weakness and progressive paralysis of general voluntary movement, which usually attacks the upper and lower extremities at the same time, or else the lower first, and later on the upper; (2) loss or diminution of electrical contractility in the paralysed limbs from the outset of the disease; (3) atrophy *en masse* and fatty degeneration of the paralysed muscles. All Duchenne's cases lasted several months, and were unattended by fever or by any but the most trifling disturbances of sensation; the mind was never implicated; the bladder and rectum were unaffected, and the patients never suffered from bedsores. In all these particulars Dr. Frey's case agrees completely with those of Duchenne. The latter author further describes two forms of the disease—the first, and more frequently met with, in which the paralysis begins in the legs and spreads upwards; and the other in which the paralysis begins in the upper extremities, and thence extends to the lower part of the body. The case above recorded belongs to the latter category. As far as one can form an opinion from the scanty material at our disposal, about half the cases of this disease terminate unfavourably, the ascending being the more dangerous form, owing to paralysis attacking the muscles which are supplied by nerves from the medulla oblongata. In the descending form, on the other hand, recovery seems to be more common; the morbid process comes to a standstill; the paralysed muscles gradually recover their lost power, and regain or nearly regain their former size, but their electrical irritability remains considerably diminished long after all external appearance of disease has passed away. Although this affection has only previously been specially described by Duchenne, yet it is probable that cases of it have been observed by others, and reported under other names, and especially under that of progressive muscular atrophy. Dr. Frey points out that though the above case had at first sight a strong superficial resemblance to progressive muscular atrophy, yet, when the history was carefully examined, the distribution of the atrophied muscles accurately studied, and their condition examined with the induced and constant currents, it was easy to see that it was not a case of that disease. In the first place, the patient had an extensive paralysis of the upper and lower extremities of the trunk, which had reached its fullest development in a single month, and was now leading to a general atrophy of the muscles involved. In progressive muscular atrophy, on the other hand, weakness first sets in in the small muscles of the hand, with subsequent atrophy; and then in the course of years the atrophy spreads, skip-fashion, to the muscles of the forearm, the arm, and the trunk, so that healthy muscles are found side by side with atrophic ones. Theoretically speaking, therefore, there is this essential difference between the two diseases—that in one we have muscular atrophy which only leads to paralysis, owing to the destruction of the muscular substance; while in the other, paralysis is the primary affection, and the atrophy the secondary result. The reaction of the muscles to the induced and constant electrical currents is very different in the two diseases. In the *paralysie générale spinale antérieure subaigué* there is a very considerable diminution of electrical irritability from the first appearance of the paralytic symptoms; in fact, in some muscles there is not the slightest reaction to the strongest currents, even although atrophy has not reached a particularly high degree. In progressive muscular atrophy, on the other hand, electrical irritability almost always diminishes *pari passu* with the atrophy of each muscle; so that we have a certain measure of the extent of the degenerative process in the loss of electrical reaction. It is hard to say to what extent the fibrillary twitchings which are so common in progressive muscular atrophy, and which are scarcely ever seen in Duchenne's disease, are available for diagnostic purposes. The most important practical difference between the two diseases is, however, shown by their termination. While progressive muscular atrophy attains, sooner or later, a degree incompatible with the patient's life, Duchenne's paralysis, as we have seen above, terminates, in about half the cases, in arrest of the morbid process, and partial or even complete reparation of the paralysis and atrophy. For this reason, therefore, we ought to keep these two closely allied affections sharply defined from one another as far as prognosis is concerned, and not to leave any treatment untried in the *paralysie générale spinale antérieure subaigué*, by which the progress of the disease may be arrested, and the injury which it has already caused be, as far as possible, repaired.

We are at present in the dark with regard to the pathological anatomy of this disease, but there can be little doubt that its origin is in the spinal cord; and Dr. Frey draws a comparison between Duchenne's disease and another spinal affection which has been both clinically and anatomically investigated—viz., the spinal paralysis of the adult. The only difference between the latter and Ducheune's disease is that the spinal paralysis has a most acute commencement, and is often accompanied by high fever and cerebral symptoms in its earlier stages, whereas the latter has a subacute course without fever, and without any cerebral complication whatever. Spinal paralysis of the adult is as fully developed in a few days as Duchenne's disease is in several weeks. The great resemblance between the spinal paralysis of adults and the disease known as infantile paralysis, and which has been proved by the recent investigations of Cornil, Charcot, Von Recklinghausen, and others to depend upon an acute myelitis of the anterior columns of the spinal cord, led Duchenne to the idea that the spinal paralysis of adults owed its phenomena to a similar lesion. This view has since been proved to

be correct by a case reported by Gombault,(a) in which there was atrophy of the large ganglion-cells in the anterior grey columns of the cord, as well as a connective tissue growth with atrophy of nerve-fibres in some of the nerves and nerve-trunks supplying the muscles. Now, as the only difference between the spinal paralysis of the adult and Duchenne's paralysis consists in the initial symptoms of the latter, and the acuteness of its course, while the paralytic and atrophic changes are similar in each, we are probably justified in referring both diseases to the same pathological alterations in the spinal cord. There is, however, one objection to this view, which has been pointed out by Bernhardt(b)—namely, that the electrical condition of the affected muscles in the so-called "spinal" paralysis of adults resembles that met with in peripheral rather than central paralyses. Of course, the same argument applies equally to Duchenne's disease; and we must wait for further anatomical evidence before straining the analogy of infantile paralysis too far, and deciding absolutely for the spinal origin of the acute and subacute forms of paralysis of adults. Authorities, however, like Duchenne and Kussmaul believe in their dependence on disease of the spinal cord.

THE WEEK.

TOPICS OF THE DAY.

It would hardly be suspected that "overcrowding" to an extent prejudicial to health would be found in our Government offices. But we understand that the Medical Officer of Health for the City of London recently paid an official visit to the Savings Bank Department of the General Post Office, and found that the sanitary condition of the department was very unsatisfactory. For some time past the unhealthy state of these offices has been the subject of complaint. These complaints, as might have been expected, have remained unnoticed by the authorities.

Nothing is more unsatisfactory than the relation which medical witnesses bear to each other and to their employers in cases of injury by railway accidents. The contradictions, the clashing of opinions, the straining to serve the cause rather than the truth, have been and are most disgraceful to us as a body. Call the medical practitioner on each side a "paid advocate" and not a witness, and you will not be far from the truth. The following opens up another phase in railway cases. We rejoice that the judges were unanimous in their opinion respecting the conduct of some of the parties concerned. The case, which came on for argument before the judges sitting in *banco* (Queen's Bench) on Monday last, is one of vast importance, and cannot be abridged without injuring its full meaning. The case of Farquhar *v.* the Great Northern Railway Company was a railway accident case, in which Mr. Carr Jackson, on the part of the Company, had seen the plaintiff, the person injured, and had obtained from Mr. Justice Archibald, at chambers, an order allowing him to see that gentleman's report to the Company. Mr. F. M. White, on the part of the Company, moved to set aside the order on the ground that the report of their surgeon to them was "a confidential report," which the plaintiff was not entitled to see; on which the Lord Chief Justice, with some warmth, said: "Then all I can say is that in such a case I should advise the patient not to admit the Company's surgeon to see him. Why should he be allowed to see the patient if the patient is not to be allowed to see the report he makes? If there was no negligence on the part of the Company or their servants they cannot want to see the man; and if they have been guilty of negligence, then they have no right to intrude upon him unless for the purpose of the discovery and disclosure of the truth for the ends of justice. This Court has upheld such an order as the present one, and I think it was a sound decision. It is most desirable that a medical man, on behalf of the Company, should have an opportunity of seeing the patient, in order to ascertain the nature and extent of the injury. But then, on the other hand, the party should have the corresponding advantage of knowing what report has been made to the Company about him. The decision of this Court was sound and wholesome, and I, for one, am prepared to adhere to it." Mr. Justice Lush observed that by statute the Court had power to make an order on the plaintiff, at the instance of the Company, to submit to examination, but then the party would be clearly entitled to see the report made. This was admitted; upon which the Lord Chief Justice said: "Then the party may refuse to admit the Company's medical man, and then, on an order being made to admit him, he would be entitled to a copy of the report. If he admits the medical man is he not equally entitled to it? If the plaintiff refuses to admit the Company's surgeon, the only course they can take is to apply for an order to admit him, and upon that he would be entitled to the report." Mr. W. Harrison, as *amicus curiæ*, stated that he had actually, in a case in which he was counsel for the plaintiff, advised his client to refuse to admit the company's medical man, except upon condition of their allowing him to have a copy of the report; and on their applying to Mr. Justice Willes at chambers for an order to admit their medical man the learned judge adopted that view, and refused to make the order. A case in the Exchequer was relied upon to the contrary, but Mr. Mill, as *amicus curiæ*, cited a subsequent case in this Court in which they adhered to their own view; and upon this the Lord Chief Justice said: "We must adhere to our former decision, which we think was sound. It is most important that the contradictory views of the medical men in such case should be known to each side as soon as possible before the trial. This course is best for the purposes of justice and for the interests of both parties." Mr. Justice Mellor: "Both sides are interested in the actual condition of the party injured being known as soon as possible." Mr. Justice Lush: "If the Company desired that the report of their medical man to them should be secret and confidential, they should say so when they apply to the party injured to admit him." Mr. Justice Archibald concurred, and so his order was upheld, and the application to rescind it was refused.

Dr. Handsel Griffiths has been elected to the Corresponding Membership of the Therapeutical Society of Paris.

EXAMINATIONS IN STATE MEDICINE AT THE UNIVERSITY OF CAMBRIDGE.

The Board of Medical Studies of the University of Cambridge, in a report to the Vice-Chancellor, dated January 22, and to be brought before the Senate for confirmation on February 4, draw the attention of the University to the subject of State Medicine. Appreciating the advantage to the public that would result if means were provided by the University (or by the English universities jointly) for testing and certifying the fitness of candidates for the appointment of officers of health, the Board have arrived at the following opinion:—That it is expedient for the University to establish examinations and grant certificates of competency in so much of State Medicine as is comprised in the functions of officers of health. They think it advisable that the examinations and certificates should, for the present at least, be limited to these departments of the large subject of State Medicine. They believe that an actual public want would thus be supplied more readily and more effectually than would be accomplished by a larger and more ambitious scheme; and the more manageable plan when fairly in operation could, if needful, be easily extended at any future time, so as to comprehend the whole of State Medicine. The Board think it desirable that the examinations should not

(a) *Archive de Physiologie*, 1873; *Progrès Médical*, 1874, No. 10.
(b) *Archiv für Psych.*, 1873, iv., 379; and *Centralblatt Med. Wiss.*, 1874, No. 20.

be confined to members of the University alone, but that any legally qualified (registered) medical practitioner should be admissible as a candidate, provided he be twenty-four years of age at the least. The certificate given to successful candidates should testify only to their competent knowledge of what is required for the duties of an officer of health. The Board desire to add that it may be deserving of consideration at a future time, whether other bodies should not be invited to co-operate with the University in a measure of public utility such as is here proposed." The Board recommend the following plan :—

"1. That an examination in State Medicine be held once in the year, or, if the syndicate hereinafter mentioned should think it expedient, more than once.

"2. That any person whose name is on the Medical Register of the United Kingdom be eligible as a candidate, provided he be twenty-four years of age at the least.

"3. That the subjects of examination be :—(1.) Physics and chemistry. The principles of chemistry, and methods of analysis with especial reference to analyses (microscopical as well as chemical) of air and water. The laws of heat, and the principles of pneumatics, hydrostatics and hydraulics, with especial reference to ventilation, water-supply, drainage, construction of dwellings, and sanitary engineering in general. (2.) Laws of the realm relating to public health. (3.) Sanitary statistics. (4.) Origin, propagation, pathology, and prevention of epidemic and infectious diseases. Effects of overcrowding, vitiated air, impure water, and bad or insufficient food. Unhealthy occupations, and the diseases to which they give rise. Water-supply, and disposal of sewage and refuse. Nuisances injurious to health. Distribution of diseases within the United Kingdom, and effects of soil, season, and climate. And such other subjects as the syndicate hereinafter mentioned may from time to time prescribe.

"4. That the examination be in two parts ; and that candidates be admissible to the two parts separately, or together, at their option.

"5. That a candidate who passes both parts of the examination to the satisfaction of the examiners be entitled to a certificate testifying to his competent knowledge of what is required for the duties of an officer of health.

"6. That candidates who present themselves for examination be required to pay fees, at the discretion of the syndicate hereinafter mentioned, of such an amount as to be sufficient in the aggregate to defray the expenses of the examinations.

"7. That a managing syndicate be appointed, and consist of the Vice-Chancellor, the Regius Professor of Physic, the Professor of Chemistry, and of six other members of the Senate, elected by grace, two of whom shall retire in rotation on November 20 in every year, and their places be supplied by two other members of the Senate, elected by grace at the next ensuing congregation, the retiring members not being re-eligible at that election ; and that the Vice-Chancellor or his deputy and three other members make a quorum.

"8. That it be the duty of the said syndicate to fix the number of examiners in each year; to nominate them for election by the Senate ; to fix the time of the examinations, the fees to be paid by candidates, and the payment of examiners; to draw up and publish from time to time schedules defining the range and details of the subjects of examination ; and to determine generally all other matters connected with the examinations.

"9. That the syndicate be required to make an annual report to the Senate."

The report is signed by G. E. Paget, W. H. Drosier, G. M. Humphry, P. W. Latham, J. B. Bradbury, Charles C. Babington, G. D. Liveing, and C. Lestourgeon.

PURITY IN POOR PLACES.

It is satisfactory to find that in the poor, populous district of Poplar the adulteration of food is not carried on to the extent it is sometimes—and too often—found in other and better well-to-do localities. Professor A. G. Anderson, Analyst to the Board of Works for the Poplar District, in his last quarterly report states that, with the exception of the milk and butter, "none of the other articles he had analysed called for any special remark."

FEVER AFTER TRANSFUSION.

In a small pamphlet, Dr. Liebrecht, of Liege, has given an account of some experiments performed by him to ascertain the amount of fever produced in animals by the transfusion of blood from an artery to the corresponding vein of the same side. He says that, whatever be the nature of the blood used for transfusion, some rise of temperature is one of the most constant, and perhaps the most important, phenomena—a fact which has already attracted the attention of surgeons and physiologists as bearing not only on the study of fever in general, but as being of considerable practical interest. M. Frèse, of Reval, as the result of his experiments, comes to the following conclusions :—(1) Transfusion of a small quantity of blood (say one-tenth of the whole volume) does not produce an appreciable amount of fever ; (2) transfusion of a larger proportion (one-fourth to three-fourths of the whole) always produces fever if preceded by a previous bleeding ; and (3) bleeding alone produces a rise of temperature after a few hours. The cause of this rise of temperature is in both cases attributed to the reabsorption and oxidation of an increased amount of the products of destructive tissue-change. Other observers have followed up these experiments, simplifying them as much, perhaps, as is possible ; for, as a part of the fever might be attributed to the introduction of a different sort of blood into the system, and to the destruction of its constituents, MM. Albert and Stricker, of Vienna, transfused into the animals they employed their own blood—*i.e.*, they let it flow directly from the femoral artery to the femoral vein of the same side in the same dog. Each time fever resulted ; but Billroth, on repeating the experiments, failed to come to the same results. The number of observations of Albert and Stricker was very small, and accordingly Dr. Liebrecht undertook to repeat them at the suggestion of Professor Albert, of Insbruck.

The experiments—nine in all—were made upon dogs. The temperature was taken before commencing and during the observation with a centigrade thermometer. During the operation the animals were secured and laid on their backs, but afterwards they were released and allowed to lie on the belly or side ; and in this position they remained quite quiet, needing only to be restrained by gently holding the tail to prevent them from injuring the thermometer.

In performing the transfusions, two small glass tubes were used, drawn out at one extremity and united in the middle by means of a short indiarubber tube. The apparatus was filled with a weak solution of carbonate of soda. Several of the animals were employed twice, after an interval long enough to shew that the fever, if any occurred after the second experiment, had nothing to do with the previous manipulation. Dr. Liebrecht has come to the conclusion that, if no rise of temperature occurs within the first three hours, it is useless to prolong the observations further.

After a detailed account of the nine experiments, which were evidently performed with very great care, and are described with much minuteness, the following summary occurs :—

In four cases fever resulted, twice in animals which had been employed before, and twice in fresh ones. The fever in each case was represented by a rise of about 2° centigrade. In the other cases there was no material alteration of temperature. It follows, then, that fever may result from simple transfusion of blood ; but what it depends on, and why it should occur in some cases and not in others, the author declares himself at present unable to determine. Of one thing, however, he is sure: that there was no alteration in his experiments, either of the quantity or quality of the blood ; and he thinks it impossible to suppose, with Frèse and Kettler, that there was an extra absorption of the products of destructive tissue-change, for the pressure on the venous system was increased rather than

diminished, so that absorption should have been altered, if at all, in the opposite direction. It is also clear that the pyrexia cannot be attributed to the absorption of pus secreted from the wounds, which were present in some cases; for in the first place they did not exist in all, and, besides, dogs keep their wounds so clean by licking them that nothing of this sort is likely to occur.

In conclusion, Dr. Liebrecht makes one suggestion: that, by looking at the facts as they present themselves, and considering that by the introduction of arterial blood into the venous system the pressure in the vena cava, and therefore in the hepatic veins, must be increased, we are naturally led to the reflection that a considerable amount of blood must accumulate in the portal system. This may be taken as supporting the view of Dr. Hasse, of Nordhausen, that fever results from the stagnation of the circulation in the portal system,—*à propos* of which the enlargement of the liver during fever should not be forgotten.

THE PROPOSED HAMPSTEAD FEVER HOSPITAL.

The residents of Hampstead have by no means relaxed their exertions for obtaining another site for the hospital which the Asylums Board are about to establish in that direction. On Saturday last a communication from the honorary secretary of the Hampstead Committee was laid before the Board at their fortnightly meeting, tendering a new site for the proposed hospital, with the desirable result, from a pecuniary point of view, that the land for the building in question might be purchased at a cost of £1000 instead of £1950 per acre. In furtherance of their object, the Hampstead residents also presented a report from Dr. Murchison, who had been requested to examine the proposed site, which certainly places the same in a sufficiently favourable light. From the report thus drawn up it appears that, in Dr. Murchison's opinion, there is no objection in a sanitary point of view to the proposed site in Mill-lane, except that the soil is clay; but this objection applies equally to the site of the existing hospital. In favour of the new spot it is explained that there are three good approaches to it; and as it forms the apex of an equilateral triangle, of which the base is formed by a line connecting Homerton and Stockwell, it fulfils accurately one of the objects which the Asylums Board had in view after its first organisation in 1867—namely, to reduce to a minimum the distance which patients from all parts of the district would have to be brought to reach the hospital. The new site is much more isolated than the existing one, and is situate in a part of the suburbs completely unfrequented; on two sides it is surrounded by a line of railway, on the third by a road but little used, and on the fourth by a piece of land on which at present there are no houses. Being an elevated piece of ground, sloping towards the south, it is also more open and airy than the existing site. The objections pointed out by Dr. Murchison are:—1. The noises from the adjacent railway, which might be thought to be injurious to the patients; and 2. The absence of drainage, water-supply, and gas. The first of these, Dr. Murchison thinks, is not important, as patients seriously ill with continuous fevers are very often deaf, and rarely suffer from noise; whilst all the requirements comprised in the second objection are available within a distance of 200 yards. The proposed site will be nearer to some portions of the district (such as Notting-hill, Paddington, and Kilburn) than the existing one, whilst the approaches to the former are much easier than those to the latter. The difference as to distance between the two Dr. Murchison believes to be immaterial, more especially if the announcement be true that the new fever hospital is not intended for constant use, but only in the event of an epidemic occurring which would overtax the resources of the hospitals at Homerton and Stockwell. When, therefore, the new hospital is closed, all fever patients from the western districts of London must, as at present, be conveyed to one of the two latter hospitals, a distance which, in many instances, would be far greater than from any part of the western district to the Mill-lane site. The report was ordered to be referred to the Committee of the Metropolitan Asylums Board, and so the matter rests for the present.

REPORT OF THE ROTUNDA LYING-IN HOSPITAL, DUBLIN, FOR 1874.

At the last meeting of the Dublin Obstetrical Society, Dr. George Johnston, the Master of the Rotunda Lying-in Hospital, read an elaborate report on the state of that institution in the year ending November 5, 1874. There were 1236 deliveries during the year, and only 15 deaths, including 9 from zymotic diseases. In addition, 153 patients were delivered at their own homes, 254 were treated in the wards for female complaints, and 4927 were treated in the gynæcological department for uterine affections. The total number of patients treated amounted to 6570. The low death-rate is attributed by the Master to the strict attention paid to cleanliness, good ventilation, and timely interference in cases of threatening prolonged labour. In 138 instances the forceps was applied—the patients being primiparæ in 105 cases. In 42 instances the forceps was applied before the os uteri was fully dilated—34 primiparæ and 8 pluriparæ. Of the 34 primiparæ, 22 had male children—20 alive and 2 dead at birth; 12 female children were born alive, 1 of whom died. In 24 instances delivery was effected when the os was only two-fifths dilated. Post-partum hæmorrhage occurred on 27 occasions, 9 times in primiparæ and 18 times in pluriparæ. According to Dr. Johnston, this complication in the great majority of instances depends upon the want of proper manipulation—*i.e.*, in keeping a constant steady pressure over the uterus from the moment the child's head is being expelled from the vulva until the expulsion of the placenta, and the application of the binder, which should be so arranged as to secure the uterus from relaxing. He considers that by strictly observing this practice not only is the complication avoided, but the speedy completion of the third stage is favoured. The statistics of the Hospital certainly bear out this view. This valuable and instructive report concludes with an analysis of the cases of zymotic disease which occurred during the year in the practice of the Hospital. It will be sufficient to mention here that 15 cases of scarlatina (14 of which were in primiparæ) were admitted—one patient having the symptoms at the time of her admission. Of 6 cases retained in the Hospital, 3 died. In proof that all the cases were sporadic, and not dependent on each other, Dr. Johnston quotes the dates at which they occurred, the intervals being generally very long, and the cases appearing in different wards.

OPERATIONS AT GUY'S HOSPITAL.

On Friday, January 22, Mr. Birkett ligatured the femoral artery in Scarpa's triangle for popliteal aneurism of five months' standing. The patient, a man about sixty years of age, was admitted to Guy's Hospital on December 23 with a tumour in the popliteal space about as large as a medium-sized orange. It was first observed by the patient four months before admission; but he took no notice of it for some time, thinking it was due to rheumatic gout, from which he had previously suffered. On January 9 digital pressure was kept up for nine hours and a half, and subsequently pressure was kept up for ten hours; but the result was far from satisfactory, as the patient suffered a great deal constitutionally, and pulsation returned within an hour or two of the pressure being withdrawn. On the 16th the patient complained of great pain in the leg, and it was observed that the limb was steadily increasing in size. At the time of operation the leg was much increased in size, was œdematous, hot, and painful, skin tense, and superficial veins swollen. Chloroform having

been administered, Mr. Birkett made an incision, commencing at the middle of the inner part of the thigh, and continued it upwards and outwards to the length of about three inches, crossing the course of the artery obliquely. A silk ligature was used, Mr. Birkett remarking that he had never had any trouble with silk ligatures, although he had used them in similar operations on fourteen different occasions. At the time of going to press we hear that there are indications of commencing gangrene in the foot and leg, which may necessitate another operation. We shall give the result of the case in a subsequent number.

On Tuesday last Mr. Bryant excised the right breast of a woman, aged forty-seven years, for supposed cancerous infiltration. The tumour had been observed about six months, and at the time of operation was about the size of a small tennis-ball. It was freely movable over the breast; the nipple was not retracted, neither was the skin adherent at any part. In his remarks on the case, Mr. Bryant said that all cases of infiltrating tumours of the breast might safely be pronounced carcinomatous if there was absence of heat, redness, and other signs of inflammation, and the breast should be removed as soon as possible. The sequel, however, proved that there is no rule without an exception, for on cutting into the tumour after its removal it was found to be a simple serous cyst. In his remarks to the students Mr. Bryant confessed with great candour that he had been mistaken in his diagnosis, and had performed a more severe operation than was necessary.

FEVER PATIENTS AND STREET CABS.

Another instance of the manner in which fever is disseminated by the carelessness of the public was brought to light this week at the Clerkenwell Police-court, where a woman was charged for removing her son in a street cab from the Charing-cross Hospital to the Fever Hospital in Liverpool-road. The surgeon from the latter establishment deposed that he admitted the defendant's son suffering from a severe attack of scarlet fever; he found that the child had been brought in a street cab, and he immediately communicated with the police. In this case the cab was entirely infected almost as soon as the patient entered it. He wished to remark that the authorities of the general hospitals of the metropolis ought to take every precaution that persons who were taken to them suffering from contagious diseases were not allowed to enter vehicles used by the public. The magistrate remarked that he supposed when patients were taken to the general hospitals, and were found to be suffering from fever, the authorities refused admission, and did their best to get them out of the buildings, to prevent the infection spreading to other patients. The surgeon replied that no doubt such was the case, but he suggested that it would be better and safer to detain the patient in some small anteroom, which could be speedily disinfected, and to send to the Fever Hospital for its special conveyance, by which means the danger of infection to the public would be materially diminished.

EDINBURGH UNIVERSITY COURT: APPOINTMENT OF EXAMINERS.

At a recent meeting of the Edinburgh University Court, the following appointments were made of additional Examiners in Medicine, under the regulations approved by Her Majesty, by Order in Council of August 6 last:—With power of annual reappointment by the Court for three years—John Chiene, M.D. Edin., Lecturer on Surgery, Edinburgh, and formerly Demonstrator of Anatomy in the University, to be Examiner on Anatomy; Angus Macdonald, M.D. Edin., Lecturer on Midwifery, to be Examiner on Midwifery; and James Dunsmure, M.D. Edin., formerly Surgeon to the Royal Infirmary, and Lecturer on Clinical Surgery, Edinburgh, to be Examiner on Clinical Surgery. With power of annual reappointment by the Court for four years—Hugh Cleghorn, M.D. Edin., Strathy, St. Andrews, formerly Professor of Botany and Botanist to Government, Madras, to be Examiner on Botany; David Ferrier, M.D. Edin., Professor of Forensic Medicine, King's College, London, to be Examiner on Medical Jurisprudence. With power of annual reappointment by the Court for five years—James Dewar, F.R.S.E., Lecturer on Chemistry, Edinburgh, to be Examiner on Chemistry; Dyce Duckworth, M.D. Edin., Assistant-Physician to St. Bartholomew's Hospital, London, to be Examiner in Practice of Physic; and William M'Intosh, M.D. Edin., Murthly, author of various works on zoology, to be Examiner on Natural History. With power of annual reappointment by the Court for six years—Joseph F. Payne, M.B. Oxon., B.Sc. Lond., Assistant-Physician to, and late Demonstrator of Morbid Anatomy at, St. Thomas's Hospital, London, to be Examiner on Pathology; and Thomas R. Fraser, M.D. Edin., F.R.S.E., Medical Officer of Health for Mid-Cheshire, formerly Lecturer on Materia Medica in Edinburgh, to be Examiner on Materia Medica. With power of annual reappointment by the Court for seven years—James Dunsmure, M.D., to be Examiner on Surgery; D. R. Haldane, M.D. Edin., Lecturer on Practice of Physic and on Clinical Medicine, Edinburgh, to be Examiner on Clinical Medicine; and Arthur Gamgee, M.D. Edin., F.R.S. Lond. and Edin., Professor of Practical Physiology in the Owens College, Manchester, to be Examiner on Institutes of Medicine.

THE SCOTCH HOSPITAL FOR INCURABLES.

A bazaar for the benefit of the Hospital for Incurables was held in Edinburgh last week, and resulted in the realisation of the handsome sum of £5000. During the three days over which the sales extended the attendance was large and very aristocratic. Many of the best known and most respected of the Scotch nobility visited the bazaar, and showed their practical sympathy with the scheme. Though the articles disposed of were very numerous, there still remain many others which can be sold in such a manner as to increase the sum realised. In order to find purchasers for the remaining donations, etc., it is proposed either to open the bazaar for one more day next week or to put them unreservedly up to auction. It is very gratifying to see that numerous donations were given by artists in the shape of paintings, etc., from their own studies. One picture presented by Sam Bough was sold for one hundred guineas. Another very touching gift was a sum subscribed by the members of the band of the Royal Blind Asylum.

DR. LETHEBY'S ANALYSIS OF THE METROPOLITAN WATER-SUPPLY.

We published last week a tabular statement of Dr. Letheby's analysis of the metropolitan waters for 1874. The report accompanying this table is interesting, and we subjoin Dr. Letheby's remarks upon relative turbidity, etc.:—

"The organic impurities in the several samples of metropolitan water are represented by the proportions of ammonia present, and by the amount of oxygen required for the oxidation of oxidisable matters. In the case of the Kent Company these have been hardly appreciable. In that of the New River Company the amount of oxygen required by organic and other oxidisable matter did not exceed one grain for fifty gallons of water. In that of the Middlesex it was one grain for twenty-five gallons of water. And then follow the East London, the Chelsea, the Lambeth, the Grand Junction, and lastly the Southwark and Vauxhall, in which a grain of oxygen was required for fifteen gallons of water. As regards turbidity, the water of the Kent, New River, East London, and West Middlesex companies has been constantly bright and colourless; but that of the other companies has frequently been more or less turbid, the turbidity being very marked when the water was seen in large volume, as in a glass tube two feet in length, which is the test always used. The turbidity has been caused by a very minute quantity of finely divided clay, derived from the bed of the river. The quantity has been too small for actual determination, but when seen under the microscope it has been found to consist chiefly

of amorphous mineral matter, with minute fragments of vegetable tissue and a few filaments of fungoid and confervoid growths, together with an occasional animalcule of the diatomaceous character. The same appearances are observed in the sedimentary matters of all rivers, whether they receive sewage or not. Even in the pure water of the Nile, many hundreds of miles above Cairo, the same appearances are visible, and to a much greater extent than in the Thames water. The hardness also was reduced from an average of 14·3° to 13·1°; and while the samples of water taken from the Thames at Hampton were always turbid, those obtained from the water companies' mains were bright and colourless. It is manifest, therefore, that by the aid of subsidence and filtration a very bright and good water may constantly be secured. The average amount of water supplied by the companies during the year has ranged from 31·4 gallons per head per diem in December last, to 37·5 gallons in July and August. About 60,000,000 gallons have been derived daily from the Thames, about 39,000,000 from the Lea, and the rest from deep wells in the chalk; and about 80 per cent. of the daily supply has been used for domestic purposes."

HARD LINES FOR MILK DEALERS.

During the past week many milk dealers have been up before the magistrates and fined for selling adulterated milk. The following statement, however, tends to show that sometimes they may be sinned against as well as sinning:—At Bow-street, Mr. Hanson, an extensive milk dealer in Drury-lane, complained to Mr. Vaughan that he could not receive help from the parish authorities with respect to analysing the milk sent up to town from the country farmers. He was liable to be prosecuted for selling adulterated milk, and yet he could not get it from the vendors in an unadulterated state. The difficulties of the case were these. The Act of Parliament provided that notice must be given to the vendor before an analysis be made. The parish inspectors would analyse the milk on its arrival in London, but then the vendors declined to be responsible for its condition. In fact, in one case decided at Bow-street, a defence was set up by the vendor that the milk would become adulterated by being allowed to stand on the platform in the rain. The parish inspectors declined then to go to the farm or analyse the milk. Mr. Jones, solicitor to the Board of Works, was in attendance, at the request of Mr. Vaughan, who said it was very important that the milk dealers should be aided as far as London was concerned. Mr. Jones suggested that in order to meet the provisions of the Act a general notice should be given to the vendors that the milk would be analysed on its arrival at the station. Mr. Vaughan said that would be a very good plan, and advised Mr. Hanson, who said he was now expecting some large quantities of milk at Waterloo Station, to apply at once to the police-court of that district for assistance.

THE BRITISH MEDICAL BENEVOLENT FUND.

The annual meeting was held, as usual, on the 14th inst., Sir George Burrows, Bart., M.D., President, in the chair. The report was read by the treasurer, Dr. Broadbent, and adopted by the committee, with an additional clause expressive of their grateful appreciation of his kindness in accepting the office in succession to Dr. Hare, who had held it for seven years. The receipts from donations and subscriptions during the year 1874 amounted to £1620; and the grants of immediate relief to cases of distress were 115, including, directly and indirectly, about 250 individuals. The number of annuitants has been raised to forty-two, receiving from £10 to £20 per annum each. A movement has been commenced with the view of raising these, if possible, to an average of 10s. weekly. Votes of thanks were passed to the retiring treasurer, to the staff of the Fund, the auditors, and the medical journals; also to the Messrs. Churchill for the use of the committee-room so liberally given; and last, but not least, to the chairman, Sir G. Burrows, who, in acknowledging the compliment, took occasion, in brief and eloquent terms, to express the pleasure it gave him to be associated with an institution which, in addition to its other claims on the support of the profession, possessed the distinguishing characteristic of affording prompt aid to the distressed and deserving, and in this way especially had done so large an amount of good in cases of real misfortune, in, as it were, the very hour of need.

PSAMMOMA OF THE DURA MATER.

At a recent meeting of the Pathological Society of Dublin, Dr. Edward W. Collins presented an interesting specimen of this form of tumour. In exhibiting it, Dr. Collins observed that the small tumour he laid before the Society derived its interest solely from its histological features and pathological connexions. It was taken from an elderly subject in the Anatomical School of the University, during the removal of the brain. It grew from the inner endothelial surface of the left side of the falx cerebri, where it was attached to the crista galli. It projected into the subdural cavity, and had hollowed out a slight depression upon the overlying convolutions of the left frontal lobe of the cerebrum. It was soft in consistence, so as readily to separate from its attachments, about the size of a walnut, rather more oval than round, and of a greyish-white colour. When hardened in spirit it exhibited microscopically the appearances characteristic of the tumour to which the names "psammoma" and "angiolithic sarcoma" have been given. A fibrous investment and fibrous stroma constituted the chief bulk of the tumour. Embedded in it were very minute isolated calcareous particles of brain sand, reflecting light and presenting their peculiar concentric lamellar arrangement when examined under a high microscopic power. They varied somewhat in number and size in different parts, but were chiefly remarkable for their very small size and scanty distribution throughout the fibrous elements of the tumour. The tumour was also remarkable for its vascularity. Some of the sand particles bore a suspicious proximity to the walls of the blood vessels, though no such definite connexion with the vascular wall could be clearly ascertained as led Ranvier to the conclusion that they were primarily deposited in ampullary dilatations of the walls of the vessels, from which they subsequently became detached. No cells were found in the tumour differing from those proper to sarcoma, so as to favour the epithelial mode of development as suggested by Meyer and Robin; but in some instances the concentric arrangement of the spindle cells described by Steudener was observed. The view of Virchow, that such tumours were hyperplastic formations, owing their origin to increased development of the sand-formations which physiologically are found so frequently on the inner surface of the dura mater and in connexion with the choroid plexuses, seemed to Dr. Collins the most correct as regarded the specimen he exhibited. Apart from its special pathological characters, the tumour was interesting, as only one other specimen of this form of tumour had been brought before the Society, two years since, by Dr. Yeo, which would be found to differ in not a few respects from that Dr. Collins had detailed.

MEDICAL MICROSCOPICAL SOCIETY.

The annual general meeting of this Society was held on Friday, January 15, at the Royal Westminster Ophthalmic Hospital, Jabez Hogg, Esq., the retiring President, in the chair. From the report of the Committee it appeared that the Society was in a flourishing condition, the number of members being 135. The number of papers read during the past year was sixteen, besides several minor communications, all of which were followed by brisk discussions. Above 100 specimens were exhibited during the year, and eighteen were presented to the Society. A present was announced of a microscope for use in the exchange of specimens, a system

which is found to work well, and which offers great facilities for obtaining a large collection of good preparations. The Treasurer's report showed a balance of £15 10s. The following officers were elected:—*President:* Dr. J. F. Payne. *Vice-Presidents:* Mr. Jabez Hogg; Mr. W. B. Kesteven; Mr. H. Power; Dr. U. Pritchard. *Treasurer:* Mr. T. C. White. *Hon. Secretaries:* Mr. C. H. Golding Bird; Mr. J. W. Groves. *Committee:* Mr. J. A. Ormerod, St. Bartholomew's; Dr. M. Bruce, Charing-cross; Mr. E. C. Baber, St. George's; Mr. F. Durham, Guy's; Mr. H. S. Atkinson, King's; Mr. J. Needham, London; Mr. George Giles, St. Mary's; Dr. S. Coupland, Middlesex; Dr. W. S. Greenfield, St. Thomas's; Mr. E. A. Schäfer, University College; Dr. W. H. Allchin, Westminster; Dr. Foulerton, general profession. The retiring President then read an address, which was followed by votes of thanks to the various officers, and the proceedings terminated.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.

The Quarterly Court of the Directors of this Society was held on the 13th inst., the President, Sir George Burrows, Bart., in the chair. The Acting Treasurer stated that the grants to be made amounted to £1236 10s., to be distributed among fifty-eight widows and seventeen children, and three children were to be relieved from the Copeland Fund. The expenses of the quarter were £55 12s. 5d. Three new members were proposed and elected. The Christmas donation to the widows and orphans voted at the last Court had been given a few days before Christmas to fifty-six widows and twenty children—£5 to each widow, £2 to each child, and £5 to each of the three children on the Copeland Fund,—amounting in all to £329. The deaths of two widows receiving grants were announced, and two fresh applications from widows were admitted. It was resolved that a committee, consisting of the President, Treasurers, and Secretary, should be formed, to draw up a circular stating the advantages to be derived from joining the Society, to be sent to all members of the profession residing within the limits of the London district post and the county of Middlesex. As no anniversary festival will be held this year the benevolent friends of the charity are invited to send their donations to the Treasurer or Secretary.

HEALTH OF LONDON.

In the metropolis last week 1569 deaths were registered, showing a decrease on the average of 122. The annual death-rate from all causes declined last week to 24 per 1000. The fatal cases of scarlet fever, 58 in number, showed a slight increase. The deaths from diseases of the respiratory organs continue to diminish, the number last week being 468, which was, however, 66 above the average. The fatal cases of small-pox have been 26 in the past seven weeks, whereas only one occurred in the preceding seven weeks. Of the 6 returned last week, 1 took place in Whitechapel, and the remainder in South London, including 3 in the Small-pox Hospital at Stockwell, which contained 22 patients on the 23rd instant, of whom 11 were unvaccinated, against 28 and 21 at the close of the two preceding weeks.

POLLUTION OF SCOTTISH RIVERS.

The formation of an association for the preservation of the lakes and rivers of Scotland from pollution was the result of a large and influential meeting held in Edinburgh last week, presided over by the Duke of Buccleuch.

HEALTH OF HOVE.

Dr. Kebbell, Medical Officer of Health for the town and district of Hove, reports the death-rate of Hove during the past winter quarter at 12·2 per 1000 of the population,—a proportion, Dr. Kebbell states, only little more than half of the average rate of mortality during the same period throughout the kingdom.

REPRESENTATION OF THE UNIVERSITY OF DUBLIN.

The recent election has resulted in the return of Mr. Edward Gibson, Q.C., to serve in the Imperial Parliament, instead of the Right Hon. John T. Ball, Lord Chancellor of Ireland. The declaration of the state of the poll was made on Friday afternoon, January 22, and was as follows:—

Edward Gibson, Q.C. . . .	1,210
Alexander Miller, Q.C. . .	759
Anthony Traill, M.D.. . .	538

LONGEVITY OF THE CITY OF LONDON.

Dr. Saunders, Medical Officer of Health for the City of London, in his last report states that, of thirty-seven deaths registered during the previous week, seventeen were due to diseases of respiration. Some were of the ages ninety, ninety-one, and one of a hundred years. The health of the City generally was good.

NATIVE PRACTICE IN RAJPOOTANA.

(*Continued from page* 42.)

Contracted joints are not unfrequently a sequence of both injury and disease, and the degree of contraction occasionally met with is extreme. If not following some kind of injury, they are very probably consequences of guinea-worm. A person becomes the subject of dracunculus; its extraction is probably attempted by some village hakeem, or it is suffered to make its own course to the surface, and no endeavours are even then made to take it away. The worm either breaks in the operation of extraction, or the end rots off with the discharge. Then follow the usual inflammations, suppurations, and sinuses. The sufferer takes to his bed, and the affected limb assumes the least painful position. This is always bent, the thigh towards the abdomen, the calf on the back of thigh. In some such position the limb remains until the sinuses heal, when all endeavours to replace the member in the proper line are fruitless. Several attempts at the relief of contracted knee-joint following guinea-worm having terminated unsuccessfully, I now rarely recommend anything more than passive motion and friction. As a general rule, these cases are instances of contraction of tissues, especially of tendons, and of contraction from loss of skin, rather than of bony anchylosis; although there is at the present time a person in this locality with a contracted knee-joint following dracunculus, where the parts are so immovable as to convey almost the certainty of anchylosis from bone deposit.

The appearance of maggots at the seat of a compound fracture was noticed above; and this condition is a very common occurrence in this part of the country in the neglected wounds of the natives. Worms in the nose, or "penash," is an ordinarily common malady; not only in human beings, but also in camels, caused by the ring-hole in the nasal septum of the latter ulcerating and becoming a nidus for the deposit of larvæ. But with human beings, or at least with men, who do not wear nose rings, there is not this excuse ready to hand for the entrance of flies. But doubtless most have witnessed the apathy with which the natives permit clusters of flies around the eyes and nostrils. And I believe that the deposition of larvæ in the latter may take place, and the maggots arrive at maturity, without as is generally supposed the previous existence of ulcer or sore, or at least some specific or syphilitic discharge. In the *Indian Medical Gazette* for August, 1871, I related the case of a man, in whose nostrils, during a period of insensibility from remittent, maggots were bred; and notwithstanding all that could be done, the case went on from bad to worse. Notwithstanding injections of various kinds, black wash (generally very efficacious), carbolic acid, turpentine and oil, etc., the worms gradually destroyed the bridge of the nose, and the nose itself, ultimately opening the pharynx, and displaying in the ethmoidal cells, or rather in the position of the latter, a moving loathsome mass of maggots and decaying tissue. Very many worms were daily, or even hourly destroyed by the constant use of injections, or by picking them out with forceps. But their name was legion, and the destruction of those in front seemed only to clear the way for the

appearance of increased numbers. Ultimately coma supervened, and death took place under this condition. As remarked in the report of this case, "I have treated many cases of penash, and previously witnessed fatal terminations in persons brought after the disease had far advanced; but I never before treated the malady from the commencement, when in spite of all endeavours it persistently continued from bad to worse. But this result may probably be attributed to the very weak state of the constitution before the man became the victim of worms in the nose."

Now, if the constant attention of a dispensary establishment, and the use of all appliances and medical agents at our command, failed in relieving a patient from maggots, surprise need not be felt at the fact of similar worms, as in the instance of fracture above referred to, eating away the whole of a limb. For the villagers have neither medicines, nor syringes, nor forceps, nor in fact any means of combating the voracious *vermiculæ* preying on their structures. Thus the very numerous instances in which neglect having admitted the formation of maggots in cases of injury or disease, the gravity of the ailment is increased tenfold by the production, existence, and spontaneous detachment of worms which are so rarely taken away by the people themselves. A sufferer with maggots in his wounds must esteem himself fortunate if fresh depositions of larvæ do not give rise to new crops, and thus further aggravate the ailment.

A very favourite method of treating almost every kind of ill to which flesh is heir is the actual cautery, or, as the vernacular has it, the "dhag." There is scarcely any ailment or injury which I have not seen thus treated. If a person's spleen be enlarged, the "dhag" is applied. If anyone suffers from bad lumbago, the burning iron is applied to his back. Does sciatica afflict, the malady is exorcised by scars. When a person obstinately refuses to place his hand hanging from a dislocated humerus on the vertex of his head, he is as often as not "dhagged" all over the shoulder. Quite recently a man with strangulated inguinal hernia was brought to me with recent "dhags" all over the scrotal swelling. Similarly it is an exception when any case of tumour appears, whether cancerous, cystic, fatty, or any other variety, over which the hot iron has *not* been applied. Sometimes the scars are made in lines, cross-ways, like a gridiron; more usually they are made in spots, varying in size from a two-anna bit to that of a rupee, and in number from one to (as I once counted, over a fatty tumour of the back) fifty. Neither is this application of the "dhag" a speciality of the hereditary hakeem or baid. It is in many parts of the country, especially in the Bheel tracts, performed by a Bheel woman, who probably neither makes, nor professes to make, any other attempt to be considered a disciple of Æsculapius. The instrument used is generally a piece of iron flattened at the end, and it is applied to the skin just at the time when the very first flush of redness from fire heat is apparent. Not unfrequently troublesome ulcerations result from these "dhags"—a consequence which, in the case of the late Maharajah of Joudpoor, "dhagged" by the hakeems against the advice of the European medical consultants, materially weakened the patient and hastened the fatal termination of the malady. It is curious that the same people who would shrink with horror from the smallest lancet of the surgeon, will pass through sufferings connected with the cautery for which in a better cause they would almost deserve the name of martyrs. I have known a person prefer the hag" to the trocar for the relief of hydrocele!

When passing through parts of Rajpootana remote from dispensary aid, curious cases illustrative of the unchecked ravages of disease are very frequently met with. At such times people affected with all kinds of chronic maladies flock to the European medical man, and, as before mentioned, are very much astonished that he cannot cure them at once, simply by the laying on of the hands, or by looking at them. Thus, among other cases of unchecked disease in recollection, may be mentioned one of cancer of the penis, where the disease, having consumed most of that organ, had broken out in both groins; a case of destruction of the female breast and almost loss of life following milk abscess, and the formation of sinuses only requiring for cure the free use of the bistoury; an instance of neglected hydrocele terminating in rupture, sloughing, and destruction of a testicle; a tumour of the neck bursting, sloughing, and exposing, or rather isolating the carotid artery; frequent bleeding from wound of the palmar arch; extravasation of urine and fistulous passages from neglected stricture; exfoliation of portion of the parietal bone from syphilis; the passage of a stone by abscess and ulceration from the prostatic portion of the urethra, or from the base of the bladder, through the perineum.

Of medical cases in the advanced stage there is of course no lack. But such instances of enormous spleen, of skin disease so complicated as to be scarcely referable to any known genus, of enlarged liver, of chest affections, are not so exceptional anywhere as neglected surgery in these days of advanced surgical skill.

The superstitious manner in which so many natives regard disease is worthy of remark. They not unfrequently, and doubtless much more often than they confess, attribute illness to "jadu," or enchantment. In the Bheel districts this is particularly the case, and there are few country-sides without not only the evil-doing witch, but also the professed "witch finder." Witch-swinging used to be a very common practice indeed, and there are within the past quinquennial period several instances of witch-swinging on record in Rajpootana. But even otherwise intelligent natives often regard "jadu" as the cause of skin disease. A short time back, a man, all his life employed among Europeans, suffering from fever and rheumatic pains, insisted on attributing his complaint to "jadu"; and at last, leaving the hospital, went off to perform spells against the enchantment, after which he got well, to the complete confirmation of his belief, and to the destruction of all confidence in European doctors. And this is no solitary instance of the kind. Many diseases are also superstitiously regarded as under the immediate patronage of a titular deity. Of such, small-pox may be taken as the type. The people firmly believe variola to be under the control of "Matha," in whose honour temples abound and fairs are held, at which thousands of women and children attend with offerings to the deity—sometimes represented by a tinselled wooden goggle-eyed image, at others merely by a stone painted red. Nearly every village has its deity of small-pox in the immediate neighbourhood, and in many places a large piece of ground is called *Matha-ka-than*, and is esteemed as holy. The people generally do not pray to escape variola, unless in seasons when it occurs with more than ordinary virulence. They do, however, petition for a mild visitation. But even the loss of an eye does not appear to be viewed as a very serious calamity. Is there not the other eye sufficient for all purposes, remarked a philosopher? If it were the leg or hand it would be different, but an eye is immaterial! The pitting produced by small-pox is by some considered rather as an addition to female beauty than otherwise—as black patches on the face were among English belles of former days! Moreover, others imagine that an attack of small-pox demonstrates the favour of the goddess on the fortunate individual. As will be supposed among people entertaining such ideas, the progress of vaccination is no easy matter, the Brahmans especially opposing vaccination by every means and artifice in their power. The motives of the Europeans are misrepresented, dreadful maladies are prophesied as the result; and the vengeance of "Matha" is held *in terrorem* over all who seek such assistance. Reasoning is often entirely unavailing. Even when admitting the force of every argument used, they fall back on custom. It is not their "dustoor" to be vaccinated, and this decides the matter. Nevertheless, in the face of all such obstructions, and of many others of different kinds which might be mentioned, vaccination has succeeded to a very considerable extent in Rajpootana, for, whereas in the year 1856-57 only 403 vaccinations were performed, the returns for last year show 68,643 cases with 80·05 percentage of success.

(To be continued.)

DECOCTION OF LOGWOOD AS AN ANTISEPTIC.—Some time since, M. Cotton related to the Lyons Medical Society that he had found the decoction of logwood to be possessed of strong antiseptic properties. Fermentation cannot take place, and alcoholic fermentation is at once arrested; while decomposing urine at once loses its putrid odour after the decoction is added, and many days afterwards still exhibits crystals of urea. He believes this anti-putrescent quality to be due to the ease with which the hæmatoxyline is oxidised. In another communication he relates a case in which this anti-putrescent effect was exercised during life. A patient who frequently passed urine which abundantly deposited ammoniaco-magnesian phosphate, due to the decomposition of urea, was effectually relieved by taking morning and evening an infusion of two grammes of logwood, the urine in ten days becoming acid and free of all phosphates.—*Lyon Médical*, January 24.

FROM ABROAD.

Penetrating Wounds of the Knee.

M. Gayet, Surgeon of the Hôtel-Dieu at Lyons, on the strength of eight cases treated in that hospital, arrives (*Lyon Médical*) at the following conclusions:—1. A penetrating wound of the knee-joint, made by a pointed instrument, and unattended by complications, is without danger, providing it be allowed to cicatrise in a state of rest and immobility. 2. The same wound may give rise to the most dangerous arthritis when not properly attended to. 3. The danger of arthritis is in direct proportion to the extent of the wound and the difficulties which impede its union by the first intention. 4. The complications dependent upon injuries of the bones are extremely serious; but fractures of the patella, however complicated they may be, need not, if they exist alone, lead to amputation or excision. 5. The presence of foreign bodies, however small these may be, induces arthritis and its possible consequences, and demands amputation or excision. 6. All things being alike, posterior wounds seem more serious than anterior ones, by reason of the density of, and the number of the tissues concerned, the presence of vessels, etc. 7. These conclusions having been deduced from observations made in a hospital—*i.e.*, in a medium little favourable to conservative surgery,—they may be regarded as more favourable when applied to media of a more healthy character.

Prof. Zeissl on Hydrostatic Injection of the Bladder.

Prof. Zeissl, of the Vienna General Hospital, has just published an interesting paper on this subject in the *Wiener Med. Woch.* for December 19 and 26. He observes that one of the most frequent complications of gonorrhœa, especially in the male sex, is a catarrhal inflammation of the bladder. It is, in fact, a complication and not a sequence, being much more frequently met with during the acute stage of the urethral affection than when that has subsided. Among the occasional causes which may lead to the extension of the urethral inflammation to the bladder may be ill-timed or unskilful catheterism, the improper use of injections, and the administration of too large doses of balsamic medicines, of digitalis, or cantharides. He has met with many cases in which injections of red wine or concentrated solution of tannin at the commencement of gonorrhœa have given rise to this affection of the bladder. The objection that red wine could not act mischievously on the urethra, when it excites no irritation on the mucous membrane of the mouth or stomach, can only be raised by those who are unaware of the varieties of sensibility in the various mucous membranes. The urethral mucous membrane at its most anterior and its most posterior portions is incomparably more sensitive than the membrane of the eyelids and the eye. Fluids which scarcely affect these parts irritate the normal, and still more the diseased, urethra to such an extent as to induce tenesmus and dysuria. The tenesmus of the neck of the bladder is soon accompanied by effusion of blood from a mucous membrane so abundantly supplied with capillaries. When a few drops of blood are first observed at the end of each voiding of the urine, the cystitis is just commencing, and if the irritation be continued may soon go on to true hæmaturia. With the increased hæmaturia also there is greater dysuria, the patient being obliged to discharge a small quantity of urine every few minutes. Under spasmodic action of the sphincter of the bladder, a small quantity of turbid mucous urine is forced out, and is followed by some bright red drops of blood. When the urine remains for ten or fifteen minutes in contact with the catarrhal mucous membrane of the bladder, the blood that is suspended in it becomes coagulated into smaller or larger clots. These coagula, in fact, are the chief proof that we have to do with a commencing hæmaturia vesicæ, as in renal hæmaturia the blood, which is mixed with urine, is never exhibited in the form of clots.

As a general rule, vesical hæmorrhage in gonorrhœa only continues for a few days. Sometimes, however, it becomes so considerable that the urine is coloured intensely red by the coagula; and in some cases the hæmorrhage may be such as to cause great debility and endanger the patient's health. In order to allay this, the patient must be kept in a state of absolute rest, while cold applications should be made to the hypogastric and sacral regions, and to the perineum. If these means do not suffice, internal hæmostatics, such as a solution of alum and the perchloride of iron, may be employed; and when these too have failed, it has been hitherto the practice to inject the bladder through a catheter with cold water or astringent fluids. Although in many cases these injections may have exerted a favourable influence, yet they not infrequently give rise to mischief of another kind. The introduction of even so soft an instrument as Nélaton's catheter several times daily into the bladder not infrequently causes great irritation, so that inflammation of one or both of the vasa deferentia, epididymitis, or prostatis result, compelling abandonment of this procedure. It becomes, therefore, very desirable that some means should be devised for injecting fluids into the bladder without the introduction of a catheter. Of late, high hydrostatic pressure has been frequently employed for the injection of cold water into the intestinal canal for the purpose of overcoming obstinate constipation; and Hegar has employed his apparatus (which consists in a funnel with an elastic tube, to which a catheter is attached) for injecting the bladder in women. The object is, however, to dispense with the introduction of the catheter into the urethra, and this Prof. Zeissl accomplishes in the following manner:—He provides himself with one of Esmarch's irrigators (for which, indeed, the funnel used by Hegar might be substituted), and the patient is placed on his back, with the buttocks raised. Cold water or an astringent fluid is placed in the receptacle of the irrigator, which is either held up as high as possible by an assistant or fixed at the desired elevation. The operator then, keeping the penis with his left hand against the abdomen, directs the pipe of the irrigator into the ostium cutaneum urethræ. The fluid thus passes into the bladder by mere hydrostatic pressure, the patient, after a few minutes, perceiving with a great sense of comfort that it is entering the organ. In this way from four to eight ounces of the fluid may be injected into the bladder, not only without any ill effect being produced, but, on the contrary, to the great comfort of the patient and to the relief of his malady.

Physiological Observations made in a Case of Artificial Anus.

M. Demarquay, at a recent meeting of the Société de Chirurgie, detailed (*Union Médicale*, December 17) the results of some observations which he had had the opportunity of making in a case of artificial anus. The patient, a man aged sixty-four, had been operated upon for inguinal hernia, an artificial anus having been formed on account of mortification of the gut, the lower portion of the small intestine being the part concerned. The observations made related to three points.

1. *The Rapidity of the Passage of Ingested Matters through the Small Intestine.*—This was very variable. Although the patient seemed in complete health, and he was supplied with a nutritious diet, yet he visibly became thinner; and the digestive organs also suffered considerable irritation. When this was not present the matters took a considerable time to traverse the intestinal canal, this on one occasion amounting to eight hours. As a general rule, after some hours the matters issued rendered of a brown colour by the addition of some bismuth to the alimentary matters. When the intestine was irritated these passed out with much greater rapidity, as short a time as only twenty minutes having been required in one instance. This irritability of the intestine is a common occurrence in artificial anus, and explains the rapid emaciation to which the subjects of artificial anus are very prone. In some cases, indeed, when the anus is situated high up in the intestine, death may result in consequence of the intestinal matters not having time sufficient to be digested and absorbed. In the present case the anus was promptly healed, and some days after the patient looked quite another being, although the diet had continued the same.

2. *The Comparative Power of Absorption of the Small Intestine, the Stomach, the Rectum, and the Cellular Tissue.*—To ascertain this, 100 grammes of tepid water holding in solution one gramme of iodide of potassium were thrown into the intestinal cavity by means of a catheter. The finger was then applied to the artificial anus, and a catheter introduced into the bladder, allowing a little urine to flow out as often as desired. In a series of carefully performed experiments, iodine was always found in the urine and saliva in from three to five minutes. In order to compare the absorbent powers of the stomach with the

results derived from the anus, one gramme of the iodide was administered, and in forty minutes it was found in the urine. In a series of experiments made on young healthy men, and published in 1862, M. Demarquay found that the iodide, when introduced into the stomach, appeared in the urine in from nine to fifteen minutes. Injected into the rectum of the patient, the iodide appeared in the saliva in twenty minutes, and in the urine in twenty-five minutes. Thus the absorption was much more rapid than in the stomach. This was the case also in experiments performed on five young and healthy individuals, in whom the iodide was observed in the saliva in from two to seven minutes. When the iodide was injected into the cellular tissue, it appeared in the saliva in twenty-two minutes, and in the urine only forty-three minutes afterwards. It results, therefore, from the comparative experiments made on this patient, that the absorption of iodide of potassium and its passage into the saliva took place much more rapidly in the small intestine than in the stomach. While in from five to eight minutes after its introduction into the intestinal canal it was found in the saliva, forty minutes were required to detect it in the urine after its introduction into the stomach; and the large intestine, although it might be considered as in some sort inactive in this case, yet possessed so much absorbent power that the iodide was found in the saliva at the end of twenty minutes. *A priori*, it might have been expected that, by reason of its rich venous supply, the stomach would have exhibited the strongest absorbent power. As this is not the case, it is in the nature of the epidermic covering rather than in the amount of venous supply that we must seek for the cause of the differences observed.

3. *The Amount of Urea Excreted.*—It has already been observed that the patient, in spite of a well-chosen diet, was very liable to intestinal disturbance, while, in spite of every care bestowed upon him, he became sensibly thinner every day, and complained of loss of power. In order to ascertain the cause of this phenomenon, it became desirable to ascertain the amount of urea excreted in the twenty-four hours; and the urine was therefore examined from April 2 to 15 (the operation having been performed on March 9). It was found that, as compared with what takes place in the normal state, the amount of urea had diminished by nearly one-half—gradually diminishing, in fact, from 20 gr. 60c. on the 2nd, to 14 gr. 10c. on the 14th. Although the state of inactivity in which the patient existed will explain such diminution to some extent, it is far from accounting for so great a difference. This chiefly depended upon the constant and often rapid passage of the intestinal matters before their complete digestion, and especially before absorption had effectually operated upon the internal surface of the intestine. This is also seen in the fact that the urine diminished in quantity as well as the urea, amounting only to 1000 gr. in the twenty-four hours on April 2 and 750 gr. on the 14th. By the 15th, the wound having healed, the intestinal matters resumed their course, and on that day the urine increased to 1500 gr. and the urea to 24 gr. On the 16th the urine amounted to 1600 gr. and the urea to 46 gr.

REVIEWS.

The Last Journals of David Livingstone, in Central Africa, from 1865 to his Death: continued by a Narrative of his Last Moments and Sufferings, obtained from his Faithful Servants Chuma and Susi. By Horace Waller, F.R.G.S., Rector of Twywell, Northampton. In Two Volumes, with Portrait, Maps, and Illustrations. London: John Murray, Albemarle-street. 1874.

These two volumes form a grand monument to the stern, unfaltering determination, marvellous courage and endurance, simple, never wavering faith, and gentle character of our greatest traveller—a man of whom the whole of the white races of men must ever be proud, and in whom we of the profession to which he belonged have special right to take pride: a traveller born, urged ever on and on by the passion for exploring undescribed and unvisited countries; and a true missionary, moved by intense sympathy for some of the races whose vices, virtues, and sufferings he has recorded, and by as intense a horror of the deeds of those who thrive on what he termed "the great open sore of the world"—slavery and the slavery trade, and preaching, by the example of a life of never-failing purity, gentleness, and humanity, the gospel of peace and goodwill towards men.

The journals are themselves wonderful records of seven years' continuous work and discovery without a single break, and their preservation is a most striking proof of the devotion that Livingstone's character inspired in his servants; for, as the editor reminds us, it is entirely owing to the faithfulness of his native attendants that "we have not to deplore the loss, by accident or carelessness, of a single entry, from the time of Livingstone's departure from Zanzibar, in the beginning of 1866, to the day when his note-book dropped from his hand in the village of Ilala, at the end of April, 1873." When Stanley returned to England in 1872, he brought with him a large diary, in which Livingstone had transcribed a considerable portion of the notes which he was in the habit of daily making; it being his "custom always to have metallic note-books in use, in which the day's jottings were recorded. When time and opportunity served, the larger volume (the diary) was posted up with scrupulous care." Whilst in the Manyuema country, he ran out of note-books, ink, and pencils; then every inch of his pocket-books was used; and at last "old newspapers, yellow with African damp, were sewn together, and his notes were written across the type with a substitute for ink made from the juice of a tree." These contain information of all kinds,—lunar observations, the names of rivers, the heights of hills, botanical notes, carefully-made drawings, routes, vocabularies; "whilst here and there the stain of a pressed flower causes indistinctness, yet the thread of the narrative runs throughout," and all have with great difficulty and perseverance been deciphered by Miss Livingstone and the Rev. C. A. Alington. Moreover, Livingstone kept a copious journal in some copy-books during his stay at Unyanyembé; and when his stock of note-books had been replenished, he had made a daily record of his subsequent travels. And when the battered tin travelling-case, which was with him to the last, was opened, it was found that "his men had preserved every single line, besides his maps, which now came to light for the first time."

Mr. Waller has printed the journal as he found it, making no attempt at a systematic arrangement of the materials, which include "innumerable notes on the habits of animals, birds, and fishes (many of them probably new species), and on phenomena in every direction which the keen eye searched out as the great traveller moved among some of the grandest scenes of this beautiful world"; but all the strictly scientific matter has been reserved for future publication; and Mr. Waller remarks that "where one sees that a register of the daily rainfall was kept throughout, and that barometrical and hypsometrical observations were made with unflagging thoroughness of purpose year in and year out, it is obvious that an accumulated mass of information remains for the meteorologist to deal with separately, which alone must engross many months of labour."

Livingstone started from Zanzibar early in April, 1866, with a considerable retinue. He had Sepoys, Nassick boys, Johanna men, and porters, with camels, buffaloes, mules, and asses, and a most intelligent, faithful poodle; but the Sepoys were a most worthless set, and at last became such a nuisance and burden that they had to be sent back; the Johanna men and others deserted or had to be dismissed; and all the animals but the poodle died from the tsetsee flies or ill-usage. Everywhere the traveller was confronted by the almost inconceivable horrors of the slave trade, by which huge tracts of the beautiful country through which he passed had been impoverished and almost depopulated, and before the end of the year he was enfeebled from want of food and illness. On Christmas Day, 1866, he lost his four goats—"stolen or strayed in the pathless forest," and he writes: "I felt the loss very keenly; for whatever kind of food we had, a little milk made all right, and I felt strong and well; but coarse food, hard of digestion without, was very trying"; and soon after we read of his being troubled by dreams of dinners he "had eaten or might have been eating." Early in January, 1867, he says—"I feel always hungry, and am constantly dreaming of better food when I should be sleeping. Savoury viands of former times come vividly up before the imagination, even in my waking hours. This is rather odd, as I am not a dreamer—indeed, I scarcely ever dream but when I am going to be ill or am actually so." On the 15th of this month his faithful little dog—the poodle Chitané—was drowned in crossing a river. A real loss; "he was so useful in keeping all the country curs off our huts; none dare to approach and steal, and he never

stole himself. He shared the staring of the people with his master. Then in the march he took charge of the whole party: running to the front, and again to the rear, to see that all was right." But on January 20 a terrible and irreparable disaster overtook Livingstone in the loss of his medicine-chest. By what seems in such a traveller an almost impossible oversight, he had his entire stock of medicines in one box, and this, with other goods and some food, was carried off by two freed slaves, who had till then been useful and faithful. Hardly could a greater misfortune have befallen Livingstone. "I felt," he says, "as if I had now received the sentence of death, like poor Bishop Mackenzie"; and again, "This loss of the medicine-box gnaws at the heart terribly." It is, indeed, not too much to say that, as regards Livingstone's life, this was the beginning of the end; already "fatigning days and hungry nights" had greatly weakened him, and so reduced him that he "was frightened at his own emaciation," and from this time forwards we meet with frequent reference to severe attacks of fever and illness, which he had no medicines to combat, and the continuance of which must have irretrievably injured his health and strength. In April, 1867, when staying at Lake Liemba, a lake of "surpassing loveliness," he was very seriously ill. "After I had been a few days here," he says, "I had a fit of insensibility, which shows the power of fever without medicine. I found myself floundering outside my hut and unable to get in. I tried to lift myself from my back by laying hold of two posts at the entrance, but when I got nearly upright I let them go, and fell back heavily on my head on a box. The boys had seen the wretched state I was in, and hung a blanket at the entrance of the hut, that no stranger might see my helplessness. Some hours elapsed before I could recognise where I was." And again, early in May, we read, "I had another fit of insensibility last night; the muscles of the back lose all power, and there is constant singing in the ears and inability to do the simplest sum."

In October of the same year we again find the entry "very ill." But in spite of illness, scarcity of food, difficulties and horrors of all kinds, he worked his way slowly on from chief to chief, and village to village, till, in the middle of 1868, he reached the Great Lake Bangweolo. After exploring this lake, and again having fever, he returned to Ujiji for fresh supplies; but the journey was very exhausting: he was at times in want of proper food, he had no medicines, and he was almost constantly wet in crossing the innumerable rivers and "sponges" or bogs which seem to form the greater part of the lake districts; and on January 1, 1869, he writes, "I have been wet times without number, but the wetting of yesterday was once too often; I felt very ill, but fearing that the river (Lofuko) might flood, I resolved to cross it. Cold up to the waist, which made me worse." But, with his indomitable perseverance, he went on till January 3, at which date he writes:—"I marched one hour, but found I was too ill to go further. Moving is always good in fever; now I had a pain in the chest, and rust of iron sputa; my lungs, my strongest part, were thus affected. We crossed a rill and built sheds, but I lost count of the days of the week and month after this. Very ill all over." The next entry is dated "About 7th January.—Cannot walk; pneumonia of right lung, and I cough all day and all night; sputa rust of iron and bloody; distressing weakness. Ideas flow through the mind with great rapidity and vividness, in groups of twos or threes; if I look at any piece of wood, the bark seems covered over with figures and faces of men, and they remain though I look away and turn to the same spot again. I saw myself lying dead in the way to Ujiji, and all the letters I expected there useless. When I think of my children and friends, the lines ring through my head perpetually:—

"'I shall look into your faces,
And listen to what you say,
And be often very near you
When you think I'm far away.'"

He had "for the first time in his life" to be carried in illness, and suffered greatly; but from and after the 7th he was well and kindly tended by Mohamad Bogharib, a slave-dealer, who got him a "cupper who cupped his chest," and gave him medicines, and at last in the middle of March he reached Ujiji, to find his stores plundered, and his supplies made away with in all directions.

It may be remarked that the above account is a much more real "natural history" of a disease—in this instance pneumonia—than the reports sometimes given under that title; and that relief and recovery are here seen, in a case of pneumonia, to follow the use, rather late in the disease, of that old-fashioned remedy—abstraction of blood. The operator was no doubt one of the native cuppers, whose method is elsewhere thus described by Livingstone:—"A goat's horn is used with a small hole in the pointed end. The base is applied to the part from which the blood is to be withdrawn, and the operator, with a small piece of chewed indiarubber in his mouth, exhausts the air, and at the proper moment plasters the small hole up with his tongue. When the cupping-horn is removed, some cuts are made with a small knife, and it is again applied. As a rough appliance, it is a very good one, and in great repute everywhere."

(To be continued.)

FOREIGN AND COLONIAL CORRESPONDENCE.

AMERICA.

Philadelphia, Nov. 20, 1874.

Meeting of the American Public Health Association at Philadelphia.—Abstracts of various Important Papers —Discussion on Hospital Construction.

On the second day's session of the American Public Health Association, Dr. Ezra M. Hunt, President of the Sanitary Commission of New Jersey, read a paper "On Building-Ground in its relation to Health," expressing the view that bad air stagnated in the ground interferes with normal and healthful affinities. It is believed that one of the causes of the prevalence of typhus and typhoid in winter is that the greater inner heat of houses causes currents of air from the surrounding ground to set to them. So the basement and the house suck up the contaminated ground-air, and the local heat causes it to penetrate more than in summer. Whole groups of zymotic diseases are traceable to ground-conditions. Rheumatism and pulmonary affections are vastly dependent upon ground moisture. The indispensable disinfectant below ground as well as above is air, the circulation of which in the soil depends upon temperature, and this on light and heat as applied to the surface. Where, as in some parts, made soils are composed of an over-accumulation of decaying matter or foul material removed from streets, the building of houses over it may conceal but cannot destroy contamination. We must get, said Dr. Hunt, the homes of the people on better foundation than damp, water-soaked, air-polluted, filth-burdened ground. We must see that its soil-particles are not overladen with vegetable or animal decay, that its fountains of moisture are not impeded in their flow or saturated with impurities, that air has free circulation through all its spaces, that its regulative ability as to temperature is not unduly complicated.

Dr. S. C. Busey next presented a valuable and elaborate paper "On the Gathering, Transportation, and Sale of Fresh Vegetables and Fruits, etc.," his object being to secure through a competent committee a thorough consideration of the effects upon public health of the deterioration of fresh vegetables and fruits as offered for sale in the markets of the principal cities of this country, and how far this deterioration is attributable to the manner of gathering, mode of packing, and transportation from the farm or garden to the city markets.

I propose, at some future day, to make separate mention of a very important paper presented by Dr. Elisha Harris, of New York, the very worthy secretary of the Association, "On the Sanitary Laws and Existing Methods of Public Health Administration of the Cities of the United States and Canada, and the Vital Statistics of these Cities," but which, on account of the vast quantity of statistics embraced in the voluminous manuscript, was read only by title at this time.

The conditions and accidents which endanger, limit, or prevent Vaccination from giving full protection from Small-pox were ably discussed by Dr. Joseph M. Toner, late President of the American Medical Association.

Dr. C. F. Rodenstein, of New York, in referring to the Causation of Scarlatina, expressed the view that it is caused by contagion and the drinking of water impregnated with vegetable decay from swamps. The indications for the public treatment of scarlatina are, first, to neutralise the contagion; second, to remove the conditions which are necessary for its development. He insists on early

and absolute isolation. Between the two doors of a room he hangs a blanket saturated with a solution of carbolic acid. The patient, when the eruption appears, is anointed with a mixture of glycerine or carbolic acid.

The Method of Treatment of Gases from Rendering Tanks and the Disposal of Tank Offal was elaborately considered by Dr. Benjamin C. Miller, of Chicago. In that city live stock is received in large yards, the pens of which are sewered and floored, and for hogs and sheep are covered to protect them from the inclemency of the weather. The roadways and alley through the yards are macadamised. In each pen every arrangement for watering and feeding the animals is complete, water being furnished from an artesian well. Inspectors pass through the yards and examine all animals, and those found maimed or diseased are condemned, and not permitted to leave the yards, but killed and sold to a company, who take them to an establishment some twenty miles from Chicago, on the Calumuck, to be rendered out for their fat. In these yards were received in 1873—sheep, 291,734; hogs, 4,337,750; cattle, 761,128. Previous to 1855 nothing had been done in reference to gases generated in the rendering tanks or in the care of tank offal. Rendering was in many houses done in open kettles; and where tanks were used, the steam and gases were permitted to escape into the open air, and the offensive odours carried over the city. Nothing had been done to utilise the tank refuse. The only question was, how to get rid of it. Before navigation closed it was taken out on the lake and dumped several miles from shore, and after that buried on the prairies to add to the city smells when the sun warmed it up in summer. The quantity of tank refuse can be estimated when we know that a beef gives fifty pounds, a hog twenty pounds, and a sheep seven pounds. The amount for 1873 was 22,784,366 pounds. The different forms of apparatus devised for condensation of offensive gases were here mentioned. The latest machine put in operation consists of an oblong cylinder, surrounded by a steam jacket. Inside is a round cylinder, armed with teeth, which revolves and keeps the material in motion. This machine is worked by the refuse steam of the packing house. The gases pass upward into a chamber, into which a pipe enters. The pipe is filled with a hundred small holes, and the water pouring into the chamber condenses the steam, and the gases escape into the sewer with the waste water. This machine is economical in working, occupies a small space, and at the same time has capacity enough to keep a house clean and prevent accumulations. By the use of machines the tank refuse can be cared for, and without giving serious offence.

Dr. Edwin M. Snow, Superintendent of Health, Providence, Rhode Island, read a paper entitled, "Does Small-pox become Epidemic, or is its Spread caused only by its own Contagious Property?" His conclusion is that the great prevalence of small-pox in Boston in 1872-73, as well as in Philadelphia the year previous, had no connexion with any true epidemic influence; but that the condition was due solely to the great number of cases existing at the same time in a crowded city. The interests of sanitary science, he said, require us to repudiate the idea that the prevalence of small-pox may depend upon any mysterious influence called "epidemic." Small-pox, like vaccination, is the result of a specific poison applied to the human body, through the skin, or through the lungs, and producing definite specific effects. Both are frequently prevalent in our cities; and may we not as well speak of the epidemic influence of the vaccine poison as of the epidemic influence of the small-pox poison? Whatever may be our views in regard to epidemic influence, as sanitarians we must agree that the prevalence or absence of small-pox will always be in exact ratio to the neglect or observance of sanitary measures, including vaccination, by the authorities and the people.

A discussion now took place in regard to Hospital Construction. Dr. Thomas S. Kirkbride, of the Pennsylvania Hospital for the Insane, Philadelphia, preferred large permanent buildings, for he believed that if rightly constructed they were much more efficient than temporary cottages or pavilions. For heating, he recommended the use of steam; it circulated in every direction, and was completely under control. In regard to ventilation, he believed that pure air could only be secured in two ways—either by a fire or a fan. Windows were of but little importance to ventilation, for there was not sufficient movement in the air with all the windows open to secure good ventilation. With a fan, perfect ventilation could be obtained without doors or windows. Dr. John M. Woodworth, Supervising Surgeon of the Marine Hospital Service, was of opinion that the windows of a ward should be opposite each other, with not more than two beds between any two windows. In the San Francisco Marine Hospital the windows are three feet wide, seven feet apart, and come within three feet of the floor. Over each is a large transom; by opening every other transom and raising the opposite corresponding window from the bottom a few inches, and placing vertically on the sill a board about twice as wide as the opening, and a few inches removed from the window, a free interchange of the outer and inner air may be obtained without exposing the patients to direct draughts of air. This mode of ventilation can be used to any considerable extent only when the temperature of the outer air is mild. The open fire-place is the best ventilator when the weather makes it necessary to keep the windows and doors closed; and no ward should be without an open grate, no matter what other mode of heating is adopted. All drains should be ventilated. This is best accomplished by continuing the main drain-pipe (into which the lesser ones enter) straight up through the top of the building. The drains should not pass under any portion of the hospital, and consequently should be placed in the outer walls. Care should be taken that no fresh air supply-flue opens near the sewer. A hospital designed for acute diseases should be so located as to be easily accessible. The site should be free from nuisances of every kind; abundantly supplied with pure fresh water, sufficiently elevated to insure good surface and sub-soil drainage, and isolated to an extent sufficient to give the grounds the necessary exposure to currents of air. The hospital proper should consist of pavilions or separate detached buildings of wood, one storey in height preferable, and constructed with the view of destroying them so soon as the peculiar hospital diseases—erysipelas, pyæmia, gangrene, etc.—are engendered by the cumulated miasm of the patients, a condition which usually obtains after the continued use of a ward for ten or fifteen years, the time depending mainly upon the amount of air-space to each patient and the character of the ventilation. Dr. Ashurst had almost lived in a hospital for fifteen years, had given such institutions much time and attention; and, although pavilion wards were excellent, both in theory and practice, yet he did not think the objections urged against permanent buildings valid. He thought that in large cities they would be in every way preferable. He alluded to the impression which seemed to have gained credence among many, that hospitals were imperfect, and little better than pest-houses. He called attention to the fact that they were generally filled by the poor of the city; and if their cases were treated in such residences as the city poor inhabit, the mortality among them would be far greater than that possible even among the worst managed hospitals. He believed that a large proportion of the hospitals in this country were much better than was generally supposed. It would be manifestly unfair to compare the statistics of general surgical practice with hospital statistics. Those who were sent to hospitals generally were so saturated with the poisons emanating from crowded tenement districts that they possessed but little vitality, and were unable to withstand the shocks of surgical operations or the ravages of disease.

At the evening session, Professor Edward Orton, President of the Ohio Agricultural College, read a paper "On the Relations between Geology and Sanitary Science." He showed how geological structure affects the water-supply, and how wells are rendered injurious by the too close proximity of cesspools, and asserted that the drift-wells of the country in all densely populated districts are utterly unsafe for human use. To wells and springs, however, where they are properly located, and where they are properly guarded against doing the vicarious work of discharging sewerage, they should look for a proper water-supply. Roof-water gathered in properly constructed cisterns is, he said, always safe, and so is running or river water.

General E. L. Vielé, civil engineer, followed with an excellent paper "On Principles and Practice in Drainage and Sewerage, in connexion with Water Supplies." He stated that in New York miles of streams permeated the original topography, and now, without drains to replace them, acres and acres of buildings had been erected. The chief source of the great fever epidemics was an undrained soil. Experience had shown that in the country, in insalubrious districts, the laying of drains had always been followed by a decrease in the death-rate. In the country the wells were generally little better than reservoirs for waste water. The use of hydraulic cement would obviate all this, and the overflow of the cesspools should

be made to filter through charcoal. Allusion was made to the construction of mill dams in the country, by which water was kept standing which should be in motion. The rushing torrents of our rivers were everywhere stopped for the purpose of obtaining water-power. The soil in all directions would invariably become permeated by surplus water, and the bottom of the dam was also covered with refuse. He would not have a single factory stopped; he would increase the number, and, if possible, consume every drop of water for the uses of manufacture. But he would have the dams so constructed that the water could not escape from the bottom or sides, and so arranged that every particle of vegetable matter could be removed. The problems connected with sewers were numerous and intricate. London and Paris had laboured for centuries to provide for the rapidly accumulating population. The principal trouble had arisen from the fact that the plans were not large enough in the first place, not being based on an anticipated growth of population. The principal points to be considered were the original configuration of the ground and natural valleys of drainage, the artificial changes of the natural surface by the grading of streets and avenues, the rainfall or amount of water discharged from the clouds during the year upon the area to the sewers, and the water-supply or amount of water distributed to the inhabitants daily. The main difficulty was what to do with the accumulation of the sewers. The various theories proposed, and the few practised, were next cited. The cases in this country where the sewage of towns was deposited in rivers above where other towns or cities procured their supply of water were referred to.

PROVINCIAL CORRESPONDENCE.

LIVERPOOL.

January 26.

Bequests to Liverpool Charities—Traffic in Diseased Meat—West Derby Guardians and the Home Office—Health of the Town.

One of those bequests—of which in Liverpool, considering its vast wealth, we have too few—whereby charitable institutions will be largely benefited has just been made. Mr. Roger Lyon Jones, a wealthy bachelor, died on the 1st inst., and after leaving about £20,000 to relatives and friends, divided the residue of his estate, when realised, to the local charities, leaving the appointment to the discretion of his executors. It is expected that this residue will not fall far short of £350,000. As indicative of the special interest which Mr. Jones took in medical institutions, it may be stated that up to the time of his death, and for many years previously, he was a member of the Committee of the Royal Southern Hospital, and for some time its chairman, and that he has bequeathed £2000 to the Liverpool Royal Infirmary School of Medicine for the purpose of establishing two scholarships. A number of other specific bequests are named in the will, which, however, it is presumed, will not interfere with the charities receiving them participating in the general distribution. Among these are £1000 each to the Royal Infirmary and the Royal Southern Hospital, £500 to the Northern Hospital, £500 to each of the dispensaries, a similar sum to the Children's Infirmary, etc. It was feared that the announcement of Mr. Jones's munificent bequest just before the Hospital Sunday and Saturday collections were made would operate unfavourably towards them; and the event has justified that fear, as they fell considerably short of those of last year, the entire amount published thus far being £8748, against £11,143 last year.

A considerable traffic is carried on in diseased meat, large consignments of which are made constantly from Ireland and the rural parts of Cheshire to Liverpool and Manchester. The meat is sent dressed to the slaughter-houses of these towns, on the chance of its not being recognised by the inspectors, and so passing into the hands of consumers. Not long since, Mr. Davenport, the active inspector for the Nantwich Rural Sanitary Authority, pointed out that a great quantity of such meat was being sent from his district every week, and gave the valuable suggestion that the fact of the carcase being dressed should be taken as evidence that it was intended for human food. If this were adopted there would be less difficulty in dealing with these cases than is frequently found under the existing law, as those who transmit the meat to the slaughter-houses, which they know to be under inspection, often set up the defence that they were uncertain about the character of the meat themselves, and sent it in order that it might be inspected, and rejected if unfit for consumption. Such was a portion of the defence put forward by a Mr. Michael Cox, farmer and cattle dealer, of County Meath, who on the 30th ult. was summoned before Mr. Raffles, the Liverpool stipendiary magistrate, for having, on the 15th of the same month, forwarded eight pieces of beef to one of the slaughter-houses of the town, all of which were unfit for human food; a portion being from an animal which had died of pleuro-pneumonia, and the rest from another which had died in calving; and for having, on another occasion, exposed in the same slaughter-house four diseased quarters of beef for sale. In this very gross case the magistrate would have felt some difficulty in convicting if the defendant's intention to sell the beef, and not merely submit it to inspection, had not been clearly apparent from letters and other evidence that were adduced when the summons was heard. As it was, two fines of £20 and £10 respectively, with costs in each instance, were levied. If Mr. Davenport's very valuable and practical suggestion were incorporated in the Act dealing with the distribution of diseased meat, much of the difficulty that now surrounds conviction would at once disappear.

The West Derby Guardians have recently come into collision with the Government authorities on the matter of pauper burials, with a result which it is easy to imagine. On Dr. Holland, one of the Government inspectors of burial-grounds, instituting an inquiry a short time since into the condition of the cemetery belonging to the parish of Liverpool, which is situated at Walton, certain strong allegations were made to him touching the mode of effecting interments in a neighbouring burial-ground, which was under the control of the guardians of West Derby. Circumstances prevented a formal inquiry being instituted at the time, but a correspondence was commenced between Dr. Holland and the local authorities, in which these latter denied that there was any reasonable ground of complaint against their proceedings, and during which they seemed to imply, even if they did not directly assert, their determination to do as seemed right in their own eyes, uninfluenced by any interference from the Home Office. The result of this unequal contest was the receipt by the Guardians of a letter, of which the following is a copy:—

"Whitehall, December 21, 1874.

"Gentlemen,—I am directed by Mr. Secretary Cross to acquaint you that it is his intention to represent to her Majesty in Council that, for the protection to the public health, interments be forthwith discontinued in the West Derby Workhouse burial-ground, Walton-on-the-Hill, except in graves which are free from water. Also, that every coffin placed in a grave be forthwith covered with a foot of earth well rammed down, and that no coffin be placed within a foot of any other coffin, or less than four feet beneath the surface of the soil.

"I am, Gentlemen, your obedient Servant,

"A. F. O. Liddell."

It is most unfortunate for themselves that the Guardians, while practically ignorant of the way in which burials were conducted in their own cemetery, should yet have opposed Dr. Holland's recommendations, and placed themselves in their present humiliating position. At a meeting held on the 24th ultimo, the chairman, who had been indisposed to credit the alleged abuses, stated that he had been led to inquire into the subject, and, as the result of his inquiry, had found that there were 104 graves in the cemetery, and that 2900 persons had been buried in them, being an average of 27 to a grave. The lowest number buried in one grave was eight, and the highest ninety-seven. When it is considered that these so-called graves were sometimes partly filled with water which required to be baled out, the danger to the public health can be imagined.

The epidemic of scarlet fever seems nearly to have spent its force in Liverpool, the excessively high death-rate of last week (the proportion then being 51 per 1000 per annum) having been due mainly to the extremely severe weather.

A piece of ground, eight acres in extent, has been purchased by the corporation at New Ferry, a few miles from Liverpool, on which it is intended to erect an iron hospital for the detention and treatment of infected emigrants. The building will be completely isolated, and will be capable of approach both by water and land. Such a building has long been a desideratum, as the possibility of the introduction of epidemic disease among our densely crowded population by means of the stream of

emigration that is incessantly flowing through the port has again and again been demonstrated with fearful force; and yet we have never possessed a hospital approachable by water into which emigrants coming from suspected ports, and actually the subjects of infectious disease, could be taken before their reception into the town itself.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

TUESDAY, JANUARY 12.

C. J. B. WILLIAMS, M.D., F.R.S., President, in the Chair.

THE PATHOLOGY OF LUPUS ERYTHEMATOSUS.

DR. GEORGE THIN read a paper on the above subject, of which the following is an abstract:—Microscopical examinations of the skin in different stages of lupus erythematosus by Neumann, Giddings, and Kaposi have shown that in this disease there is great vascular congestion around the sebaceous and sweat glands, more or less destruction of the glands themselves, and cell-infiltration of the surrounding corium. The author had an opportunity of examining the skin of a man who died of the disease in Vienna in 1873, and selected a portion from the inner surface of the second toe, beyond the area of the sebaceous glands, and in which the disease had begun to show itself only for a few weeks before death. He found the sweat-glands, fibrillary tissue, and rete Malpighi absolutely normal in appearance. There was enormous dilatation of the capillaries, most marked in the papillæ and around the sweat-glands, their contours being indicated mostly by the red blood-corpuscles with which they were filled, but the vessels themselves being visible in some of the sections. The small veins were also distended by blood corpuscles. The condition of the capillary bloodvessels being such as would, if persistent for any length of time, account for all the changes described in the tissues of the skin by the above-named observers, and being found in the case of this man to have occurred antecedent to any such changes, the accuracy of the view that lupus erythematosus primarily affects the glands of the skin is put in question. The author believes that in the present state of our knowledge of the pathological anatomy of the disease—which, however, he considers to be very defective—the earliest morbid condition that has been detected is dilatation and distension of the capillaries, and consequently, in life, stasis of the circulation.

MR. HUTCHINSON asked the author why he separated erythematous lupus from others of the common forms. He had not examined any of the specimens he had seen microscopically, but from close inspection he was inclined to think the author's account of the microscopical structure right. Mr. Startin had long ago recognised this form of skin disease as lupus sebaceus from the glands being so conspicuous. Lupus presented many varieties, but this form was rare. Probably in lupus all the structures of the skin were involved, though in different degrees.

DR. DRYSDALE looked upon this as a variety of scrofulide occurring in rather young people of bad family history.

DR. THIN, in reply, maintained the difference of this from other forms of lupus in various ways; neither would he call it a scrofulide.

NOTES ON AN EPIDEMIC OF MALARIOUS YELLOW FEVER OCCURRING ON BOARD H.M.S. "DORIS."

DR. LEONARD H. J. HAYNE, Staff-Surgeon R.N., gave an account of an epidemic of malarious yellow fever that attacked H.M.S. *Doris* at Port Royal, Jamaica, in May, 1873. The first case, the particulars of which were given, together with a temperature chart, was much like a case of typhoid fever. It occurred on the day of leaving port. Next day two other men were attacked, and one of these cases, in which black vomit occurred, died on the fourth day. During the following thirty days eight fresh cases occurred. The ship then sailed into a cooler latitude, and as the air became cool all the fever cases improved. Eleven fresh cases occurred, but of a milder type. The writer gives his reasons for regarding the epidemic as one of malarious yellow fever, and distinguishes it from the milder "marsh remittent fever," concluding with some suggestions as to treatment.

DR. LAWSON said it was not very easy to distinguish between malarial and specific yellow fever. In this record there was only one case of pure yellow fever. It was constantly seen that yellow fever was both sporadic and epidemic; and from this arose the belief in the two forms. The other cases were cases of malarial remittent. The vomited matters were green—not black-brown, as in true yellow fever. It had been laid down as a distinction between specific and malarial fevers, that in the former there was albuminuria and suppression of urine, which did not exist in malarial fever; there were also casts in the urine.

DR. FAYRER believed in no specific yellow fever apart from malarious fever; but some malarious fevers of a virulent kind were, he believed, contagious—or they were believed to be so in India. Remittent fevers also assumed the specific yellow type, even to yellowness and colouring.

DR. LEGG pointed out that in this, as in other instances, no morbid anatomy of the fever had been given. To this point men's minds ought to be directed, with a view to future contingencies. He also drew some interesting analogies between yellow fever and acute atrophy of the liver.

DR. DUKA had seen cases of malignant malarious fever, chiefly from the Terai, almost exactly like the yellow fever of the West Indies, with suppression of urine, etc. Jaundice and suppression of urine were, in fact, common to both.

THE PATHOLOGICAL SOCIETY.

TUESDAY, JANUARY 19.

Mr. GEORGE POLLOCK, F.R.C.S., President, in the chair.

THE PRESIDENT delivered his Introductory Address. He said his first duty was to thank the Society for placing him in the chair as successor to his old friend Sir William Jenner. He considered it one of the highest honours that could fall to the lot of any man in the profession; for the Pathological Society was one of the most distinguished societies in this or in any other country, and its Presidentship was a legitimate object of ambition for the best of them. Its growth had been extraordinary. The volumes of its *Transactions* were a treasure-house of facts,—a store of inestimable value; and they had travelled to the most distant lands. He had joined the Society thirty years ago, and twenty-five years ago he had held the office of Secretary. His experience of some few years of office had taught him to estimate the Presidentship very highly, and to consider how valuable the office was as a means of instruction to the President himself. A former President, Dr. Latham, had once said to him, "When I first took the chair at the Society I little knew what I had to learn; but now, when I quit it, I am surprised no less at the amount of pathological information that I have acquired than at the strides that the study of pathology has taken in my time." Those who knew Dr. Latham would bear testimony to his excellence as a clinical teacher. The President then went on to state a practical proposal with reference to the period of tenure of the Presidentship. The laws of the Pathological Society were taken from those of the Royal Medical and Chirurgical Society, and at a time when the population of London and the corresponding number of the medical profession were very much smaller than they were now. He calculated that there had been an increase of 1500 practitioners in the metropolis since 1841—the year in which the Society was founded. During the same period new hospitals and new dispensaries had been founded, and many additions had been made to the staffs of the general and special departments of the old hospitals. He need hardly say that the number of members of the Pathological Society had increased in more than an equal ratio. He was quite of the opinion that when a society was newly established its president should not be too frequently changed. The President then quoted figures to show that only a small number of the original and earlier members of the Society had passed the President's chair. There was, however, a stronger reason. Several senior members of the profession who had held aloof at first had now joined and done valuable work. If any of these were to be elected (and he sincerely hoped that would be the case), many of the elder members would either have to be passed over or they would reach the honour at that age when their strength would be "but labour and sorrow." In view of the remarkable advances of science, their President should be a man in the vigour

of life—not too young to be wanting in weight, nor too old to be engrossed with private practice; a man free from the too deep impression of the sere and yellow leaf. Now, an annual election to the President's chair would insure a rapid succession of new men, and would secure future benefits for those who would come after. He introduced the subject thus early to their notice so that it might be well considered before the next annual meeting, and also that the Council should not be fettered by any feeling of delicacy so far as he himself was concerned.

Papilloma of the Tongue.

Mr. Waostaffe exhibited two specimens of Papilloma of the Tongue. The first was from a child three years old. It had been first observed at the age of six months, and had slowly increased. It interfered with deglutition and respiration, and was removed by operation. It measured one inch from before backwards. The most interesting point of the case was that it had the structure of an old nævus. There were blood-spaces in the papillæ and among the epithelium, and in the submucous tissue. He would call it a papilloma developed upon a nævus. The second case he would consider as intermediate between a true papilloma and an epithelioma. It was removed from a man fifty years of age by the galvanic écraseur. Twenty-two or twenty-three years ago there had been patches on the tongue. Cauliflower nodules appeared from time to time, and broke off, but recurred. The patient was under the care of Mr. Jonathan Hutchinson, who had made a drawing of the condition, and diagnosed it to be doubtful syphilitic disease of the tongue. Since that time (six years ago) the growth had increased to a large cauliflower mass. At first sight it appeared to be a true papilloma, as there was no ulceration; but a scraping from the surface showed a large number of "birds' nests" and an excessive hypertrophy of epithelium. He also remarked the presence of a large number of wandering leucocytes. He would call it a papilloma, in consequence of its slow progress. There had been no recurrence in six months.

Mr. Hulke remarked that the presence of "bird's nests" had been advanced as strong presumptive evidence of epithelioma; they were no good criterion.

Mr. Wagstaffe agreed as to the significance of "birds' nests"; he did not mean to attach much importance to their presence. He had omitted to state that the difference between the cells at the centre and periphery was very marked; and that was a fact more important than the presence of the nests themselves. There was reason to believe that the fatty condition of the central cells was not a simple degeneration.

Mr. Fairlie Clarke doubted the wisdom of calling the second case a papilloma. At the time of operation it had reached an epitheliomatous condition. The treatment was by a large operation, such as is unusual for papillomata; a warty growth would have yielded to more simple measures.

Mr. Henry Morris said there was evidence in the exhibited drawings of two different processes.

Mr. Waostaffe replied to the various points which had been raised, and added that the enlargement of the glands of the neck which had existed before the operation had subsequently subsided.

Congenital Dislocation of Both Hips.

Mr. Sydney Jones exhibited a female patient, aged seventeen, with dislocation of the hip. She had been previously treated for spinal disease. The patient presented the familiar characters of the dislocation. The heads of the bones could be pulled down one inch and a half, but they could not be retained in that position by apparatus. The girl could walk five miles a day.

Mr. Howard Marsh thought that the facts about congenital dislocations of the hip required elucidation. Different conditions were described under that name. Many of them were dislocations occurring during early childhood from abscesses or fractures. There had been no dissections to prove that they were really congenital dislocations. He had seen a case where the affection was hereditary. It occurred in a female who had been seen by Sir Benjamin Brodie; the patient's daughter had essentially the same condition.

Mr. Morrant Baker referred to a case in a patient three years old; it was said to be congenital, but on inquiry he found that the patient could walk up to a month before. It was one of those cases of double dislocation which would be called congenital.

Mr. Nunn referred to the theory of Charcot, that the affection depended upon a partial paralysis of the nerves of the muscles of the joint.

Mr. Howard Marsh said he had seen ten cases or so, but had observed no affection of the nerves. Dr. Dolbeau had asserted that the condition was essentially bad innervation, and imperfect muscular development, which showed itself when the child began to walk.

The President inquired as to the condition of the acetabulum in these cases.

Mr. Marsh described the state of the acetabulum in the skeleton of a patient of fifty in the St. Bartholomew's museum.

Mr. Sydney Jones added that in his case a backward projection of the sacrum had been observed at an early date. It became a question whether this condition had any relation to the double dislocation.

Varicose Dilatation of the Lymphatics in Elephantiasis.

Mr. Sydney Jones also showed a patient illustrating this condition. A man, aged thirty, began to have swellings of the right thigh seven years ago, on the posterior and inner aspect, and in the cleft between the butteck and thigh: they were like varicose veins emptied by pressure and refilling. There was a discharge from them of a milky fluid, which sometimes amounted to one or two quarts per diem. This discharge had been observed to a limited amount as long as four or five years ago. Besides these varicosities there were other smaller vessels, some with their contents fluid and others apparently solid. The foot of the same side was tuberculated; in the left groin there were two or three enlarged glands; and there were lumps in the right groin at the times when discharge was absent. The circumference of the right thigh exceeded that of the left by one inch and a half to two inches and a half at different points. The spleen was of normal size. The patient had had four or five very curious attacks of inflammation in the same limb: whitish tubercular prominences appeared—patches, looking like distended lymphatics,—then a beautiful network, suggesting an inflammatory condition. This was followed by diffused redness, and desquamation over the whole length of the limb. The whole process corresponded closely to the capillary lymphangeitis which, according to Billroth, was the essential condition in erysipelas. In one of the attacks the patient's temperature had risen to 102°. He had had two or three attacks since he had been in St. Thomas's Hospital. After one of these attacks the lymphatics got very much distended, ruptured, and a discharge of a quantity of chylous fluid occurred. This was followed by a feeling of extreme hunger. The treatment consisted of complete rest, pressure by an elastic stocking, and ergot internally. The fluid discharged was alkaline, and coagulated into dense clots. The analysis of Dr. Bernays shewed vast numbers of granules, lymphoid corpuscles, and red corpuscles. On standing, a liquid like cream rose to the surface. The proportion of water and solids was 92 and 8 per cent. respectively. The serous fluid contained 4·63 per cent. of albumen. Special examination gave 4·27 per cent. of fat.

Dr. Day described at length a case reported by him in the *Transactions of the Clinical Society* for 1869. Since 1873 there had been no fresh discharge, but whenever the boy took exercise the limb became enlarged, brawny, and painful. He had satisfied himself that there was enlargement of all the bones of the limb.

Mr. Morrant Baker recognised the case as one that had been in St. Bartholomew's Hospital.

Dr. Fayrer believed that he could throw some light on this case. The condition was not at all uncommon in India. He had himself described it in 1866 as nævoid elephantiasis, and a more complete description of it had been given by Dr. Vandyke Carter. It had recently been observed by Dr. Lewis that the urine of sufferers from this disease was chylous, and that the blood contained a peculiar filaria. In Bengal it was oftener seen in the scrotum; sometimes also in the groin.

Mr. Wagstaffe also exhibited a patient suffering from a very similar condition. There was not dilatation of the lymphatics to the same extent, but there was also a discharge of a milky fluid from the leg to the amount of one or two pints a day. This had been observed for two months. The disease dated back to four years ago, when the patient had a hydatid cyst and abscess of the groin. The cyst was tapped, but refilled. The fluid in this case contained albumen to four-fifths of its bulk.

Mr. Sydney Jones said that the urine of his patient had been carefully observed, but had not been found chylous.

Mr. Marcus Beck mentioned that the first patient had been in University College Hospital four or five years ago. The condition was much the same as now, but the discharge much less. The opinion then held was, that the fluid was chyle, and not lymph.

Dr. Fayrer wished to make a correction. Chylous urine was not found in every case—indeed, it was quite the exception.

A committee, consisting of Dr. Fayrer, Dr. George Harley, and Dr. Burdon-Sanderson, was appointed to investigate the case.

Hypertrophy of the Leg from Disease of the Knee.

Mr. Sydney Jones gave an account of this case, which he was unable to bring forward. The disease had been successfully combated after five years' treatment in bed. To his surprise he found that the limb, on careful measurement, was an inch and a half longer than the other; the enlargement was well apportioned between the femur and tibia. He might describe it as hypertrophy of a limb from afflux of blood to a diseased knee. There was no atrophy of the other limb.

NEW INVENTIONS.

IMPROVED ABDOMINAL BELTS.

We have received from Messrs. Salmon, Ody, and Co., of 292, Strand, specimens of their new abdominal belts for ladies and gentlemen. They are made with strips or "ribs" of cork instead of with ribs of whalebone or steel, the cork being protected from fracture by being carefully stitched in between the layers of substance forming the body of the belt. The belts are light, and beautifully made; and we can very well suppose that real advantage arises from the substitution of cork for the harder substances, metal or whalebone.

SUGAR-COATED PILLS.

Mr. R. Hampson, of 205, St. John-street-road, has sent us various samples of sugar-coated pills of the British Pharmacopœia, and other convenient and useful formulæ. They are well made, and, so far as we can judge, the coating is what it is said to be—sugar. It dissolves quickly, equably, and completely in warm water, and there is, therefore, no danger of the pills passing through the alimentary canal undissolved. Tastelessness and "elegance" of appearance are thus secured without the disadvantages that may result from the employment, said to be not uncommon, of French chalk and other earthy materials to form a coating.

OBITUARY.

ROBERT ADAMS, M.A., M.D., M.Ch. Dub., F.R.C.S.I.

As we briefly announced last week, this distinguished and veteran surgeon died at his residence, Stephen's-green, Dublin, on Wednesday, January 13, at the advanced age of eighty-three years. Although he had been in failing health for a long time, his indomitable spirit enabled him to triumph over bodily weakness, and he may be said to have died literally "in harness." But a short period before his death he filled his place in Trinity College as the Regius Professor of Surgery in the University of Dublin, and he pursued his professional avocations until almost the last day of his life.

At the age of eighteen Robert Adams entered Trinity College, Dublin, as a student in Arts. In the spring of 1814 he graduated as B.A.; but previous to this he had commenced the study of medicine, having been apprenticed to Dr. William Hartigan, F.R.C.S.I., who was Professor of Anatomy and Surgery in the School of Physic in Ireland from 1803 to his death in 1813. In 1815 Dr. Adams became a Licentiate of the Royal College of Surgeons, and three years later was elected a Fellow. He never took the degree of Bachelor in Medicine in the University of Dublin, and it was not until 1842 that he became M.D. of his *Alma Mater*. Ten years previously, in 1832, he had proceeded to the degree of Master of Arts. Early in his professional life he spent some time on the Continent, where he made himself acquainted with the writings and practice of the first surgeons of the day. On his return to Dublin he soon gave promise of his future celebrity, and was in time elected Surgeon to Jervis-street Hospital. In 1835, on the death of Ephraim MacDowel, father of the present Professor of Anatomy and Surgery in the School of Physic, Adams was appointed Surgeon to the Richmond Hospital. He continued to fill that post until the close of 1873. A short time before he left Jervis-street Hospital he took an active part with Mr. R. Carmichael and Mr. E. MacDowel in founding the Richmond (but what is now the Carmichael) School of Medicine. He filled the chair of Surgery in this School for several years. He also became Surgeon to the Richmond Lunatic Asylum.

We have as yet said nothing of Dr. Adams's writings, to which he deservedly owes so much of his fame. To Todd's "Cyclopædia" he contributed five articles on "Abnormal Conditions of the Joints"; and a classical essay "On Disease of the Heart" in the *Dublin Hospital Reports* vindicated his claim to be considered as distinguished a physician as he was a surgeon. In 1857 he published the first edition of the well-known work on "Rheumatic Gout," and in 1873 the second edition appeared under the title of "A Treatise on Rheumatic Gout, or Chronic Rheumatic Arthritis," and was accompanied by a beautifully finished atlas of plates illustrative of the deformities caused by, and the pathology of, this remarkable affection.

Both the profession and public opinion recognised Adams's worth as a highly educated, skilful, and, above all, judicious surgeon. He was three times elected President of the Royal College of Surgeons, and, on the death of Mr. Cusack in 1861, he was appointed to two honourable posts held by that distinguished surgeon—the Surgeoncy to her Majesty the Queen in Ireland, and the Regius Professorship of Surgery in the University of Dublin. He also was a member of the Senate of the Queen's University, and a member of the Society of Surgery, Paris.

To his private worth as a friend, and to his social qualities, a practical testimony was borne by the remarkable concourse of the general public and of members of the profession which accompanied his remains to their last resting-place in Mount Jerome Cemetery on the morning of January 19.

JAMES H. PICKFORD, M.D., etc.

This well-known practitioner was many years resident at Brighton, where he obtained very considerable practice. He was educated at several of the metropolitan hospitals and at Paris. He received the diploma of the Royal College of Surgeons in 1828, and served for some few years in the Grenadier Guards. On retiring from this regiment he settled down in private practice at Brighton, in which town he continued to practise until his death, last week. He devoted himself for some time to diseases of the eye, and, being indefatigable and energetic, he succeeded in establishing the Sussex and Brighton Infirmary for Diseases of the Eye. The following extract from the "Medical Directory," giving an account of his qualifications, the honours he had received, and the works he published, will be sufficient to show that he was no ordinary man:—

"M.D. King's Coll. Aberd. 1852; L.K.Q.C.P. Irel. (exam.) 1842; M.R.C.S. Eng. 1828; (St. Barthol., Lond. Hosp., Guy's, and St. Thos.'s, and Paris); Dep.-Lieut. (1853) and J.P. (1855) for co. Sussex; formerly Sen. Surg. Brighthelmstone Disp.; founder (1832) Surg. (1832) Phys. (1853) Sussex and Brighton Infirm. for Dis. of the Eye; Phys. Brighton Blind Asyl. 1855; Assist.-Surg. H.M. 1st or Grenadier Regt. Foot Guards, 1828; M.R.I.A. 1843; Corr. Fell. Nat. Vacc. Estab. 1831; Co. Mem. Assoc. K.Q.C.P. Irel. 1843; Fell. Roy. Med.-Chir. Soc. Lond. 1851. Author, "On Hygiene." Contrib. "On a New Jointed Stem Pessary," *Med. Gaz.* 1838; a Paper "On Conical Cornea," read before the Assoc. of King and Queen's Coll. Phys. Irel., *Dub. Jour. Med. Sci.* 1844, vol. xxiv."

Diminution of Berlin Medical Students.—While the general number of students in the Berlin University rose from 1757 in the winter session of 1873-74 to 1824 in that of 1874-75, that of the medical students has continued to diminish. In the summer session of 1873 there were 340; in the winter of 1873-74, 333; in the summer of 1874, 299; and in the winter of 1874-75, only 276. The number of the military medical students has also continued to progressively decrease, having been in the above sessions 185, 168, 160, and 154.—*Berlin. Med. Woch.*, January 4.

MEDICAL NEWS.

KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.—At the usual monthly examination meetings of the College, held on Tuesday, Wednesday, and Thursday, January 12, 13, and 14, the following candidates were successful for the licence to practise Medicine:—

Kennedy, John William.
Rae, William Masters.
Tully, Edmond.

For the licence to practise Midwifery:—

Kennedy, John William.
Murphy, George Wyndham.
Rae, William Masters.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having undergone the necessary examinations for the diploma, were admitted Members of the College at a meeting of the Court of Examiners on the 25th inst., viz.:—

Brodribb, Francis Benjamin, L.S.A., Upper Clapton, student of St. Bartholomew's Hospital.
Collenette, Frank de Beauchamp, L.S.A., Guernsey, of the London Hospital.
Dearden, John Alfred, L.R.C.P. Edin., Douglas, Isle of Man, of the Manchester School.
Haden, Arthur Charles, Sloane-street, of St. George's Hospital.
Hughes, William Lewis, L.S.A., Carmarthen, of the London Hospital.
Jackson, Ernest Carr, Harley-street, of St. Thomas's Hospital.
Jones, William Makeig, L.S.A., Blaenavon, Monmouthshire, of Guy's Hospital.
Kains, Robert, M.B. Toronto, Palace-road, of St. Thomas's Hospital.
Lewis, Ivor Ajax, L.R.C.P. Edin., Llantrissaut, Glamorgan, of Guy's Hospital.
Newsham, Francis, L.K.Q.C.P.I., Oldham, of the Manchester School.
Paul, Ernest Watson, L.K.Q.C.P.I., Brixton, of St. Thomas's Hospital.
Pink, Thomas, L.S.A., Greenwich, of Guy's Hospital.
Ross, George Hamilton, L.R.C.P. Lond., Hart-street, Bloomsbury, of University College.
Sall, Ernest William Henry, Dolphin Holme, near Lancaster, of the Charing-cross Hospital.
Smith, Sydney Lloyd, L.K.Q.C.P.I. and L.S.A., Brixton-road, of St. Thomas's Hospital.
Webb, Charles Louis, L.S.A., Bentley, Hants, of Guy's Hospital.

The following gentlemen were admitted Members on the 26th inst., viz.:—

Barron, Thomas Walter, B.A. Cantab., Sunderland, student of University College.
Boddy, Evan Marlett, L.S.A., Camberwell-road, of Guy's Hospital.
Black, James, B.A. Cantab., Highgate-road, of St. Thomas's Hospital.
Clutton, Henry Hugh, B.A. Cantab., Westminster, of St. Thomas's Hospital.
Habgood, Henry, Eastbourne, of the London Hospital.
Hawkins, Alexander Frederick, Blackrock, near Dublin, of the Leeds School.
Morris, Walter Cameron, Barbadoes, of Guy's Hospital.
Newton, Edward Shackfield, L.S.A., Canonbury-park, of Guy's Hospital.
Richardson, William Brown, Leeds, of the Leeds School.
Roy, John James, Hammersmith, of St. Bartholomew's Hospital.
Sampson, Henry Moore, Yeovil, Somerset, of St. Mary's Hospital.
Sargent, Arthur Francis, Belsize Park, of St. Mary's Hospital.
Stradling, William Arthur, Sloane-street, of St. George's Hospital.
Vaillant, Marie Edouard, George-street, Portman-square, of the Heidelberg and Vienna Schools.
Williamson, Francis, Durham-place, Chelsea, of St. Thomas's Hospital.

The following gentlemen were admitted Members on the 27th inst., viz.:—

Adkins, Edward James, Canonbury, student of Guy's Hospital.
Buckland, Alfred George, L.S.A., Auckland, New Zealand, of the London Hospital.
Chapman, Paul Morgan, Camden-park-road, of University College.
Cooper, Ernest Frederic, Canonbury, of University College.
Dent, Clinton Thomas, B.A. Cantab., Chesham-street, of St. George's Hospital.
Dixon, James Deighton, Gateshead, of the Newcastle School.
Duke, Herbert, Clapham-road, of Guy's Hospital.
Edmunds, Walter, B.A. Cantab., Hampstead, of St. Thomas's Hospital.
Friend, Frederick Worrell, Bayswater, of St. George's Hospital.
Hales, Robert Turner, Holt, Norfolk, of St. Bartholomew's Hospital.
Hutton, Edwin Rutherford, Lever-street, St. Luke's, of St. Bartholomew's Hospital.
Jones, Valentine Llewellyn Watson, Carmarthen, of the London Hospital.
Lee, Edwin, Leeds, of the Leeds School.
Marks, Charles Ferdinand, M.D. Queen's University Ireland, Dublin, of the Galway and Dublin Schools.
Owen, Herbert Isambard, B.A. Cantab., Gloucester-gardens, of St. George's Hospital.
Parkes, Alfred, West Bromwich, of the Birmingham School.
Rudd, Leonard, Kempsey, Worcestershire, of Guy's Hospital.
Streeten, Friend Edward, Ealing, Middlesex, of St. George's Hospital.
Wallis, Kenneth Serjeant, Grandchester, near Cambridge, of the London Hospital.

Twenty candidates out of the seventy-four examined, having failed to acquit themselves to the satisfaction of the Court of Examiners, were referred to their professional studies for six months; and eight, having passed in Surgery, will be admitted Members of the College when qualified in Medicine.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, January 21:—

Lewis, Joseph, Milborne Port, Somerset.
Walker, Hyde Edwards, Broughton-in-Furness, Lancashire.

On the same day the following gentleman passed his primary professional examination:—

Barrow, John, student of Bartholomew's Hospital.

On the 7th inst. the following gentleman (*not* "John Pine Catford," as by mistake reported last week) passed his examination and received his certificate:—

Orr, James William, Pemberly, Bedford.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

MUNRO, ÆNEAS, M.D., C.M. Univ. Edin., F.F.P.S. Glasg.—Assistant-Physician to the Hospital for Women, Soho-square.

REEVES, HENRY ALBERT, M.R.C.S. Eng., F.R.C.S. Edin.—Surgeon to the Hospital for Women, Soho-square.

MILITARY APPOINTMENTS.

WAR OFFICE—MEDICAL DEPARTMENT.—Surgeon-Major Edwin Parsonage, M.D., retires upon temporary half-pay; Surgeon-Major Andrew Leith Adams, M.D., retires upon half-pay; Surgeon William Godfrey Martelli retires upon temporary half-pay; Surgeon John Vicary Thatcher Malcolm, M.D., retires upon temporary half-pay; Surgeon Oliver Codrington to be Surgeon-Major, *vice* Thomas Joliffe Tufnell, retired on half-pay.

BREVET.—Surgeon-Major Andrew Leith Adams, M.D., to have the honorary rank of Deputy Surgeon-General on retiring upon half-pay.

MILITIA.—Surgeon George Edward Carre, Donegal Artillery, resigns his commission.

BIRTHS.

GANGE.—On January 26, at Faversham, the wife of Frederick A. Gange, M.D., of a daughter.

HARRIS.—On January 21, at Marles Hill, Godstone, the wife of A. G. E. R. Harris, L.R.C.P. Lond, M.R.C.S., of a son.

RAWLINS.—On January 17, at 41, Highgate-road, N.W., the wife of Henry Armstrong Rawlins, M.R.C.S., of a son.

MARRIAGES.

GREENHAM—PARSONS.—On January 21, at St. Mary's Church, Bridgwater, Richard Greenham, Esq., of Trieste, to Elizabeth Ada, only daughter of John Parsons, F.R.C.S., of Bridgwater.

LAKING—MANSELL.—On January 26, at St. James's Church, Piccadilly, Francis Henry Laking, M.D., of Cleveland-row, St. James's, to Emma Ann, second daughter of the late Joseph Mansell, Esq., of Addison-road, Kensington.

LAWRENCE—WATTS.—On January 21, at St. Peter's, Belsize-park, James Sealy Lawrence, youngest son of the late Henry Lawrence, M.D., Carmarthen, to Mary A. T. Watts, younger daughter of the late J. Watts, M.D., Shrewsbury.

SELFE—ROGERS.—On December 26, 1874, at Coimbatore, East Indies, Sydney G. F. Selfe, Lieutenant Royal Artillery, to Edith, second daughter of Surgeon-Major C. J. Rogers, of Coimbatore.

SIMPSON—BAUCE.—On January 21, at Keig, Aberdeenshire, by the Rev. Duncan Campbell, B.D., James Simpson, M.D., of Tullynessle and Forbes, to Mary Barr, daughter of Alexander Bruce, Esq.

DEATHS.

BURROWS, ROBERT THOMAS, M.R.C.S., late of 8, Westbourne-park-place, Bayswater, W., at his residence, Pemberton, Lancashire, on January 15, aged 47.

COXE, MAY ANNE CUMMING, wife of Sir James Coxe, M.D., at Kinellan, on January 25.

HUGGINS, HORATIO NELSON FAIRBAIRN, M.B., C.M., L.R.C.P. Edin., eldest son of Horatio James Huggins, Esq., Assistant-Judge at Sierra Leone, supposed to have been drowned, with all on board, about April 13 or 14, 1874, by the foundering of the Royal Mail steamship *Liberia*, on her voyage from Liverpool to the West Coast of Africa.

KEELE, HENRY WILLIAM, M.D., Staff-Surgeon R.N., at Highfield Lodge, near Southampton, on January 23, in his 85th year.

KEVIN, CHARLES, Deputy Inspector-General of Hospitals, late of the Madras Medical Establishment, at Oxford-terrace, Hyde-park, on January 24, aged 67.

MACLEOD, WILLIAM, M.D., of Ben Rhydding, Yorkshire, at Ben Rhydding, on January 25.

MOORE, ARTHUR JACKSON, L.R.C.P., of Eastbourne, elder son of Lionel Welham Moore, surgeon, Debenham, Suffolk, on his way home from the Cape of Good Hope, on January 15, aged 29.

OTLEY, JOHN, F.R.C.S., L.S.A., late of Maidstone, at Camberwell, on January 22, aged 66.

PARKER, THOMAS D., M.D., of 59, High-street, Deptford, formerly of Sevenoaks, after two days' illness, on January 25.

WEBSTER, ELISABETH, eldest daughter of George Webster, M.D., of Dulwich, Surrey, on January 24.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made, and the day of election (as far as known) are stated in succession.

North Wales Counties Lunatic Asylum, Denbigh.—Assistant Medical Officer. Candidates must be unmarried, and possess a knowledge of the Welsh language. Applications, with testimonials, to the Chairman of the Committee of Visitors, on or before February 17.

Paisley Infirmary.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to Mr. Wm. Hodge, Writer, Paisley, on or before February 6.

Royal Hospital for Diseases of the Chest, City-road, E.C.—Physician. Candidates must be F. or M.R.C.P. Applications, with testimonials, to the Secretary, on or before February 15.

Royal Infirmary for Children and Women, Waterloo-bridge-road, S.E.—Physician. Candidates must be M.D. and M.R.C.P. Applications, with testimonials, to the Secretary.

St. Mary's Hospital Medical School.—Medical Tutor. Applications, with testimonials, to the Dean of the School, on or before February 1.

University College Hospital.—Resident Medical Officer. Applications, with testimonials, to John Robson, B.A., on or before February 13.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Ashton-under-Lyne Union.—The Third District is vacant; area 1600; population 6664; salary £30 per annum.

Downham Union.—Mr. E. A. Piggott has resigned the Sixth District; area 13,586; population 3168; salary £50 5s. 8d. per annum.

APPOINTMENTS.

Basford Union.—Duncan M. Forbes, L.R.C.P. Edin., L.F.P. and S. Glasg., to the Greasley District.

Blackburn Union.—James Dearden, M.R.C.S. Eng., L.S.A., to the Harwood District.

Bromyard Union.—Wm. Powell, M.R.C.S. Eng., L.S.A., to the First District and the Workhouse. George E. F. Etheredge, M.R.C.S. Eng., L.S.A., L.R.C.P. Edin., to the Second District.

Grantham Union.—Joseph E. Collingwood, M.R.C.S. Eng., L.R.C.P. Edin., to the Burton Coggles District.

Hitchin Union.—Oswald H. Foster, M.R.C.S. Eng., M.B. Camb., to the Workhouse.

Lambeth Parish.—Robert H. Lloyd, M.R.C.S. Eng., L.S.A., to the Infirmary.

Poplar and Stepney Sick Asylum District.—Denis Walshe, L.R.C.P. and S. Edin., L.K.&Q.C.P.I., as Assistant Medical Officer for the Asylum.

Smallburgh Union.—Charles F. Buchan, M.B. and M.C. Aber., to the Ludham District.

At a public meeting held at Denbigh on Saturday last it was decided to erect a fever infirmary, and a subscription was commenced, which was headed by the Mayor, Mr. J. Parry Jones, with £100.

It appears from the annual report of the National Committee for Promoting the Boarding-out of Pauper Children that the result of their labours during the past year encourages them to continue their efforts in the work.

Contagious Diseases Acts at Liverpool.—It is to be regretted that Mr. Stansfeld, M.P., and Mr. Alexander Brown, M.P., should give their influence and sanction to proceedings having for their object the repeal of the Contagious Diseases Acts. We have always contended that these Acts have been the means of effecting a vast amount of good, both physically and morally. At a meeting held at Liverpool on Monday, at which these gentlemen took part, resolutions protesting against the Contagious Diseases Acts were adopted, as well as a memorial to Mr. Disraeli, and another to the borough members, requesting them to support Sir Harcourt Johnstone's bill for their repeal.

The Museum of the Royal College of Surgeons of England contains a series of casts of the interior of the cranial cavity, representing exactly the form and size of the brain (when covered by its membranes) of men of various races and many other species of animals. With a view to diffuse the information to be derived from the study of these casts, and believing that many educational institutions will be glad to avail themselves of the opportunity of possessing them, the Council has authorised the issue of copies at the lowest cost at which they can be reproduced, which will partly depend upon the number likely to be required. Applications upon the subject should be made to the Conservator of the Museum, Professor Flower, F.R.S., who has done so much to utilise the valuable collection confided to his care. The following is the interesting list of casts of the interior of crania of which duplicates can be obtained. [The numbers prefixed to the names are marked on the casts; the numbers after the names refer to the specimen in the Osteological Series from which the cast was made.]—1. Man, *European*; 5733. 2. Man, *Turk*; 5653A. 3. Man, *Tartar*; 5184; remarkably brachycephalic. 4. Man, *Chinese*; 5489A. 5. Man, *New Zealander*; 5389. 6. Man, *East African*; 5378A. 7. Man, *West African*; 5363n. 8. Man, *Bushman*; 5357. 9. Man, *Australian*; 5317; Port Essington, compressed type. 10. Man, *Australian*; 5331; Adelaide, depressed type. 11. Gorilla (*Troglodytes gorilla*), adult male; 5178. 12. Chimpanzee (*Troglodytes niger*), adult male; 5086. 13. Orang (*Simia satyrus*), adult male; 5054. 14. Siamang (*Hylobates syndactylus*); 5032. 15. Entellus Monkey (*Semnopithecus entellus*); 5006. 16. Macaque Monkey (*Macacus cynomolgus*); 5000. 17. Chacma Baboon (*Cynocephalus porcarius*); 4723. 18. Howling Monkey (*Mycetes seniculus*); 4718. 19. Squirrel Monkey (*Callithrix sciurus*); 4666. 20. Ruffed Lemur (*Lemur varius*); 4661. 21. *Galeopithecus volans*; 4630n. 22. Tupaia (*Cladobates tana*); A2398a. 23. Tenrec (*Centetes ecaudatus*); 2396B. 24. Hedgehog (*Erinaceus europæus*); 2392A. 25. Rousette Bat (*Pteropus edulis*); 2422A. 26. Tiger (*Felis tigris*). 27. Dog (*Canis familiaris*). 28. Walrus (*Trichecus rosmarus*); 3868. 29. Porpoise (*Phocæna communis*); 2512A. 30. Dugong (*Halicore dugong*); 2634. 31. Elephant (*Elephas indicus*). 32. Hippopotamus (*Hippopotamus amphibius*). 33. Pig (*Sus scrofa*); 3263. 34. Ox (*Bos taurus*). 35. Camel (*Camelus bactrianus*). 36. Horse (*Equus caballus*). 37. American Tapir (*Tapirus terrestris*). 38. Sumatran Rhinoceros (*Rhinoceros sumatrensis*); 2938. 39. Hyrax (*Hyrax capensis*); 3115A. 40. Capybara (*Hydrochœrus capybara*). 41. Beaver (*Castor canadensis*); 2159. 42. Rabbit (*Lepus cuniculus*). 43. Sloth (*Cholœpus didactylus*); 2387B. 44. *Glyptodon clavipes*; fossil; 417A. 45. Kangaroo (*Macropus giganteus*); 1732. 46. *Thylacoleo carnifex*; fossil; 1539A. 47. Wombat (*Phascolomys vombatus*). 48. *Dasyurus ursinus*. 49. *Echidna hystrix*. 50. *Ornithorhynchus paradoxus*. The Museum is open for inspection on the first four days in the week from twelve until four.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

Gibeon is thanked.

MacP.—Dublin Hospital was opened in 1762.

A Subscriber.—See Dr. Copland's "Medical Dictionary," vol. ii., page 39.

Mr. William Grey, Chippendale, Sydney, N.S.W., is thanked. He will receive full information on the subject and the necessary forms by the next mail.

J. H. H.—If Sir Charles Napier is correct in the statement he makes in a letter published in his life,—that out of forty-four cases of sunstroke which occurred at Nussurpoor on June 15, 1843, forty-three proved fatal,—this is the highest mortality on record.

M. M., Canterbury.—The number of patients in the Hanwell Lunatic Asylum by the last report was 1829.

F. V.—Sir William Rawson, an oculist, whose family name was Adams, was a native of Cornwall. He established the West of England Institution for Diseases of the Eye at Exeter, to which he was appointed oculist, and another institution at Bath, where he obtained considerable reputation. In 1810 he removed to London, became a Member of the Royal College of Surgeons, and obtained the office of Oculist Extraordinary to the Prince Regent (afterwards George IV.), who knighted him. He took the name of Rawson in consequence of the will of a person from whom he derived a bequest. He died in 1829.

Frederick, Chester.—Mr. Gilbert Burnett, a surgeon and botanist, was a descendant of the Bishop Burnett. He directed his attention particularly to medical botany. He was appointed Professor of Botany to the Medico-Botanical Society, to the Company of Apothecaries, to the Royal Institution, and to King's College, London. He contributed many papers to various medical journals, and also edited Dr. Stephenson and Mr. Churchill's "Medical Botany." He died July 27, 1835.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Pharmaceutical Journal—Allgemeine Wiener Medizinische Zeitung—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—La Tribune Médicale—Le Mouvement Médical—La France Médicale—Le Progrès Médical—Bulletin de l'Académie de Médecine—National Food and Fuel Reformer—Revue des Sciences Médicales—Brighton Gazette—Royal Cornwall Gazette—West Briton and Cornwall Advertiser—Canada Lancet—Monthly Review of Dental Surgery—Canada Medical and Surgical Journal—Liverpool Daily Post—Nordiskt Medicinskt Arkiv—Australian Medical and Surgical Review—Repertorio Jahsciense de Medicina y Cirugia Practicas—El Anfiteatro Anatomico Espanol—O Correio Medico de Lisboa.

BOOKS AND PAMPHLETS RECEIVED—

Fragmentary Papers on Science and Other Subjects, by Sir Henry Holland, Bart.—The Local Government Directory for 1875—Parkes on the Issue of a Spirit Ration during the Ashanti Campaign of 1874—Smith's Commentary on the British Pharmacopœia—Eassie on Cremation of the Dead—The Law relating to the Registration of Births, Deaths, and Marriages in England, by W. C. and A. Glen, Barristers-at-Law—Dalton's Experimentation on Animals—Transactions of the American Otological Society—Annual Report of the Three Lunatic Asylums in the Madras Presidency—Report of the Medical Officer of Health of the City and County of San Francisco—Report of the Medical Commission upon the Sanitary Qualities of the Sudbury, Mystic, Shawshire, and Charles River Waters.

COMMUNICATIONS have been received from—

Dr. Mackie, Boston, U.S.A.; Dr. A. Cordes, Geneva; Dr. Balthazar Foster, Birmingham; Dr. Bishop, Paris; The Registrar of Apothecaries' Hall, London; Dr. J. L. Paterson, Edinburgh; Dr. Hanosel Griffiths, London; Dr. Laudea Brunton, London; Mr. J. W. Greenwood, Ossett; Mr. H. Lloyd, Machynlleth; Dr. Jukes de Styrap, Shrewsbury; Mr. J. Jonson, Bishop Auckland; Mr. J. Quinton, Norwich; Dr. Joseph Coats, Glasgow; Dr. Sparks, London; Mr. Henry Morris, London; Mr. J. Chatto, London; Dr. Richardson, London; Dr. Branch, St. Kitts; Dr. R. Farquharson, London; Mr. B. Vincent, London; Mr. R. Tyrer, Rainhill; Dr. W. Wilson, Fahan; Dr. B. Foster, Birmingham; Mr. J. Christison, Edinburgh; Mr. C. S. Webber, London; Mr. J. Prince, Staines.

APPOINTMENTS FOR THE WEEK.

January 30. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 9 a.m. and 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

Royal Institution, 3 p.m. Mr. J. T. Wood, "On the Discovery of the Temple of Diana, and other Results of the Government Excavations at Ephesus."

February 1. *Monday*.

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

Medical Society of London, 8½ p.m. Third and Last Lettsomian Lecture—Mr. C. F. Maunder, "On the Ligature of an Artery to Arrest Traumatic Inflammation."

Odontological Society, 8 p.m. Meeting.

Royal Institution, 2 p.m. General Monthly Meeting.

2. *Tuesday*.

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Pathological Society, 8½ p.m. Mr. Howard Marsh—Elongation of Bones of Lower Extremity in a Case of Diseased Knee (living specimen). Mr. Lawson—Sarcoma of Sclerotic. Dr. Hoggan—1. Microscopical Specimens of Melanoid Sarcoma in a Cod; 2. Microscopical Specimens of Cancer. Dr. Dowse—1. Invaginated Intestine; 2. Syphilitic Disease of Rectum. Dr. Pye-Smith—1. Enlarged Liver and Spleen without Leukæmia; 2. Hæmorrhagic Gout. Dr. Pearson—Cancerous Breast and Liver. Mr. Cripps—Fatty Degeneration of Muscles of Thigh. Dr. Greenfield—1. Contraction of Coronary Arteries; 2. Obstruction of Renal Artery; 3. Fibroid Disease of Heart. Mr. Butlin—Fatty Tumour Removed during Herniotomy. Mr. Hutchinson—Teeth met with in Zonular Cataract. Mr. Knowsley Thornton—Melanotic Sarcoma.

Royal Institution, 3 p.m. Mr. E. Ray Lankester, "On the Pedigree of the Animal Kingdom."

3. *Wednesday*.

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Obstetrical Society, 8 p.m. Inaugural Address by the President (Dr. Priestley). Dr. Braxton Hicks, "Three Cases of Cephalotripsy" (with casts of the heads). Dr. Oswald, "Notes of a Case of Suppurating Tumour of the Left Ovary" (with specimen). Mr. Ashburton Thompson, "On Zinc Phosphate in Amenorrhœa." Dr. Trestrail, "On the Treatment of Rigid Perineum, and the Avoidance of its Rupture." Dr. Liebman (of Trieste), "Clinical Notes on the Early Course of Cancer of the Cervix Uteri." And other Communications.

Royal Microscopical Society, 8 p.m. Anniversary Meeting.

4. *Thursday*.

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.

Harveian Society (Meeting of Council, 7½ p.m.), 8 p.m. Dr. W. H. Day, "On Cerebral Complications in the Typhoid Fever of Children."

Royal Institution, 3 p.m. Prof. Tyndall, "On Subjects connected with Electricity."

5. *Friday*.

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

Royal Institution (Weekly Evening Meeting, 8 p.m.), 9 p.m. Mr. James Dewar, "On the Physiological Action of Light."

VITAL STATISTICS OF LONDON.

Week ending Saturday, January 23.

BIRTHS.

Births of Boys, 1314; Girls, 1184; Total, 2498.
Average of 10 corresponding years 1865-74, 2299·6.

DEATHS.

	Males	Females.	Total.
Deaths during the week	799	770	1569
Average of the ten years 1865-74	787·2	793·1	1580·3
Average corrected to increased population	...	...	1691
Deaths of people aged 80 and upwards	...	...	54

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric or Typhoid Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	...	2	3	9	...	4	...	5
North	751729	...	...	13	1	19	...	8	3	2
Central ...	334369	...	...	9	2	2	...	1	2	...
East	639111	1	...	17	...	14	...	2	2	1
South	967692	5	4	17	4	11	2	7	3	5
Total	3254260	6	4	58	10	55	2	22	10	13

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·531 in.
Mean temperature	44·7°
Highest point of thermometer	53·7°
Lowest point of thermometer	29·9°
Mean dew-point temperature	39·7°
General direction of wind	W.S.W.
Whole amount of rain in the week	0·77 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, January 23, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1875.)	Births Registered during the week ending Jan. 23.	Deaths Registered during the week ending Jan. 23.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3445160	45·7	2498	1569	53·7	29·9	44·7	7·06	0·77	1·96
Portsmouth ...	122632	27·3	78	71	...	28·8	...	...	1·01	2·57
Norwich	82842	11·1	66	48	55·0	28·0	42·9	6·06	0·93	2·36
Bristol	196186	44·1	135	96	54·0	30·7	44·9	7·17	1·87	4·75
Wolverhampton ...	71718	21·1	56	34	54·6	30·6	43·6	6·45	1·01	2·64
Birmingham ...	366325	43·6	319	220	55·0	30·2	45·0	7·22	0·81	2·06
Leicester	109830	34·3	89	73	...	...	...	...	...	...
Nottingham ...	92251	46·2	68	41	51·6	27·6	41·7	5·39	0·75	1·90
Liverpool	516063	99·1	401	322	...	...	...	...	...	...
Manchester ...	356626	83·1	269	207	54·5	26·5	43·1	6·17	1·04	2·64
Salford	135720	26·3	129	74	55·2	27·4	43·0	6·11	1·30	3·30
Oldham	87437	18·7	77	42	...	...	...	...	...	...
Bradford	168305	23·3	113	77	54·8	30·0	43·7	6·50	1·42	3·61
Leeds	285118	13·2	157	142	55·0	31·0	43·9	6·61	1·03	2·62
Sheffield	267881	13·6	177	116	54·5	29·5	44·3	6·84	1·00	2·54
Hull	133932	36·8	103	77	...	...	...	...	...	...
Sunderland ...	106342	32·2	81	51	62·0	29·0	44·2	6·78	0·71	1·80
Newcastle-on-Tyne	137055	25·5	87	60	53·0	29·0	40·6	4·78	0·84	2·13
Edinburgh	211626	30·5	150	98	...	...	...	...	...	...
Glasgow	531765	88·1	402	346	...	...	...	...	...	...
Dublin	314666	31·3	149	202	55·0	27·4	43·9	6·61	1·01	2·57
Total of 21 Towns in United Kingdm	7739490	37·0	5595	3966	62·0	26·5	43·5	6·39	1·11	2·82

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·53 in. The lowest was 29·04 in. on Thursday evening, and the highest 29·84 in. on Friday evening.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

A CLINICAL LECTURE ON TWO CASES OF OTITIS FOLLOWED BY MENINGITIS.(a)

By J. ANDREW, M.D. Oxon.,
Physician to St. Bartholomew's Hospital.

(*Concluded from page* 82.)

We will now proceed to consider separately, but very briefly, the symptoms connected with—1st, the temperature; 2nd, the pulse; 3rd, the tongue; 4th, the skin; 5th, the stomach; 6th, the intestines; 7th, the urine; 8th, the eyes; 9th, paralysis. Do not forget that I am now speaking of one special set of cases of very common occurrence—viz., those in which there is a history of ear-ache, generally with some discharge from the ear, and then, generally with the stoppage of the discharge, extension of pain more or less to the head, followed or attended by the development of more general symptoms.

1. *Temperature.*—Note the want of regularity in the temperature curves, and especially the want of correspondence between the temperature and the pulse, and remember that in these cases the temperature depends partly upon the general febrile movement and partly upon special cerebral causes, and that these latter are often by far the most powerful. Thus, in a patient dying from meningitis, apoplexy, or intracranial tumour, the temperature during the last few hours of life rises rapidly, and often to a very considerable height—*i.e.*, to 104° or 105°—when yet there is no increase of general febrile movement. The excessive tissue-change which must take place to produce this increased heat seems to resemble a premature decomposition rather than the rapid though abortive growth of inflammation.

Sometimes the degree of heat may be perhaps useful in diagnosing the different forms of meningitis. Wunderlich, at any rate ("Medical Thermometry," New Sydenham Society's translation, p. 389), states that it is higher in meningitis of the convexity of the brain than it is in granular basilar meningitis.

2. *The Pulse.*—It is frequently irregular in periods—that is, varies greatly in frequency from day to day, or even in some cases from hour to hour, although the difference between any two successive beats may be too slight for the finger to detect. Again, as already mentioned, it does not correspond with the temperature, but may rise or fall independently of it, or, what amounts to the same thing, remain steady whilst the temperature rises or falls.

3. *The Tongue.*—As a rule, it is not so dry as in typhus or typhoid fevers: except in the later stages of the disease the dry, brown, central streak so common in fever is absent, but it is coated with a thick white fur without cracks or unusual prominence of the papillæ, and is often tremulous and indented.

4. *The Skin.*—It presents the so-called "*tache cérébrale*"—*i.e.*, if the point of a pin or the edge of the nail be drawn sharply across it, the exact track followed is within a few seconds marked by a fine bright-red line due to congestion. The explanation may be that the small vessels of the skin are unduly irritable, contract under the mechanical stimulus applied to them, and almost immediately dilate excessively. Unfortunately, this irritable condition of the vessels of the skin exists also in typhoid fever in a marked degree, and thus fails us in the very cases in which it would be most useful for diagnosis.

5. *The Stomach.*—Vomiting is very commonly present. Sometimes for the first few days it may be the prominent feature of the case. It is so-called "cerebral vomiting," for it is purposeless—that is, has little or no relation to any food which may be taken, and is attended by very slight (if any) nausea.

6. *The Intestines.*—They act sluggishly, producing constipation; and yet the abdomen is generally retracted—sometimes very much so,—presenting a marked contrast to the slightly tumid abdomen usual in typhoid fever.

7. *The Urine.*—It is said to contain an excess of phosphates. Remember that you will get no trustworthy results from the mere precipitation of the earthy phosphates by heat or an alkali. To do that you must ascertain at least three things—viz., the quantity of phosphorus in (1) the food, (2) the urine, and (3) the fæces. It is needless to add that the analysis of the phosphates in the urine is, with present methods, of no clinical value. A patient with meningitis would very likely be dead long before your analysis could be completed.

8. *The Eyes.*—Ophthalmoscopic examination of the eyes gives you two distinct sets of symptoms in connexion with cerebral disease—the one produced by interference with the circulation by intracranial causes (such as pressure), giving rise to dilatation of veins and congestion or anæmia of arteries; the second due to the continuity of morbid processes in the optic nerve and the contiguous intracranial structures,—the most common appearances being those of "optic neuritis"; very frequently, of course, the two are present together, as in the first of our two cases.

9. *Paralyses.*—These generally occur first in muscles supplied by the cranial nerves: thus your patient may have ptosis or strabismus, or paralysis of the muscles of expression. The special fact I wish you to remember is that the paralysis often varies greatly from day to day. A muscle which is paralysed to-day may recover its power to-morrow, and again lose it in greater or less degree than at first. You must not expect to find all these symptoms present in all cases of meningitis (for instance, in the little girl the ophthalmoscopic symptoms are wanting). You will have to use your judgment in each case to decide whether a sufficient number are or are not present to establish a diagnosis. Remember that the most important symptoms are those presented by the temperature, the pulse (especially in their relation to each other), and the eye, including paralysis of the iris and of the motor muscles, as well as the internal changes; and by the stomach, viz., the purposeless vomiting. When, however, to a group of several of these symptoms you can add the history of ear-ache, perhaps with discharge from the ear, extension of pain to the head generally, and the simultaneous occurrence of general constitutional disturbance, then the diagnosis becomes all but certain,—quite certain enough for purposes of treatment and of prognosis. And, looked at in this way, I have no doubt that our two cases are instances of meningitis set up by disease of the internal ear. With regard to the occurrence of pleuro-pneumonia in the first case, let me refer you to a paper by Sir William Gull, in the thirty-seventh volume of the *Medico-Chirurgical Transactions*, on "Cases of Phlebitis with Pneumonia and Pleurisy from Chronic Disease of the Ear." The pleurisy and pneumonia in these cases is pyæmic or embolic, and is set up by something or other—it may be some fluid poison, or pus cells, or clots of fibrine, perhaps undergoing degenerative changes—brought to the lungs by the blood from the seat of the local disease. (The development of the abscess in the left thigh of the little girl—an event analogous to the occurrence of the pleuro-pneumonia—took place subsequently to the delivery of the lecture.) Just one or two words on the "differential diagnosis." The disease with which you will be liable to confound these cases of meningitis are principally the following—viz., typhus and typhoid fever, delirium tremens, optic neuritis without intracranial mischief (see a paper by Mr. Hutchinson in *Royal Ophthalmic Hospital Reports* for December, 1866), and, in young patients, spurious hydrocephalus or hydrocephaloid disease. It would be impossible to discuss all these at length: let me remind you very briefly that you will find no rash as in typhus, no diarrhœa as in typhoid, coma rather than delirium as in alcoholism; symptoms of cerebral pressure—*e.g.*, in infants, prominence of the fontanelles, instead of cerebral anæmia as in hydrocephaloid disease. The certain diagnosis of simple optic neuritis would be the most difficult; fortunately, it often is a matter of greater theoretical interest than practical value.

And now we come to the most important point of all—the one up to which our previous inquiries ought to lead—viz., treatment. In the history of our cases you have already incidentally learnt the treatment I adopted, and the result. Let us, however, see what might be—nay, what has been—said on the subject: Inflammation of the brain, of the most important organ in the body! Treatment, to be successful, must be prompt and energetic. Give full doses of those drugs which appear to control or modify inflammatory processes; get your patient under their influence without a moment's delay; keep the bowels acting freely by strong purgatives, by the mouth if the power of swallowing (unfortunately) remains,—if not, by enemata; cold to the head; low diet; and to these, a few years ago, would certainly have been added the free use of the lancet.

(a) Delivered on October 3, 1874.

Now, before adoping this vigorous and certainly powerful (for evil) line of treatment, let us see to what conclusion we may be led by the cautious application of the considerations about disease in general, and cerebral disease in particular, with which we set out. Remember that the most important guide for treatment is the nature, not the seat, of the disease; that the delirium, the pyrexia, the vomiting, etc., are in great part due merely to the fact that the brain is the organ attacked, but that the disease itself is neither more nor less than the extension of irritation or of inflammation from a piece of diseased bone or periosteum. Now, if you had a patient with inflammation of the soft tissues of the leg from a similar affection of the tibia, for instance, would you put five or ten grains of calomel on the tongue or drops of croton oil, or rub in large quantities of mercurial ointment, or give frequent injections of turpentine and castor oil? Much less would you resort to all these measures at once or in rapid succession. If you did so, what would be the result to your patient's leg? Surely rapid extension of the inflammation, with perhaps gangrene and death.

Now, remember that this same method will produce just the same effects upon the contents of your patient's skull; but if you will only be satisfied with measures which are known to do good to similar morbid processes elsewhere, you need not altogether despair of what may at first sight seem to be desperate cases. Give nutritious food in sufficient quantity—if necessary, by enemata; do not let your patient fast for more than four or five hours at the outside, and remember that wine is one of the best forms of food at your disposal. Do not be frightened by the bugbear of cerebral inflammation. Wine, steel, and quinine, eggs, strong beef-tea, solid meat if your patient can be got to eat it, will do no more harm to the brain than they do to the leg when the seat of similar disease; but their absence most certainly will be felt most severely in the case of the nobler organ. I was first led to adopt this treatment by observing the loosely organised corpuscular products of inflammation which are found after death in these cases; and making the very natural reflection that, except in the case of the brain, no one dreamt of treating such a process by calomel and croton oil. Since then, I have seen recovery from febrile movement lasting for weeks, and attended by complete hemiplegia and the most decided optic neuritis. The only addition to the ordinary treatment of asthenic inflammation which I advise you to adopt is the use of bromide of potassium. This drug does certainly seem to exercise some regulative power over the cerebral circulation, and to do good in the most opposite conditions of congestion and of anæmia. Of course, you will shield your patient as far as possible from all mental excitement, and from all violent impressions upon the nerves; above all, upon those of the special senses. You will find ample opportunity for the exercise of all your skill and ingenuity in the successful application of these general principles of treatment. One caution in conclusion: do not treat all cases of brain disease indiscriminately with quinine, beefsteaks, and porter. I have been speaking of one set of cases only—viz., those in which the brain-mischief starts from some disease of bones or periosteum.

ABSTRACT OF

LETTSOMIAN LECTURES ON THE SURGERY OF THE ARTERIES.

DELIVERED BEFORE THE MEDICAL SOCIETY OF LONDON, 1875.

By C. F. MAUNDER, F.R.C.S.

Lecture I.

The lecturer began by stating that the small number of lectures to be delivered compelled him to restrict his treatment of the subject to his own personal experience. His own experience carries him over a large area, as will be understood when it is stated that he has had to ligature an artery in its continuity no less than twenty-seven times for all kinds of reasons; and in addition he has, of course, had under his care other cases of injury and disease of the arterial system.

The lecturer proceeded first to consider certain aneurisms. After admitting the inherent tendency of the blood to deposit fibrine under favouring circumstances, and after referring to a preparation of innominate aneurism cured by rest and depletion, he went on to say that, unlike many diseases to which the expectant treatment is applicable, spontaneous or natural recovery can in no case, in the instance of aneurism, be relied upon, though sometimes met with.

The chief modes of spontaneous cure are three—lamination, with or without obliteration of the vessel; plugging of the artery beyond the aneurism by a portion of clot; inflammation and sloughing of the sac. Of these, the first is a desirable method, and highly worthy of imitation; the second, when it occurs in certain regions, is fraught with danger; the third can scarcely be regarded as remedial, but, on the contrary, may be very destructive to life.

Taking, then, the teachings of nature, and selecting her most beneficent means of promoting spontaneous cure as a guide, the idea suggests itself of treating aneurism by diminishing the flow of blood through it by moderate pressure on the feeding vessel.

Acknowledging the claim of our Irish brethren to the merit of reintroducing, and carrying to a successful issue, *indirect*, *moderate*, and *intermitting* compression, surgeons had, he stated, advanced step by step further towards *complete* and *continuous* compression, until they had arrived at, in several instances, the cure of aneurism at one sitting. The avoidance of a cutting operation (even so successful a one as that of Hunter) naturally commended compression to the notice of surgeons, and accumulated experience speaks very strongly in its favour. This method has for its object the gradual filling of the sac by layers of fibrine placed one upon the other, as a decorator puts on his coats of paint, with a view either to fill the cavity or to strengthen the walls of the sac so as to enable it to resist the impact of the blood tending to enlarge it. To this end the flow of a certain amount of blood through the tumour is essential; and when the cure is accomplished, no more desirable result can be imagined. But the intermitting compression is neither invariably successful nor always painless. It may, too, have to be prolonged over many months, in which case the restraint, especially to an irritable temperament, is very irksome and wearying.

One great advantage claimed for compression is, that while the treatment is being conducted the collateral circulation is being established, and thus the risk of gangrene supervening on a cure is greatly lessened. This is doubtless true in great measure; and, indeed, were it not so, only those whose aneurism could be removed by amputation, or got well spontaneously with an open channel, would recover from the disease. At the same time, during the progress of an aneurism, and before treatment has commenced, the impediment offered to the progress of the blood to parts beyond the tumour by the aneurismal condition of the vessels has already led to some enlargement of the anastomosing vessels. On the other hand, this recently acquired freedom of circulation by collaterals has a tendency to make the limb indepeudent for its supply of nutriment of the main vessel, and thus, in rare instances, the remedy, if employed too long, may obviate the very object we had in view—namely, to diminish the quantity of blood flowing through the sac. Again, the capability of the blood to deposit fibrine doubtless varies in individuals, and must take its place among the possible causes of failure in conjunction with compression. In one instance of popliteal aneurism seen by Mr. Maunder, a nerve found running upon the superficial femoral artery, at the operatiou of ligature, was presumed to have been the cause of severe pain and of inability to bear compression.

When circumstances will permit, digital pressure should be used. Skin seems to be less irritating to skin than any other substance; and the requisite amount of pressure can be better appreciated by the hand direct than through the medium of another agent.

In answer to the important question—"How long may compression be employed?" the reply is, "So long as the disease shows no tendency to alteration in its physical characters to endanger the life or the limb of the sufferer." A carotid aneurism may be encroaching on the trachea; a popliteal may, by enlarging, threaten either to burst or to lead to gangrene; and then the ligature must be resorted to. And it must be remembered that compression cannot be continued indefinitely without exhausting the strength and endurance of the patient, and, it may be, not without compromising either his limb or his life.

One would wish to push compression to its utmost in the case of carotid aneurism, and would resort to the ligature soonest in the instance of popliteal aneurism, because the results of ligature of these two arteries are so widely different.

In the application of continuous and complete compression for a number of consecutive hours, the employment of an

anæsthetic or of morphia is generally necessary. Now, the value of chloroform cannot be over-estimated in assisting the cure of aneurism by complete compression in some cases, but a more thorough trial of morphia, either by the mouth or subcutaneously, should be made. Its administration has been followed by the most encouraging results, and under its influence a patient has dozed, taken his meals, and smoked his pipe, while submitting to continuous digital compression for twenty-three hours without complaint or pain.

Compression failing, we may often resort to ligature—either proximal or distal. The former is always preferred; the latter is always a matter of necessity, is now restricted to aneurisms at the root of the neck, and is especially adapted to aneurisms of the root of the carotid, because a ligature can, in these cases, be placed upon the common carotid beyond the sac, *no branch intervening*.

After the application of the ligature, collateral circulation is of course necessitated; and of the agents in its development, the propelling power of the heart is probably of the first importance. The fact, however, that very little force is required to prevent blood flowing from the open mouth of an artery (during a primary amputation, for example, with the patient in full vigour), suggests the idea that some other power besides the muscular action of the heart must aid in carrying the blood to the extremity of the limb of an enfeebled person. Several theories have been advanced to account for this power. One is that it consists of dilatation of existing vascular communications. The bloodvessels are supplied by fibrils (the vaso-motor nerves) from the sympathetic nervous system as well as by fibrils (the trophic or vaso-inhibitory nerves) from the cerebro-spinal system. Broadly stated, it would appear that the sympathetic nerves produce contraction, while the cerebro-spinal nerve-fibrils counteract this action and produce dilatation. In the bloodvessels of limbs it is probable that nerve-fibrils pass from the nerve-trunks to the arterial coats. I have had myself to remove a forefinger for ulceration subsequent to injury of the median nerve above the wrist; and similar cases have been recorded. In such injury, then, these fibrils will no longer hold in check the action of the vaso-motor nerve, and consequently we have contraction of the vessels, loss of temperature, and molecular death. On the other hand, the well-known experiment of Claude Bernard, of section of the trunk of the sympathetic in the neck, with consequent dilatation of the vessels and rise of temperature of the head and face on that side, points out another fact—that when the trunk of the sympathetic is severed, we get dilatation of bloodvessels beyond the point of section. In ligature of the bloodvessel of a limb I perform an experiment strictly analogous to that of Bernard. I compress and cut across the vaso-motor supply. The consequence of this is that the cerebro-spinal nerve-fibrils of the distal arteries are no longer opposed by the vaso-motor nerves, and so the bloodvessels dilate. This enables us to understand, to some extent at least, the establishment of collateral circulation by the dilatation of pre-existing inosculations. Another theory supposes the existence of local nerve-centres; and the fact that the great majority of the arterioles resume their normal size after a time in a limb, the main artery of which has been obstructed, favours this hypothesis.

Another aid to collateral circulation is probably the temporary emptiness of the vessels beyond the ligature. The blood usually brought to the ligated vessel must find another outlet; and it does this in the direction of least resistance—viz., through the empty vessels. The blood in the veins, too, deprived in great measure of the propelling power of the heart, tends to regurgitate; and thus, where the collateral circulation is chiefly conducted by the arterioles and capillaries, venous blood may be expected to flow from an artery on the distal side of a ligature—of the femoral, for example, as in Case 10 in the author's chart.

That a part may not lose its vitality it is essential that compensating circulation be quickly established. Without the dilatation above referred to, the *vis a tergo* force of the circulation might be expected to increase the growth of the aneurism.

Wardrop's advocacy of the distal operation for innominate aneurism was then discussed; and then the lecturer went on to remark that in a given case of aneurism at the root of the neck, the surgeon will not omit to endeavour to determine whether or not one or other artery is or does become obstructed spontaneously, as such would be a first and grand step towards a cure of the disease, and the operative indications would be clear—viz., to put a ligature upon the other and still pervious vessel.

Again, in aneurisms at the root of the neck, temporary compression should be tried on both vessels, to ascertain by the compression of which of the two the aneurism is most affected. The artery, upon compression of which the most decided effect is produced, should alone be tied, and the effect watched.

The distal operation upon the carotid has been tried for innominate aneurism, and accident showed that it might even be beneficial in aortic aneurism, or when the aorta formed part only of the sac. As an example, a case of aortic aneurism, suspected during life to be innominate, under the care of the author, was quoted at length. Judging from this case, the distal operation is deemed worthy of being further tried.

Mr. Maunder next passed to the consideration of carotid aneurism, of which he has had two examples; and with the assistance of Mr. Reeves he has collected seven other cases of carotid aneurism in which the main trunk was tied, six of which recovered, and one died. With respect to the fatality of ligature of the common carotid (probably less than half having been successful), and especially in reference to the frequency of suppuration of the sac after the practice of Anel's method, he remarks:—To avoid this complication (suppuration of the sac) Mr. Holmes says, M. Lefort proposes to treat the case on the old plan—to tie the artery on the proximal side, then lay open the sac, turn out its contents, and tie the vessel on the distal side also. I cannot agree with Professor Holmes that there is no additional danger in so doing. I should deem the risk to be more than doubled by the second ligature, fearing hæmorrhage more from the distal than from the proximal end. Then, again, why anticipate a large open wound, necessary suppuration, and other possible accidents? Time enough to open the sac when either dangerous swelling threatens or suppuration is established; although doubtless, to place a ligature on the artery under such circumstances, supposing bleeding to occur, would be very difficult. In the case in question I was able to place the ligature low in the neck at a distance from the sac; but in another case which I witnessed, that of Mr. Couper, the ligature was placed close to the sac, which was unavoidably both seen and touched by the operator. Still the wound healed by primary union.

Admitting the evidence Mr. Holmes has brought forward in favour of compression in carotid aneurism to be very strong, still, as the number of instances (seven only) are but few, and as there is the possibility of embolism of the arteries of the brain associated with the treatment by compression, a hasty opinion is to be deprecated.

Compression must be tried in suitable cases till experience tells against it: but should the compression be *complete* so as to *obstruct altogether*, or should it be incomplete so as to *diminish only* the supply of blood to the sac, I incline to the latter method, as being less likely to encourage embolism. By complete obstruction to the flow of blood a soft clot is likely to form, and portions of this, when the pressure is removed, may be swept on into the vessels beyond the aneurism. By the incomplete method lamination may be reckoned upon, instead of soft clot: and, also, perhaps the strongest point in its favour is that the disease may be stayed, and yet, the channel of the vessel being not altogether obliterated, the cerebral circulation is not compromised. With regard to the distal operation, I have already alluded to it as specially suitable to aneurism at the root of the carotid; and instances on record show that the operation on the left carotid will relieve urgent symptoms in cases of aortic aneurism.

Axillary aneurism next occupied attention, and one illustrative case was quoted, in which the subclavian artery was ligatured in the third part of its course. The patient died of acute pericarditis set up by suppuration, which extended from the wound to the mediastinum.

Experience shows that ligature of the subclavian in its third part is a very fatal operation, and the surgeon naturally would, unless the case were urgent, postpone that operation in order to try the effect of milder means, if such could be found. In the above instance the size, rapid growth, and thinness of wall of the sac led Mr. Maunder to decide in favour of ligature. Under appropriate circumstances, compression, which has already succeeded, should be attempted, though it fail, either on account of the insupportable pain connected with it, or by reason of the tendency to slough of the compressed structure.

A small slow-growing tumour, with firm walls, as though some deposit had already taken place, would be the indication for compression and for *manipulation* also—a method of treating

aneurism suggested by Sir W. Fergusson, which has been successful. A case of brachial aneurism, accidentally cured by this method of manipulation by Mr. F. P. Lansdown, of Clifton, is worthy of record, not only as an evidence of cure, but also to put surgeons on their guard against the undue handling of certain aneurisms, and especially of cervical aneurisms, lest embolism result in the vessels of the brain. Another resource, if there were sufficient room, lies in placing a ligature between the clavicle and the sac; but at the risk of inflammation of that sac—a risk justifiable under extreme circumstances, and which, as Couper's case of carotid aneurism shows, may have a favourable issue. Lastly, the old operation: laying open the sac, and placing a ligature on the artery both above and below it.

After referring to Mr. Syme's propositions respecting the old operation, the lecturer continued: With regard to the selection of a case to which the old operation is at all suitable, I should say on anatomical grounds that it is the least so to axillary aneurism. This artery is surrounded by vessels and nerves in the healthy state, and what their relative positions will be under altered circumstances it is impossible to foresee. Neither can this be known during the progress of the operation in time to avoid injury to important structures, should such lie across the track of the knife. Again, the importance of securing each of the numerous branches which may bring blood to the sac is paramount, yet to do so is both tedious and difficult.

Amputation at the shoulder-joint has succeeded, and might again. Out of forty-three cases known to Mr. Maunder, in which the subclavian has been ligatured in its third part, twenty-seven have been successful, and sixteen fatal.

Inguinal aneurism was next considered. The details of the only case which has been under the lecturer's charge were related. The right common iliac was tied for a fusiform aneurism, and the man died of gangrene of the whole extremity. Compression had previously been employed, and had caused adhesion between vein and artery, so that at the operation a portion of the vein was included in the ligature. Upon this point Mr. Maunder remarks:—"Rest in bed so far relieved venous congestion that a suspicion of this complication did not occur to me; had it done so, ligature of the common iliac or the old operation would not have been admissible. Either the patient must have been left to his fate or amputation of the thigh was the only alternative. How far this latter would tend to the consolidation of an inguinal aneurism, supposing the patient to survive it, there is no evidence to show. Under ordinary circumstances, amputation at the shoulder-joint is a very successful operation, and has succeeded when practised for the cure of aneurism; but the necessary operation on the lower extremity, whether through the middle of the thigh or at the hip-joint (the latter, except for malignant disease), is a very fatal one."

Four cases of popliteal aneurism have been treated by the lecturer. They are instructive because they ran a different course, and were treated differently, though successfully. Two were cured by ligature, and two by compression. Flexion had failed in both instances in which the cure was wrought by compression. In the two instances in which the femoral was tied, circumstances demanded the quick resort to ligature, in one case on account of the rapid growth, and in the other on account of the probable rupture of the sac. Mr. Maunder adds—

"Notwithstanding a more extended observation of popliteal aneurism, I repeat now, almost *verbatim*, what I published in 1869.(a) The mode of treatment which I advocate for the cure of popliteal aneurism, and all other suitable cases, is moderate compression, alternating with relaxation, say for a fortnight, with a view partly, if thought desirable, of promoting a more free collateral circulation in the limb; and at the expiration of this time, continuous compression, either digital or instrumental (completely obstructing the artery), maintained under chloroform or opium, if necessary, for a period of six to twelve hours, or even longer, and assisted by a tourniquet on the distal side of the sac if the first attempt did not succeed. Should a few sittings fail to effect good progress in the aneurism, the ligature must be resorted to."

"*Conclusions.*—After a review of my experience, briefly and imperfectly stated above as it necessarily is, I come to the following conclusions:—1. That no case of aneurism is to be regarded as necessarily incurable. 2. That some cases of internal aneurism are apparently cured by absolute and prolonged rest, restricted diet, and other medical treatment. 3. That, when possible, compression, either proximal or distal, is to be employed in addition. 4. That in all aneurisms in which treatment by ligature is known to be a very fatal operation, the above rules are to be first applied. 5. That the treatment of progressive aneurism at the root of the neck by the distal operation is justifiable after medical treatment has failed. 6. That in rare instances only may an aneurism be treated by ligature before compression has been tried and has failed. 7. That digital is to be preferred to instrumental compression. 8. That chloroform and morphia are valuable aids to compression. 9. That chloroform will probably prove to be a more effectual agent than morphia in all cases, but the more hazardous. 10. That the value of morphia should be more thoroughly tested."

(a) *Medical Times and Gazette*, 1869, p. 269.

ORIGINAL COMMUNICATIONS.

SOME ANALYSES OF THE URINE IN CASES OF CHOREA.

By C. HANDFIELD JONES, M.B. Cantab., F.R.S.,
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I HAVE thought it might be worth while to put together the following observations respecting the urine in chorea, with short outlines of the cases for convenience of reference. Four of them have not been published before; two are abstracted from a communication made by me to the Clinical Society, and two from my work on Functional Nervous Disorders. I am aware that more frequent analyses in the several cases would have been desirable; but for this time was wanting. Still, the results are, I hope, of some value.

Case 1.—W. B., aged ten, male, admitted May 3, 1871. Never had any rheumatism, but had gastric fever two years ago, and had been subject to attacks of earache and discharge ever since. Treatment was of no avail until, by leeching, iodide of potassium, and nitrate of silver lotion, an attack of aural inflammation was allayed. He then recovered with carbonate of iron, and was dismissed July 6. He gained 7 lbs. in weight from June 2 to July 6. Analysis of the twenty-four hours' urine on June 5 gave—urea, 340 grains; phosphoric acid, 27·3 grains. On July 6—urea, 256 grains; phosphoric acid, 24 grains. There was therefore a decided gain in weight, and diminution of renal excretion. From May 10 he had meat and pudding.

Case 2.—A. L., female, aged nineteen, admitted January 21, 1869. Ill eighteen weeks; worse last month with chorea, the chief feature of which was general restlessness more than jactitation. No murmur. Catamenia regular. She went out February 21 very well, having gained 3 lbs. in weight. Her treatment consisted chiefly in valerianate of zinc, to which some steel wine was added subsequently. Analysis of the twenty-four hours' urine on three occasions was as follows:—June 25: Weight of body, 100 lbs.; urea, 405 grains; phosphoric acid, 50 grains. February 12: Weight of body, 103½ lbs.; urea 332 grains; phosphoric acid, 30·8. February 19: Weight of body, 103 lbs.; urea, 232 grains; phosphoric acid, 27 grains; uric acid, 84 grains. She had meat diet, porter, and (during part of the time) two ounces of brandy. Progressive diminution of renal excretion and gain in weight coincided with recovery.

Case 3.—I. B., female, aged eleven, admitted October 25, 1870. Ill eight weeks with rather severe chorea; could not stand by herself; speech lost; swallowing difficult. Never had rheumatic fever, but had persistent mitral murmur. By December 5 she seemed very well, had very little trace of chorea, and the murmur was very faint. She went out on the 7th, but came to hospital occasionally until May 4, when she relapsed, and I lost sight of her. She had meat, wine, egg, and milk during her stay in hospital. Her treatment consisted of liq. ferri muriat., strychnia, calcic hypophosph.; and after November 12 of ferri carb. sacch. and ol. morrh. for fourteen days; then the former mixture again till she went out. The following were the results of analyses:—October 26: Weight of body, 50 lbs.; urea, 111 grains; phosphoric acid, 9·67 grains. November 25: Urea, 345 grains; uric acid, 5·2 grains; phosphoric acid, 35·5 grains. December 10: Weight of body, 64½ lbs. In this instance, coincident with a gain in body-weight of probably 10 lbs. from October 26 to November 25, there was a

very marked increase of renal excretion, the quantity at the second analysis being more than triple that at the first. The most ready explanation of this unusual event is, that the child had probably been underfed before admission, and that, as she throve upon the hospital fare and regained more body-weight, she naturally excreted more. But, then, why did not this occur in other instances? I am much inclined to think that the renal and hepatic nerves may be differently affected in some cases of chorea to what they are in the majority, just as we often see a given agent produce in the human body some peculiar and unusual effects.

Case 4.—A. S., female, aged thirteen, admitted March 3, 1871. Ill with moderate chorea fourteen days. Has had scarlet fever, but no rheumatic. Heart's sounds normal. Got worse with bromides of potassium and iron; improved very much with conium, and got well with citrate of iron and quinine, and nux vomica. Had meat diet and porter from the first. Urine analysed on March 6 gave total urea 300 grains, total phosphoric acid 29·84 grains. Second analysis, on March 29, gave total urea 280 grains, total phosphoric acid 24·68 grains. Her weight on the first occasion was 64 lbs., but unfortunately I forgot to take it on the second. As she ate heartily and got well, there can be little doubt that she gained flesh. The decrease in the renal excretion was but small.

Case 5.—M. A., female, aged fourteen, admitted May 9, 1874. Ailing six months with chorea, off and on. Has had a good deal of rheumatism in limbs. Loud systolic mitral murmur, heard also in left back. She was treated with phosphorus gr. 1-35 ter die until May 28, then had acidi nitrici ℥iij., inf. cascarillæ ℥j., ter die, ol. morrh. ℥ij. in diet. She had simple diet—beef tea (a pint), milk (a pint), two eggs, pudding, and cocoa until May 18; then ordinary diet and extra stout (half a pint). She went out well on June 5. The analyses were as follows:—May 16: Weight, 73 lbs. Total urine of twenty-four hours, 36 oz., specific gravity 1025; total urea, 556 grains; total phosphoric acid, 46·2 grains. 26th: Weight, 75 lbs. Total urine, 30 oz., specific gravity 1023; total urea, 370 grains; total phosphoric acid, 41·4 grains. June 5: Weight, 78 lbs. Total urine 26 oz., specific gravity 1024; total urea, 345 grains; total phosphoric acid, 33·3 grains. The gain in weight here was 5 lbs., the decrease in excretion of urea 211 grains, in that of phosphoric acid 12·9 grains.

Case 6.—E. W., female, aged thirteen, admitted June 6, 1870. Ill with chorea since May 30; had a brief attack of maniacal excitement. Improved rapidly with pot. bromid., quin. sulph., and went out well towards the end of July. June 15: Weight, 51 lbs. Total urea, 517 grains; total phosphoric acid, 60 grains; total uric acid, 5·4 grains. July 23: Weight, 68 lbs. Total urea, 268 grains; total phosphoric acid, 14·5 grains; total uric acid, 0. In this instance there was an increase of 17 lbs. in weight; and a decrease of 249 grains of urea, of 45·5 grains phosphoric acid, and of 5·4 grains uric acid.

Case 7.—C. G., aged five, female, was in height of chorea (second attack) May 30; was discharged well August 21. She took strychnia with ferri et quin. citr. from July 15 to 31, with decided improvement; afterwards had ice-bag to spine, and improved more. May 29: Weight, 41½ lbs. Total urine, 18 oz., specific gravity 1035; total urea, 410 grains; total phosphoric acid, 29·88 grains. June 5: Total urine, 18 oz., specific gravity 1032; total urea, 438 grains; total phosphoric acid, 31 grains. July 15: Weight, 39 lbs. Urine, 20 oz., specific gravity 1039; total urea, 560 grains. August 18: Weight, 40½ lbs. Urine, 18 oz., specific gravity 1021; total urea, 221 grains; total phosphoric acid, 17·7 grains. There was no increase of weight in this case during recovery, but the diminution of ureal excretion and of phosphoric acid was very remarkable.

Case 8.—E. K., aged eight years and a half, admitted May 14, 1869, with paretic chorea. She was discharged well August 7, having been treated mainly with strychnia, or the same with the addition of citrate of iron and quinine. No rheumatism. Hearts' sounds normal. May 29: Weight, 51 lbs. Total urine, 16 oz., specific gravity 1032; deposited much uric acid; total urea, 419 grs.; total phosphoric acid, 27·44 grains. June 5: Total urine, 14 oz., specific gravity 1025; total urea, 210 grains; total phosphoric acid, 21·5 grains. July 31: Total urine, 24 oz., specific gravity 1015; total urea, 185 grains. Weight on August 5, 55½ lbs. In this instance there was a gain of 4½ lbs. in weight, and a great diminution in the secretion of urea, taking the first analysis as the starting-point. As, however, the second analysis, made before any improvement had taken place, gave only half the amount of urea which the first did, it is evident that a large ureal excretion is not a necessary occurrence even during the height of the disorder. It should, however, be considered that this patient's condition was eminently paretic, the usual jactitations being replaced by semi-paralysis, and that this state might be much less favourable to the generation of urea than that of muscular agitation.

The general result of these cases is—that in five there was a notable gain in body-weight coinciding with diminution of urinary excretion; in one there was no gain in weight, but much diminution of renal excretion; in one the decrease in urinary excreta was but small; in one there was a great gain in weight, with increase of the renal excreta. It is clear, therefore, that the general tendency in chorea as it approaches convalescence is to an increase in the assimilative nutrition of the body, with a decrease in the destructive vito-chemical changes. Herein it agrees with fevers and with most acute diseases. The exceptional instances may be accounted for either on the supposition that the analyses were made at too late a period, or that the renal and hepatic nerves were unusually exempt. The view which appears for the present most accordant with the phenomena of chorea and fevers, is that the regulating nervous centres presiding over some of the processes of oxidation are rendered paretic, and so the uncontrolled chemical change goes on excessively.

RHAMNUS FRANGULA AS A SUBSTITUTE FOR CASTOR OIL.

By J. C. OGILVIE WILL, M.D.,
Assistant-Surgeon to the Aberdeen Royal Infirmary.

It is, I think, generally admitted that castor oil is as efficient and safe, as pleasant in its action, and as frequently admissible as any of the many laxatives contained in the Pharmacopœia. Were there not, unfortunately, some decided objections to its use, it would be needless to bring forward any other drug as a substitute for it; but that these objections do exist is a matter of everyday experience; and if any other more pleasant form of medicine, possessing similar properties as regards action, could be used, I believe that it would be looked upon as a decided boon both by the patient and physician. I am therefore anxious to bring before the medical profession a drug which seems to me—and I have experimented with it freely—to possess the advantages of castor oil without being counterbalanced by its disadvantages.

The advantages of castor oil as a mild purgative when compared with others used for a like purpose are so well known that it is almost unnecessary to recapitulate them; but, for the sake of comparison, it may be as well to call them to mind, and they may be summed up in the following few words:—Certainty and rapidity of action; little griping and no constitutional disturbance; the production of thin fæculent, not watery, stools; and general applicability.

The main disadvantage is its disgusting flavour; also the nausea which this frequently induces, and the disagreeable eructations which follow its ingestion, disguise it in whatever way one can; even when given enclosed in capsules, the eructations, after the rupture of the gelatine film takes place, cause loathing and disgust.

The medicine to which I now desire to direct attention is *Rhamnus frangula*. To prevent those who are not acquainted with *R. frangula* from falling into an error which I have already witnessed, let me state that the shrub I speak of is not the common buckthorn or *Rhamnus catharticus*, but the black alder or *R. frangula*, and that the former differs as widely from the latter in the effects it produces as does croton oil from castor oil—the one being an active cathartic, causing nausea, dryness of the throat, thirst, and tormina; the other a mild laxative, its action being unaccompanied by griping or other disturbing symptoms.

The part of *Rhamnus frangula* used is the bark, and the preparation I have always prescribed has been a fluid extract, each fluid drachm of which contains an equivalent of one drachm of the bark. This extract is a dark brown thickish fluid, with a rather sweetish and far from disagreeable taste. The dose of course varies according to the effect desired, the age, and the condition of the patient; but I have proved from experience that the quantity suggested by the makers of the extract—viz., one to two drachms—is, as a rule, too small for an adult. For a child one drachm is sufficient, but for an

adult a dose of from two and a half—that is, an average dessertspoonful—to five drachms is necessary, and I generally order the following: ℞. Extracti rhamni frangulæ liquidi ʒ v., aquam ad ʒj., M. sig.; the half to be taken in a wineglassful of cold water, and should the bowels not move in four hours the remainder to be given; or the first dose at night, and the second in the morning should no motion have taken place. The effects are much akin to those I have mentioned as the advantages of castor oil, but there is no nausea, there are no eructations, and there is no griping. With regard to the last symptom, though it is, as I have already stated, but slight in the case of castor oil, it is hardly ever present here in even the least degree, only one patient of the many to whom I have given it complaining of it at all, and in her case the bowels had not been opened for four days, and she had only a very little uneasiness. The stools are not generally loose, and never watery; it usually acts only once, but in two of my cases three motions followed five drachms. It seems to have, in addition, as first stated by Mr. Giles, tonic and aromatic qualities, by which the muscular action of the bowels is slightly stimulated; and it is probably to this that its usefulness in habitual constipation is to be attributed. I have now prescribed it in many different forms of disease, and in all it has answered well. I think that it will prove particularly useful in children; in those suffering from hæmorrhoids, or other affections of the rectum; after surgical operations about the pelvis or abdomen; in inflammatory or spasmodic diseases of the genito-urinary organs; in pregnant and puerperal females; or, to quote the words of Christison when speaking of oleum ricini, "in all circumstances where it is desirable to move the bowels gently without occasioning local irritation or general disturbance."

Aberdeen.

CHRONIC ECZEMA.

By H. E. CAUTY, M.R.C.S. Eng., etc.,
Surgeon to St. George's Hospital for Skin Diseases, Liverpool.

We do not usually find chronic eczema associated with insect annoyances; still less seldom are the latter so prominent in the history of a case as to be considered the primary origin of all the disease. Yet, in two cases which have recently made their appearance at the hospital, the bite or sting of an insect gave rise to such changes that in course of time the affected limb has become subject to chronic eczema. The first, a man aged forty-one; left leg has patches of scaly eczema in various stages of exfoliation, two superficial ulcers, and some weeping round the ankle, on the left thigh, and beneath the left knee; the veins are very large, varicose, and knotted; the right thigh and leg are quite natural, the veins of both legs not being more prominent than usual. He was exposed to mosquitoes twenty years ago; several stung him close together over the left tibia; these places he scratched, producing an abrasion, which salt water and dirt, assisted by exposure, caused to ulcerate, with much swelling and inflammation—the latter lasting for three months, during which time he was without proper treatment. When cured there was left a cicatrix the size of a sixpence, surrounded by a blush two inches square, which have never disappeared and are still distinctly visible. He has never been three months free from some cutaneous lesion of this leg from the date of the mosquito bites until the present time. The second case was that of a man aged fifty-four; right thigh and leg quite healthy; veins of left thigh dilated and varicose, very knotted in flexure of knee; left leg has a small superficial ulcer on the external ankle, and another six inches above it. Immediately above the ankle there is a dark purple shining band round the leg four inches broad, shaded off with brown stains; this band has some scales exfoliating at its edges; on the inner ankle a red weeping sore one inch square; and from the inner ankle to the knee-joint a bright red congested patch of skin, irregular in shape, varying from one inch to four inches in breadth. Where this crosses the dark band the latter prevails. When aged nineteen, and just recovering from variola, he was bitten by a bug on the left leg. The bite inflamed. He consulted some herb woman, and her applications caused general inflammation of the leg, accompanied by twelve or thirteen small ulcers. He was four months confined to the house before he recovered. Until twelve years ago he never had any more trouble with this leg; but since then, although a man of active and very temperate habits, he has never been one year free from eczema or ulcers on this leg.

It is impossible at the present time to say the exact changes that were caused by the inflammation consequent on the bites at first; but whatever their original mischief may have been, they must have interfered with the circulation sufficiently in the first case to prevent it ever being thoroughly restored; in the second case to cause the weak spot to become obvious when declining life rendered the circulation less forcible. The best local application for these cases is some preparation of tar, with a stiff unguent; this, with rest, relieves and generally cures the case for the time being; but as there is a mechanical cause such cures are only palliative or temporary. In the second case, with rest the first sign of returning circulation in the skin was seen by the growth of warts over the whole of the inner red patch, the hyperæmia being resolved into growth of the papillæ of the skin, instead of the more usual growth of its epidermis. These warts were three-eighths of an inch high in the centre of the patch, tapering gradually downwards as the sound skin was reached. Both cases show how small causes may ultimately produce troublesome results, and how affections originally insignificant may be rendered permanent evils by bad or improper treatment.

REPORTS OF HOSPITAL PRACTICE
IN
MEDICINE AND SURGERY.

GUY'S HOSPITAL.

CASES UNDER THE CARE OF MR. BRYANT.

Varicocele Cured by Operation.

Ebenezer M., aged twenty-five, a rope-maker, was admitted into Guy's Hospital under the care of Mr. Bryant. He had been the subject of a varicocele for three years and a half, but had been told it was a rupture, and in consequence had worn a truss for three years. This treatment had, however, never given him any relief, but, on the contrary, his symptoms had steadily increased. On admission, the veins of his left testis were very large, and the whole parts very painful. Nothing but the radical cure was deemed advisable. After the man's bowels had been well opened, Mr. Bryant operated, introducing two pins, at about half an inch apart, through the scrotum, taking in the whole of the parts forming the cord with the exception of the vas deferens. The circulation through the veins was obstructed by means of a figure-of-eight ligature passed over the pins. Some inflammation and pain followed the operation, and on the second day the pins were removed. On the fifth day nearly all pain had gone, a lump the size of a walnut existing where the pins had been introduced. This rapidly became absorbed, and the veins wasted; the man leaving the hospital well, with directions to wear a suspensory bandage for three months.

Cirsoid Aneurism of the Forehead—Subcutaneous Ligature of Growth—Recovery.

Emily P., aged twelve, was admitted into Guy's Hospital, under Mr. Bryant's care, on June 7. She had always been a healthy child till four years ago, when she received a blow upon her nose, which inflicted a wound on the bridge. This soon healed. Soon, however, a swelling was observed over the left frontal eminence, which has steadily increased.

On admission, a circular, spongy, pulsating red swelling, about the size of a florin, existed over the right frontal eminence. It involved the skin and cellular tissue alone. It could be emptied on pressure, but rapidly refilled on the removal of the pressure; it felt very hot. No large vessels are seen supplying it.

On June 20 Mr. Bryant ligatured the whole growth subcutaneously in halves. In ten days the ligatures came away, and the swelling gradually disappeared. It lost its pulsatile character after the operation, and then gradually disappeared.

CASES OF TYPHOID FEVER—*Continued.*

Case 2.—Typhoid Fever with Bronchitis—High Temperature—Cold Bath—Persistent Diarrhœa—Much Ulceration and Perforation of Intestine—Delirium—Death in the Fourth Week after Admission—Autopsy—Remarks.

The following notes are taken from the report of Mr. R. Brummitt, clinical assistant in charge of the case:—

C. B., aged thirty-eight, father of the patient whose case

we reported on the 23rd ult., was admitted into the Clinical Ward on September 1, 1874, under the care of Dr. Taylor, in the absence of Dr. Pye-Smith, who subsequently took charge of the case, but has kindly placed it at Dr. Taylor's disposal. About a fortnight ago the patient began to feel unwell; he treated himself with aperients, which acted freely, and he remained at his work until the Thursday before admission. He was then obliged to go home, and has remained in bed since, taking only milk. The bowels have not been open more than twice a day. There have been several cases of typhoid fever in the street where the patient lives. (Another case was admitted with him, and his son was admitted on July 13.)

State on Admission.—Patient is thin and pale, and lies in bed taking but little notice of anything. When spoken to he answers clearly, but seems dull. Skin hot; on the abdomen there are two or three small, slightly raised, red spots which fade on pressure. Tongue is moist, red at the edges, elsewhere covered with a creamy fur. Motions soft, uniform in consistence, of a yellow colour. Abdomen not unduly distended, tympanitic; rhonchus and sibilus at both apices anteriorly and over the whole of the posterior surface; slight cough; heart-sounds feeble. Urine pale yellow in colour; no albumen. Morning temperature 102·4°; pulse 88, large and soft; evening temperature 103·4°.

September 2.—Morning temperature 103·4°. Slept fairly well; takes a great quantity of milk; two or three fresh spots on the chest and abdomen. Evening temperature 105·2°. Was put into a bath at a temperature of 97°; the water was cooled down to 88°. Patient was in the bath about ten minutes; then, at 11.40 p.m., the temperature was 102·4°; at 1.15 a.m. 104·2°.

3rd.—Morning temperature 104·2°. Bowels open three times since yesterday; has slept but little; one or two new spots on abdomen. Temperature at 4 p.m. 104·2°; in the evening 103·2°.

4th.—Morning temperature 103·4°. Bowels open twice yesterday, and twice during the night. Has slept but little; has taken between eight and nine pints of milk during twenty-four hours. Abdomen somewhat distended; some tenderness in the right inguinal region. Evening temperature 102·8°.

5th.—Morning temperature 102·6°. Bowels open three times since yesterday; some fresh spots on the abdomen; passes his urine in bed; is not delirious, but dull. Evening temperature 102·4°.

6th.—Morning temperature 103·2°. Urine and fæces passed unconsciously; was delirious during the night; seems low, and takes but little notice. Evening temperature 102°.

7th.—Morning temperature 102°. Very delirious during the night; more sensible to-day; fæces still passed in bed, quantity not large; asked for a vessel, and passed his urine into it. Evening temperature 103·8°.

8th.—Morning temperature 104·2°. Very delirious during the night; this morning he is sensible; face flushed; many new spots on the abdomen; slight cough. Evening temperature 104·4°.

9th.—Temperature 101·8°. Was very delirious again last night; has asked for the bed-pan; motions consist of brownish fluid with yellow flakes floating in it, no blood; expectoration somewhat copious, viscid, finely streaked with blood. Evening temperature 101·6°. Bowels have been open four times to-day; the last time the motions were uniformly soft and tinged with blood.

10th.—Morning temperature 101°. Less delirium; bowels acted once; no signs of blood; urine still passed in bed; tongue brown, hard, and dry, and protruded with difficulty; rhonchus and sibilus all over the chest. Evening temperature 103°.

11th.—Morning temperature 101·4°. Delirious all night; scarcely sensible now; bowels acted several times during the night, and once involuntarily. Evening temperature 101·6°. Has wandered all day; will answer questions, but not always sensibly; motions passed in bed several times; urine passed unconsciously; abrasion of skin over the sacrum.

12th.—Morning temperature 103·4°. Was very delirious in the early part of the night, but slept quietly from eleven to five o'clock. Lies with eyelids and mouth partially open, but takes notice of surroundings. Evening temperature 102·4°. Has slept quietly; less delirium.

13th.—Morning temperature 99·8°. Has passed a good night; very slightly delirious; bowels open twice; looks better; tongue moist; less cough and expectoration. Evening temperature 101·1°.

14th.—Morning temperature 100·2°. Slept well; no delirium; bowels open three times. Bronchial breathing on the right side in front; dulness, with small crepitation, both in front and behind at the left base; rhonchus and sibilus in other parts of chest. Evening temperature 100·2°. Rather delirious.

15th.—Morning temperature 99·8°. Bowels opened four times unconsciously; motions more solid. Rhonchus at bases; slight delirium. Evening temperature 101·6°.

16th.—Slept soundly; no delirium. Temperature in the morning 99·4°, evening 102°. Tongue cleaner and moist; bowels acted only once to-day.

17th.—Morning temperature 99·6°. Rather delirious; bowels open once. Evening temperature 100°.

18th.—Morning temperature 101°. Slept but little on account of cough; no delirium; tongue red, with slight white fur; pulse 136, irregular and feeble. Evening temperature 101·9°.

19th.—Morning temperature 100·6°. Less cough; no expectoration; slept well; no delirium; urine and motions passed in bed.

20th.—Morning temperature 101°. Rather restless; talks while asleep; bowels open five times yesterday; tongue dry and brown. Evening temperature 103°.

21st.—Morning temperature 103·2°. Bowels open several times during the night. Enema opii given this morning. Evening temperature 104·2°. Bowels open three times to-day.

22nd.—Morning temperature 104·5°. Bowels open twice during the night; urine passed in bed. Catheter was passed, and a small quantity of urine drawn off. This was ordered to be repeated three times a day. Patient is more drowsy, and has a more vacant expression. Evening temperature 105°. Bowels open five times.

23rd.—Morning temperature 103·2°. Has slept fairly; no delirium; no cough. Bowels open three times during the night; motions more solid. Pulse feeble, irregular, 148; first sound of the heart very faint. Evening temperature 104·4°.

24th.—Morning temperature 102·4°. Slept soundly: bowels open once—motions semi-fluid, tinged with blood; pulse more powerful and regular, 144. Evening temperature 103·2°. Breathing laboured; slight cough and frothy expectoration; motion contained a few streaks of blood; is now very delirious.

25th.—Morning temperature 101·6°. Delirium continued through the night; is more sensible now; mucous râles over chest; bowels not open during the night; tongue brown; sordes on lips; floccitatio. 4 p.m.: Very delirious, requiring two attendants to keep him in bed. Takes but little milk. Evening temperature 103·6°. Was wildly delirious till six o'clock; since that time has been lying more quietly. Is now (10 p.m.) quite unconscious; body and extremities covered with perspiration, and cold to the touch; inspiration sharp; expiration prolonged; first sound of the heart scarcely audible; pulse very feeble and irregular.

26th.—Died at 1.15 a.m.

Post-mortem at 2.30 *p.m.*—Heart weighed fourteen ounces; liver, sixty-five ounces; spleen, ten ounces; kidneys, twelve ounces. All these organs were healthy. Lungs: Larger bronchial tubes contained a small amount of pus-like secretion. Intestines: Immediately above the cæcum the ileum was ulcerated in several distinct patches, but so closely that very little healthy mucous membrane could be seen in the first three or four inches. Then commenced an ulcer about four inches long and an inch or an inch and a half wide, with very irregular, dark, blood-stained edges. Above this for two or three feet were ulcers—none larger than a sixpenny-piece,—thickly placed, but decreasing in number as they were traced through the ileum. Some were deep and round, with cleanly cut edges, and one of these perforated the wall by an opening one-eighth of an inch in diameter.

Remarks by Dr. Taylor.—The cold bath has been used in hyper-pyrexia on two somewhat different principles. On the one hand, in cases of a great rise of temperature, such as occurs in rheumatic fever, it has been administered to prevent the immediate dissolution which the overheating of the blood and tissues seems to threaten. On the other hand, the bath has been employed in a systematic manner in cases of a less degree of pyrexia, such as is seen in typhoid fever, in order to maintain the mean temperature of the body at a level lower than that which would obtain in the untreated fever, on the well-founded view that, as the functions of life cease on exposure for even a short time to an excessive temperature, so

the persistence for many days of a less degree of heat, not directly fatal, may so damage the structure and interfere with the functions of the various organs as to increase the risks of an unfavourable termination, and retard convalescence in case of recovery. To completely carry out this method of treatment requires that the patient's temperature should be watched at frequent regular intervals, and that the bath should be employed whenever it is found to rise above a certain level, the interval generally adopted being two hours, and the limiting temperature 103° or 103·5° Fahr. The treatment, even in Case 1 (*vide Medical Times and Gazette*, January 23, 1875, page 87), was not thoroughly carried out, since the intervals of observation were long, the temperature was allowed to rise high before the bath was employed, and two or three days elapsed before cooling measures were adopted. From Case 2 no conclusions as to the value of this method can be drawn; the patient was admitted in an advanced stage of the fever, only one bath was administered, and afterwards a purely expectant plan of treatment was adopted.

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The Medical Times and Gazette *is published on Friday morning, Advertisements must therefore be sent to the Publishing Office not later than One o'clock on Thursday.*

Medical Times and Gazette.

SATURDAY, FEBRUARY 6, 1875.

TO OUR READERS.

We have much gratification in announcing that next week we shall commence the publication of a series of Lectures by Mr. Jonathan Hutchinson on Injuries to the Head. Though the subject is one of such interest and high practical importance, no course of lectures on it has appeared since 1858, when we published, in our thirty-seventh and thirty-eighth volumes, the admirable "Lectures on the Anatomy, Injuries, and Diseases of the Head," which were delivered by Mr. Prescott Hewett as Professor of Anatomy and Surgery in the Royal College of Surgeons of England. The lectures we are now about to publish cannot fail to be also of great and lasting value and utility, as Mr. Hutchinson, on whose high reputation as an ardent, close, and accurate clinical observer, an acute and skilful diagnostician, and a sound and able surgeon, it would be almost an impertinence to enlarge here, has had at the London Hospital an unusually extensive and rich field in which to work at his subject.

PROFESSIONAL REMUNERATION.

There has for a considerable time been a more or less widely spread feeling in the profession that there ought to be some revision of the charges for medical and surgical attendance; that there should be some uniform system or tariff of charges applicable to all parts of the country; and that it would be highly desirable that some means should be adopted of making such a tariff known to the public at large. To satisfy this feeling, attempts have been made by some bodies of medical men to draw up tariffs of fees for the guidance of the public and the profession in their respective neighbourhoods; and of these bodies the Shropshire Ethical Branch of the British Medical Association has been the most earnest and energetic. Some time ago the Branch issued a pamphlet on the subject of a tariff of fees, and last year they published a new and revised edition of their "Medico-Chirurgical Tariffs," with a scale of charges for medical and surgical attendance. This was intended, we understand, "as a guide for general practitioners, in contradistinction to the metropolitan and provincial surgeons of special skill and repute," and was meant "for the well-to-do artisan, trade, and middle classes, not for the upper or wealthy grades of society, to which latter higher fees, commensurate with the skill and responsibility of the operator, should be charged." But, as we informed our readers at the beginning of the year, the Council of the Branch forwarded copies of "The Medico-Chirurgical Tariffs" to the Presidents of the Royal Colleges of Physicians and Surgeons in the three divisions of the kingdom, with the request that they would, in the interests of the profession at large, lay the tariffs before the Councils of their respective Colleges; and, of course, courteous answers were received. It could not be otherwise, as the Presidents of the Colleges could not well decline to "submit" the tariffs to the consideration of their Colleges; and their promising to do so could not commit anybody to anything. But we do not suppose that anyone was sanguine enough to expect that those august bodies the Colleges would take serious action in the matter; and the course adopted, when the matter was brought before the Council of the Royal College of Surgeons of England, may probably be looked upon as indicative of what the other Colleges will do—viz., acknowledge the receipt of the communication from the Shropshire Ethical Branch, and leave it to "lie upon the table." Nor can we greatly wonder at this; for no more delicate and difficult task could be set the Colleges than the construction of a uniform scale of fees for all fellows and members. And the request of the Shropshire Ethical Branch must have been inspired by the hope that the Colleges would either undertake the work of constructing such a scale themselves; or would officially approve the "tariffs" submitted to them, and add perhaps a supplementary tariff as a guide for the metropolitan and provincial physicians and surgeons of special skill and repute. Now, no one who has given any thought at all to the subject can have failed to recognise how very difficult it would be for the Colleges, or any of them, to utter an authoritative voice—to attempt to "legislate"—on the question of fees,—of the fees, we especially mean, of physicians and consulting-surgeons. It would be quite a *new* thing—no written law existing on the subject. That is one objection, one difficulty to be met; and the next is of a cognate character. The fee of the physician and the surgeon has always been considered, as the fee of the barrister is, to be an *honorarium*, not a "legal charge." Would not the dignity of the profession be lowered if this idea were weakened or destroyed? and would not the existence of that idea be imperilled by the authorised issue of a "scale of fees"? It may be replied, "You are arguing in favour of a sentiment, a mere idea." May be so; nevertheless, ideas do still largely influence the conduct of society; their power and vitality

command the attention of legislatures; and it is not many years, we think, since "an idea" incited an empire to have recourse to the *ultima ratio regum*.

Supposing that these objections could be got over, many questions of importance would present themselves for consideration, and we will once more allude to them, though we have on several occasions treated of them in our pages. We hold that the standard or guinea fee must necessarily continue to be the unit. It has, indeed, been shown in these columns that the fall in the value of gold, the great rise in the cost of articles of necessity and comfort, the increased expense of education, and the great increase and wider distribution of wealth throughout the community, have made the guinea of much less relative value in these days than it was years ago; but, on the other hand, a much greater number of people can pay it than of old; and after all a guinea is in a great number of cases—cases seen at the practitioner's house, we mean—a fair remuneration, and we do not see that any alteration can possibly be made in the ordinary habitual guinea fee. But a double fee may be rightly charged for first visits, when the history of the patient and the family history have to be inquired into, a stethoscopic examination has perhaps to be made, or chemical and microscopical examinations of the urine, or other matters taking much time and trouble have to be gone into, or troublesome means of diagnosis or treatment to be used. And, again, distances "in London" have greatly increased as London has year by year grown larger: ought not the increased time consumed in this way to be paid for? Ought not the old guinea a mile to be charged in some, at least, of these cases, and also for distances of less than ten miles instead of the two-guineas-for-every-three-miles rule of these railway days?

Then, further, what fees ought to be charged for detention in the houses of patients, in town or country, or in courts of law, or at night; and for operations, for the assistants at operations, and for attendance afterwards?

No doubt it would be a great boon could an authoritative answer be given to all these and other questions; but can a scale of fees be drawn up for all practitioners, senior and junior, in the metropolis, in provincial cities and towns, and in the country? We more than doubt it; and of course it must be remembered that, even could an agreement be arrived at on all such points, it would not be compulsory upon anyone. It would remain in the power of any practitioner to say, "I will remit any part or the whole of my fee," whenever he thought right to do so; or, if he chose, he might say that his time or any special skill he might possess was worth more than the ordinary fee. The tariff could only be a *guide* to the profession and to the public; and herewith arises finally a question, which is, perhaps, by no means one of the least difficult to answer—How is the public to be made acquainted with any scale of fees that may have been agreed upon? A printed "tariff" cannot be hung up in our waiting-rooms, nor published and to be had of "all booksellers" at such a price! And yet the great desideratum is that the public at large should have some clear knowledge *beforehand* of the fees they will be expected to pay for professional services, and especially for the services of eminent physicians and surgeons.

We take it that without doubt the only allowable method of publication would be through the profession—*i.e.*, the being made known to the whole body of the profession through the medical journals,—the public learning it from the medical adviser of the public, the general practitioner.

If the Colleges of Physicians and Surgeons in London—or, still better, a joint committee appointed by these Colleges and the other great English licensing body, the Society of Apothecaries—could agree to a few resolutions on the points we have mentioned, and on the subject of a general tariff, these resolutions would be very quickly known by the whole profession in England. While if the same points are left to agreement to be arrived at in private conference, or by "understanding," the same degree of general knowledge will be arrived at only very slowly,—only, indeed, after a lapse of years. In this way, then, the men of eminence and ripe experience who sit in the Councils of those bodies may perhaps be fairly asked to use their power and influence for the benefit of the profession and the public. At any rate, the fact that the subject is a very difficult one is surely a reason why it should, rather than why it should not, be referred to those bodies. They, by settling the educational curriculum, and by examination, form the members of the profession; they are supposed, in some measure at least, to represent, guide, and influence them; and they may therefore be naturally looked to for advice and help in difficulties. And, further, if the want of the "guide" of which we have spoken is really felt, how can it be better supplied than by the joint action of our three great licensing bodies? and if they do not supply it, may not the work be taken up by some other and less fitting body of men?

FURTHER INVESTIGATIONS ON THE RELATION OF BACTERIA TO PUTREFACTION.

The influence of bacteria on putrefactive or septic processes is exciting so much interest at the present time, that any new facts which tend either to prove or disprove a causal relationship between their presence in an organic fluid and the decomposition of the same deserve special attention. Dr. Arnold Hiller, of Berlin, who has been working for some time at the subject, has lately brought forward (*Centralblatt*, Nos. 53 and 54, November, 1874) some most important observations, which, if confirmed, completely negative the half-accepted notion about these organisms, and rob them, so to speak, of their sting. What he finds, in fact, is that putrefaction (*Fäulniss*) can and does occur independently of bacteria, and, conversely, that bacteria can develope without consequent putrefaction.

Starting from the results of some experiments on decomposing urine, in which he had found that the amount of decomposition which occurred was not necessarily proportional to the quantity of bacteria present, but in many cases bore an inverse ratio to it, he was led to investigate the question still further. For this purpose normal urine was allowed to remain in clean flasks in contact with air under the following conditions:—(1) Completely open; (2) closed with a plug of cotton-wool; (3) closed with a cork. The result was, that although it was summer time (July and August), no decomposition took place, even after several weeks, in the opened and corked flasks, whereas it occurred in a few of those which were plugged with cotton-wool, probably from the presence of some septic matter which reached the urine from the wool itself. In spite of the absence of decomposition, bacteria appeared in all the flasks a few days after the experiment was begun; the liquid became cloudy, and at last a thin powdery deposit formed at the bottom of it, in which a most definite growth of thallus and leptothrix could be detected microscopically. This primary development of bacteria was succeeded by a period of calm, in which no further growth took place. For the process to continue it was found necessary to add some putrefying body to the urine, so as to excite decomposition in it, and thus set free those simple chemical combinations which bacteria are capable of assimilating.

In the flasks that were left open, or frequently uncorked, penicillium and torulæ developed after a time, but always in acid urines. In urines undergoing alkaline decomposition, bacterial forms (*Schizomycetes*) were most abundantly found.

In a second series of experiments, various chemical substances were added to the urine, and their effect on the production of bacteria was observed. Thus, ammonia and its carbonate produced no visible alteration in it, but if in excess the

development of bacteria was diminished. Phosphate of soda caused an abundant growth of bacteria, but no putrefaction. A few drops of a fluid containing bacteria produced bacteria in the urine in abundance, but no decomposition followed, even after ten weeks, and the urine remained acid. On the other hand, putrefaction was quickly set up by the addition of some decomposing substance, such as cheese, in which no bacteria could be detected microscopically.

Dr. Hiller summarises the result of these experiments somewhat as follows:—Bacteria can develope in ordinary acid urine without exciting its alkaline decomposition, and the degree of their development depends on the amount of directly assimilable material present in the urine at the time it is passed. By "directly assimilable material" is meant bodies of such simple chemical constitution as are suited to the nutrition of low forms of vegetation, such as bacteria probably are—namely, ammonia, carbonic acid, and certain salts.

For the bacteria to continue to increase after a certain stage is reached we must either add to the urine something they can assimilate—as in Hiller's second series of experiments,—or else excite decomposition in it. If these facts be true, our view of the relation of bacteria to putrefaction will be quite different from the prevailing one, and we must simply look on them as organisms which are nourished at the expense of the terminal products of decomposition (*Spaltungsproducte*) of other bodies, but which are unable to excite decomposition themselves. Urea, uric acid, and other nitrogenous constituents of acid urine, are, according to this view, of too complex a constitution to be available for the nutrition of bacteria; to render them so they must be further split up into ammonia, etc., by the presence of a body (ferment) which is already in a state of chemical change—for instance, decayed cheese or putrid urine.

This view is confirmed by some observations which Hiller has made in another direction. Hens' eggs, as it is well known, whose incubation (whether natural or artificial) is interrupted, rapidly putrefy, even though the shell be intact; and fresh eggs, if allowed to lie near rotten ones, also "turn off" much quicker than they would otherwise do. Now, in neither case has Dr. Hiller been able to find bacteria in the contents of the eggs, whereas they develope most rapidly as soon as the shell is cracked. Again, in three experiments in which he injected a fluid(a) containing bacteria only (his isolation-fluid) under the shell of fresh eggs, and then sealed them up hermetically for a fortnight, there was no decomposition set up, and no considerable increase of bacteria at the end of that period.

This shows that bacteria *per se* are unable to excite putrefaction in the albumen of hens' eggs. Dr. Hiller compares the process which occurs in a rotten egg with unbroken shell to the formation of sugar from starch in sprouting barley; and, alluding to the septic properties which corpses often exhibit while as yet no organisms can be detected in their fluids, he sums up the results of his experiments as follows:—"We can thus say that a whole series of undoubted putrefactive alterations in organic substances can occur without the presence of organisms, just as there are processes of fermentation—*e.g.*, butyric fermentation—which take place independently of yeast cells."

If we turn to the physiological side of the question, we find most powerful support for the same view. Thus, if bacteria are low vegetable forms, they must agree with all other forms of vegetation on the earth in having tissue-changes of a *synthetic* kind—that is to say, their function must be to build up complex organic substances out of simple materials, gases and salts. If this be so, they must clearly be unable to break down bodies like urea into simpler combinations—the process which we know is the integral feature of putrefaction. Unless, then, we can conceive that the power of effecting synthesis and decomposition (two diametrically opposite processes) can be found combined in the same living cell, we can never again, says Dr. Hiller, consider putrefaction as a physiological phenomenon of the nutritive processes of bacteria (*eine physiologische Stoffwechselerscheinung der Bacterien*).

Lastly, the author points out that, in spite of all that has been experimented and written about putrefaction, all that has been certainly proved is that, as a rule, it is set up by some external influence, and that the "ferment" which excites it is "a molecular body either suspended in the air or adhering to various substances which can either be excluded by filtering the air or destroyed by a sufficiently prolonged temperature of 100° Cent." It does not follow, however, that because bacteria are constantly present in decomposing fluids they are the essential cause of decomposition; any other unorganised organic body, such as those particles of animal and vegetable tissues (*Protoinsplitterchen*) which are undoubtedly always present in atmospheric dust, might just as well answer to the properties required of the "ferment" of decomposition. Until, therefore, it has been shown (as it has not) that isolated bacteria can excite putrefaction by their action on bodies capable of such change, we should abstain from ascribing to them qualities which they very possibly do not possess.

In conclusion, Dr. Hiller expresses his belief that the whole question of the ferment of putrefaction requires to be re-examined from the beginning.

(a) Prepared in several ways (*vide Centralblatt*, No. 11, 1874, s. 167), but most simply by dialysing a putrid decoction of flesh, and repeatedly adding distilled water to the residue.

IRREGULAR MEDICAL PRACTICE.

Under the title of "A Cornish Medical Scandal," we last week gave expression to our belief that "it is not an infrequent occurrence for country medical practitioners to be interfered with in the treatment of their patients by all kinds of unqualified practitioners." We regret to say that accounts which we have received from other outlying parts of the country would seem to show that we spoke quite within the mark. Especially extraordinary would appear to be the condition of things in the neighbourhood of that remote corner of the land which is known as "little England beyond Wales." An account has reached us from that quarter, which, although it indicates a deplorable state of matters, is in itself so amusing that it deserves full publicity. According to it, the Welsh portion of the county of Pembroke is completely overrun with illegal practitioners, while the southern division is comparatively free from such pests. Shoemakers, millers, preachers, etc., are to be found among the ranks of medical quacks. The *modus operandi* which they adopt is to go in for a little quiet physicking of their neighbours, and get some friendly medical practitioner to throw the ægis of his name and protection around them. Then, after the public have become educated up to the proper amount of tolerance, they procure admission on the list of "chemists and druggists of the Pharmaceutical Society as having kept open shop for the dispensing of duly qualified medical practitioners' prescriptions prior to 1868." It seems that those who were in practice as "hedgeside quacks" prior to that date have hitherto had no great difficulty in procuring the necessary certificates, although the appearance and semblance of an open shop may have been *in nubibus*. Thus, to give examples, one man carries on the trade of a cobbler of soles combined with that of a cobbler of bodies; another that of miller and medico; while a third is at once a dissenting preacher and a surgical quack.

But the worst feature of the case remains to be told. Many of these unqualified botchers of bodies enjoy the patronage of certain qualified practitioners, who are in the frequent habit of meeting them and giving them the protection of their names.

The medical millers and shoemakers are not in any sense to be looked on as unqualified assistants carrying on branch practices for principals; they are in independent practices, and merely appeal to the qualified practitioner when their own difficulties, or their patients', demand it. Only lately there was seen the spectacle of a bevy of medical practitioners meeting a shoemaker in solemn conclave over a case. Those of the medical men who have persistently refused to meet or recognise these illegal practitioners are competing with the others at overwhelming odds, as every obstacle s thrown in the way of their being sent for to a case that a quack has attended.

THE WEEK.

TOPICS OF THE DAY.

THERE has always been a certain amount of notoriety attached to Brentford. This sometimes partook of the comical, sometimes of the serious. Brentford assumed a comical aspect when it was governed by two kings; a serious one when the hustings were erected for the registration of voters at the election of knights of the shire. More rioting took place on these occasions, and more injury was done to life and limb than it is pleasant to contemplate. But such was the case up to within a few years. Apparently anxious to keep up the renown of the "long narrow street," the Board of Guardians have gone to "loggerheads" with the Local Government Board. The Brentfordians are as bellicose and as belligerent as ever. It appears that from the peculiarity of its geographical situation the Brentford Union has been enabled for fourteen years to defy the efforts of the central authority. The district is described as "being within the London area for police and other purposes, but out of the reach of Mr. Gathorne Hardy's Act of 1867.' The consequence has been that the Brentford Board for many years have been enabled to keep 50 per cent. more paupers in their workhouse than it is officially certified as fit to hold. Hitherto the Guardians have defied the Board; but that body has now sent an "ultimatum" to the Guardians, which informs them that it is intended to issue an order forthwith fixing the numbers to be placed in each ward, and it will then be unlawful to retain in the wards a greater number. The Guardians then must at once take steps to provide the additional accommodation required. The Board think the wards provided for the children are totally unfit for the purpose, and unless the Guardians proceed to provide better accommodation for the children, the Board will have no alternative but to issue an order to close these wards. "The Guardians" it is added, "admitted the necessity of workhouse extension by the purchase of lands, and by advertising for plans of schools and other buildings." "An 'ultimatum' (says the *Pall-mall Gazette*) which only calls on the Guardians to 'consider' the question of enlarging their inadequate workhouses, under pain of seeing the inadequate space further reduced by closing some of the wards altogether, is not likely to be the last we shall hear of the matter." Up to the present time the official letter has only given rise to an angry discussion, in which, with true Brentfordian spirit and accuracy, one of the guardians declared that the "Local Government Board worried them on the report of doctors who wanted to do something for their money by finding out faults."

The hop growers and merchants of Kent have set a good example in attempting to deal with adulteration in a wholesale character and at the fountain-head. It has been long felt that the substitution of various "compounds" for the genuine hop has not only been injurious to the interests of the hop trade, but most detrimental to the health of the community. There is no wholesomer beverage than genuine English beer, and nothing more poisonous than the infamous compounds sold in its name. That legislation may do much in abating the evil, cannot be doubted. The President of the Board of Trade, if he be bold enough to grasp a question involving large invested interests and the votes of an influential body of electors, may render an important service to the country.

One of the events of the past week has been the resignation by Mr. Prescott Hewett of his office as Surgeon to St. George's Hospital. He has been connected with that institution for nearly thirty years, and has filled almost every office, we believe, in the surgical department. His retirement will be a great loss to his colleagues, the students, and the patients: an excellent surgeon, an able teacher, and a kind-hearted man. It is unnecessary to allude to his published works in proof of his great experience in, and his practical knowledge of, his profession.

No extent of calamity and no amount of experience would, it seems occasionally, be found to teach men wisdom. After the decimating epidemic of small-pox which has lately prevailed in Jersey, it seems almost incredible to announce that the "States" of the island have not yet passed a Compulsory Vaccination Act. After a stormy discussion at their meeting last week, they separated without coming to any conclusion. "The enemy is at the gate," and they surrender at discretion.

The Committee for Promoting the Erection of Cabmen's Shelters have lost no time in carrying out the plan which the magistrates have approved of. In several districts of the metropolis the works are progressing, and one, situated at Acacia-road, St. John's-wood, will be opened for use this morning (Saturday).

The Regius Professorship of Surgery in the University of Dublin is vacant by the death of Dr. Adams. Dr. Butcher, who holds the office of Lecturer and Examiner on Operative Surgery in the University, is mentioned as likely to succeed Dr. Adams.

Some time since, as we announced, the First Lord of the Admiralty (Mr. Ward Hunt) had framed some suggestions which, if carried out, would have materially benefited that highly meritorious class of public servants, the Surgeons and Assistant-Surgeons of the Navy. If the report which has within the last few days obtained currency be correct, we fear our naval brethren are doomed to another disappointment. It is stated that the Lords of the Treasury have declined to accept Mr. Ward Hunt's plan. Such short-sighted policy on their part must be prejudicial to what has been called our only effective armament in case of war. It is something, however, which gives hope for the future that a Cabinet Minister of strong common sense, and a member of a strong Government, should have put the "thin end of the wedge" into so important a question.

If life assurance is ever to obtain the position to which it is entitled by its permanent usefulness and importance, it is essential that the contract between the insurers and the insured should be made at the beginning as complete and indisputable as possible. Several cases which have of late come before the common-law courts testify to the truth of this remark. It is not too much to say that the confidence of the public and the value of life assurance has been much shaken by the result of several recent trials. When a contract is entered into it is the bounden duty of both parties to obtain the fullest information in their power as to the validity of such contract. Surely if proper precautions on the part of the assurers were taken, they would in a remarkably few instances be deceived. It is clearly the duty of an insurance company to satisfy themselves in every particular as to the value of the life proposed to be insured; failing this, we contend that they are not justified in refusing to fulfil their contract on information obtained after the death of the assured. We extract from

the *Times* the following report, which illustrates the views that we have taken on this matter:—

"The case of Watson *v.* the Imperial Union Assurance Company (Limited) was an action brought by the executrix of Mr. John Watson, to recover a sum of £1000 under a policy of assurance upon his life. The defendants resisted payment on the ground that the deceased had induced them to grant the policy by misrepresentations and fraudulent concealment of facts as to his state of health at the time it was executed. The deceased lived at Brighton. He effected the policy on September 11, 1871, and died in February, 1873. At the trial, doctors who conducted a post-mortem stated that it disclosed a condition of the heart and kidneys of the deceased which could only have resulted from a long course of intemperance. Others who had known him for twelve or thirteen years said that they had frequently seen him affected by drinking. One had attended him for indigestion, arising from the same cause, in the autumn of 1870, prior to the execution of the policy. Several witnesses declared him to be a man of intemperate habits. On the other hand, the plaintiff called an eminent medical man, who said that he made a thorough investigation of the bodily state of the assured at the time the policy was applied for, and found no symptoms of intemperance, and reported favourably upon his life. Testimony was also given by a number of witnesses tending to show that he had suddenly taken to drinking within the last three years, in consequence of a quarrel with his brother and his own insolvency, and that he had been a sober man up to and at the time when the policy was issued. A verdict having been found for the plaintiff, Mr. Serjeant Ballantine obtained a rule to set it aside as being against the weight of evidence. The Court thought it desirable that there should be a new trial; and, without expressing any opinion upon it, made the rule absolute for that purpose."

There is a singular omission on the part of the defendants as to the reports of the private medical attendants of the assured. Did the Imperial Company obtain such a report; and if so, what was its purport?

Following immediately upon the election of Dr. Hardwicke as Coroner for Central Middlesex, the result of the election of Coroner for West Gloucestershire is important and significant. Two candidates were nominated for the vacant office—Dr. E. M. Grace, the celebrated cricketer and able surgeon, and Mr. Albert Essery, a lawyer, at Bristol; the latter, however, declined to go to the poll, and left the course open to the doctor, who was accordingly declared duly elected.

Dr. Fayrer, C.S.I., has just been elected a Corresponding Member of the Academy of Natural Science of Philadelphia. Dr. Fayrer, who lately succeeded Sir Ranald Martin at the India Office, is also Honorary Physician to her Majesty the Queen, and Physician to H.R.H. the Duke of Edinburgh.

His Grace the Lord Lieutenant of Ireland has been pleased to appoint Mr. Robert Henry Moore, F.R.C.S.I., Surgeon-Dentist-in-Ordinary, to be a member of the Vice-Regal Household.

On the recommendation of Colonel Peel Dawson, the Lieutenant of the county, the Lord Chancellor has appointed Dr. James C. L. Carson and Dr. Robert Sharpe, both of Coleraine, to be magistrates for the county of Londonderry, Ireland.

OPERATIONS AT GUY'S HOSPITAL.

On Tuesday last the operations at Guy's Hospital were unusually interesting from the fact that almost all on the list were cases of malignant disease of the breast that had been recently admitted for treatment under three several surgeons —viz., Mr. Birkett, Mr. Bryant, and Mr. Durham. The first case operated upon was a healthy-looking well-nourished woman of thirty-eight years of age, who was admitted to Guy's Hospital on January 27 last under the care of Mr. Birkett, for what was supposed to be a single cystic tumour of great size and long standing. The patient stated that when she was eighteen years of age she was accidentally struck in the left breast by her brother, but although the blow pained her very much at the time, it gave rise to no immediate symptoms. Some two or three years after, she observed that a small hard lump had formed at the point where she was struck, but as it did not increase in size or cause much pain she took but very little notice of it. In June last she received what she characterised as a "tremendous blow" on the same breast, and from that time the tumour increased rapidly in size until her admission. She had consulted several hospital surgeons, one of whom had ordered the breast to be strapped, which treatment had been persisted in for four months, without, it is scarcely necessary to say, benefit. On admission, the left breast was found to be of enormous size, being almost as large as a man's head; the skin was red from the application of the strapping, and distinct fluctuation could be felt. The character of the tumour, together with the statement of the patient, that about the middle of December half a teacupful of clear oily-looking fluid was discharged through the nipple, left no doubt that the disease was cystic, and accordingly, on January 28, Mr. Birkett tapped the tumour, and evacuated about thirty-seven ounces of brownish, tenacious fluid. The cyst, however, rapidly refilled, rendering further operative proceedings necessary. Before operating, Mr. Birkett remarked that the age of the patient, her general good health, the absence of cachexia, and the clinical history, led him to believe that the case was one of simple cyst, and he hoped to be able to dissect out the cyst-wall without removing the gland itself. With this object, Mr. Birkett made a longitudinal incision into the cyst below the nipple, extending about three inches in length, from which a pint and a half of fluid escaped. The operator then proceeded to dissect out the sac, but after freeing its superficial attachments he found that behind its posterior wall was a dense hard mass infiltrating the pectoral muscles. On cutting into the mass it was seen to be carcinoma. Mr. Birkett therefore removed the whole of the breast, together with the infiltrated muscle, by extending the original incision below the nipple, upwards and inwards, and making an elliptical incision above the nipple, so as to connect the extremities of that previously made. In his subsequent remarks, Mr. Birkett said that the case was to him quite a novel one. He had never before met with a case of cystic tumour associated with a cancer in a patient so young. There was nothing to lead one to suppose that it was cancer until the growth was exposed, and no amount of experience would enable one to diagnose such a case with certainty by manipulation. All the diseased structures being now removed, and as there was not the slightest trace of enlarged axillary glands, they might hope that the patient would make a good recovery.

The next case on which Mr. Birkett operated was carcinoma of the right breast of twelve months' duration in a healthy-looking woman forty years of age. The patient only consulted a medical man just a week before her admission to Guy's Hospital, on Monday last, having suffered very little pain or inconvenience from the growth until quite recently.

Mr. Bryant operated in the next case, the patient being a very fine, stout woman, forty-five years of age, with carcinoma of the left breast, which was first observed about six months ago. The mammary gland was of enormous size, whilst the tumour itself was scarcely as large as a hen's egg. The skin over the tumour was infiltrated, and the nipple retracted. The axillary glands were not affected. Mr. Bryant said that although the tumour was so small, in comparison with the size of the gland, it was necessary for the safety of the patient to follow the well-known rule in surgery, that in all cases of cancer of the breast the whole of the gland should be removed.

Mr. Durham afterwards removed both breasts for carcinoma in the case of a woman fifty-six years of age. Mr. Durham remarked that it was rarely necessary to remove both breasts at the same time. He had only known two other similar cases, both in his own practice. In one case he operated just three

years ago for scirrhus, and in the other about six months ago. Both patients are now alive and healthy. In the present case a favourable result might be anticipated, for the patient, although thin, was of good constitution, and the axillary glands were unaffected. The operation on each breast was performed antiseptically, and the wounds were dressed with carbolic lotion.

On the same day Mr. Bryant amputated the left leg, just above the condyles of the femur, for extensive necrosis of the tibia of twenty-seven years' duration. The patient, a labouring man forty-two years of age, was kicked in the leg, a few inches below the knee-joint, by his father twenty-seven years ago. Shortly afterwards he was attacked with osteitis and necrosis of the tibia, which confined him to bed for several months. Ultimately he was able to resume work, but the leg never quite healed, and for several years past pieces of dead bone have from time to time come away with the discharges. When admitted the upper part of the leg just below the knee was riddled with sinuses, all leading to necrosed bone; the leg was much contracted, and flexed on the thigh. Mr. Bryant hoped to save the femur intact, but on amputating through the knee-joint he found that, although he had preserved all the available sound skin, the flaps were insufficient to cover the bone. He therefore removed the condyles, and, having sliced off the articular surface of the patella (which bone was retained in the anterior flap), brought it into apposition with the cut end of the femur.

THE SERVICES AND THE FORTHCOMING SESSION.

All through the recess which has just terminated we have been anxiously looking for some official announcement of modifications and improvements in the medical services of the army and navy. That none such has appeared can scarcely be attributed to forgetfulness on the part of the authorities, for it is rarely that any subject has been more unanimously taken up and ventilated by the professional and Service papers than the question of reform and improvement in the medical departments of our land and sea forces. Unwillingly we are obliged to infer that what could not be done in a time of leisure is hardly likely to be attempted in the heat and turmoil of a busy session; and yet we are of opinion it will be found that from Parliament alone the relief will come which will eventually place matters on a more satisfactory footing.

We trust there is no foundation for the rumour which has been circulated by a contemporary, that the Lords of the Treasury have declined to comply with the recommendations of the First Lord of the Admiralty put forward for improving the status and pay of naval medical officers. It is difficult to imagine that the keepers of the country's purse have wilfully tied the hands of the Director-General of the Medical Department of the Navy by refusing a small increase of outlay; should the rumour, however, prove true, the effect will not be very long in making itself apparent, and a service already unpopular amongst the younger members of the profession is likely to find itself entirely without recruits.

Now, as regards the Army Medical Service, the main points to be revised are so simple that it is a matter of surprise they have not been done out of hand long since; the scheme of unification laid down in the Warrant of 1873 requires to be carried out in its entirety, and the forage allowance should be restored for the whole of the service. Even allowing that the abolition of the regimental system is unpopular with medical officers, it must be admitted that up to the present time no fair opportunities have been afforded for judging the merits of the new scheme; and common sense and justice demand that the latter should not be condemned without an impartial trial. It would be childish to suppose that men with the length of service and experience of the late and present Directors-General of the Medical Department could have entertained the present system for an instant unless they had seen much in it which they judged to be advantageous both for the country and the service; and we believe it is no secret that, however well the regimental hospital scheme may answer in time of peace, it has more than once broken down under the exigencies of active service. All stages of transition are irritating: new duties have to be taken up, old habits shaken off; and as a nation we are proverbial for our love of grumbling. Therefore we think it would be as well to test the amended order of things, without fear or favour, to the uttermost; and certainly not to return to the old system until experience has proved it to be manifestly the better of the two.

It may perhaps happen that during the forthcoming session some member will rise to ask a question with regard to the present position and prospects of the Army Medical Department; and, if this be the case, we may possibly hear from the Secretary of State for War the result of the inquiry which he some time ago instituted on the subject, with the view, as it was then thought, of remedying the evils complained of.

PROFESSOR HUXLEY AT THE ROYAL INSTITUTION.

At the Friday evening meeting at the Royal Institution on January 29, Professor Huxley delivered a lecture on the Recent Work of the *Challenger* Expedition, and its Bearing on Geological Problems. Having made a graceful allusion to the appointment of the commander of the *Challenger* as the head of the new Arctic Expedition, and acknowledged the gratitude of the scientific world to the Government for its liberality in this enterprise, the lecturer proceeded to define the portion of the work of the *Challenger* Expedition to which he would confine his remarks—namely, the distribution of life at the bottom of the sea. First in the Arctic Circle, and afterwards in the Antarctic, it had been discovered, now many years ago, that the sea-bottom consists of a mud which is entirely made up of the skeletons and cases of radiolaria and diatomaceæ. These animal and vegetable forms live at the surface of the sea, where they form a thick scum; and when they die, the inorganic part of them rains down, as it were, in a siliceous shower upon the bottom. Thus the earth has at this moment silently forming upon it a double siliceous polecap. The *Challenger* had confirmed the truth of this conclusion as far as opportunity had offered—that is, when in extreme southern latitudes. In regard to the great belt of the globe, which lies between these two polecaps, Professor Huxley described how the soundings of the Americans and the microscopical investigations of Ehrenberg (investigations which had not received the consideration which they deserved) had demonstrated that the greater portion of the sea-bottom is composed of globigerina clay, formed by the deposition of the calcareous envelopes of organisms similar to those now living. Many of these globigerina live at the surface; some, it may be, at the bottom. Thus a second great formation is being silently accumulated on the surface of the earth,—one of the nature of chalk. In this connexion, again, Professor Huxley paid a tribute to the labours and judgment of Ehrenberg, who had unquestionably long anticipated the recent conclusions of certain other observers on the nature of chalk. To the *Challenger* Expedition, and to it alone, was due the third of these great discoveries. It had found, in crossing the Atlantic, that below a depth of 14,000 feet, instead of the globigerina mud, there was a red clay. This red clay showed no trace of organisation, and its source was for a time obscure. But the remarkable discovery was then made that globigerina mud, on being treated with weak acids, yields an insoluble residue, to the amount of only 1 or 2 per cent., which has exactly the same chemical composition as the "red clay"—a silicate of aluminium and iron. There would seem, then, to be

strong presumptive evidence in favour of the red clay being the product of globigerina mud, and of this conversion occurring at great depths; how the reduction may be effected is more difficult to explain. There is yet another striking fact which has been confirmed by the *Challenger* Expedition—that the "green sand" now forming on parts of the sea-bottom is identical with the green sand which is familiar to the geologist. Recapitulating these great facts, Professor Huxley concluded by demonstrating how, in a globe covered by an ocean comparatively at rest, the introduction of the simplest forms of vegetable and animal life might account for the formation of a large proportion of the crust of the earth.

ANTISEPTIC SURGERY AT HALLE.

Professor R. Volkmann, in a very interesting article in the *Berliner Klinische Wochenschrift*, December 14, 1874, on resection of the shafts of the femur or tibia, or both bones, to straighten a limb contracted from old disease of the knee-joint, has taken occasion to give an account of the influence of the antiseptic treatment in the hospital at Halle. He begins his article by saying that probably some surgeons who are obliged to treat their patients under unhealthy conditions may consider such osteotomies unjustifiable from the risk to life entailed, and he agrees that their justification can only rest on the possibility of guaranteeing a successful result; but he adds—"We think that without assuming too much we may say that we have by degrees attained sufficient practice and experience in carrying out the antiseptic treatment to be able really to promise such a result with certainty."

He then goes on to give a few statistics of the cases in the hospital at Halle since this method of treatment was introduced two years ago (November, 1872). Of all the compound fractures in which conservative treatment was attempted, even including those cases in which it was only resorted to because the patients would not submit to amputation, and those in which, on account of gangrene or hæmorrhage, amputation had to be performed subsequently, not a single one has proved fatal. The hospital affords the most unfavourable hygienic conditions, and is always overcrowded, yet the number of compound fractures treated successfully in this way amounts to thirty-one, amongst which are no less than nineteen of the leg, and two compound comminuted fractures of the patella, both of which recovered with a movable joint. No case of pyæmia has occurred for a year and a half, though during this period as many as sixty major amputations have been performed.

The rest of the paper is occupied by an account of a few of the conditions of anchylosis which may lead to the necessity of some form of osteotomy for straightening the limb, and of the cases on which he has operated during the last year. Amongst the former the most interesting is an elongation of the condyles of the femur, as a result of the removal of the pressure of the head of the tibia owing to prolonged flexion of the knee. This elongation effectually prevents straightening, even though some mobility remain in the joint, and also exaggerates the tendency to dislocation of the head of the tibia into the ham. The number of cases treated during the last year was thirteen, ten of which healed without a trace of suppuration, and the other three with the smallest possible amount. Two were reported in the first number of the *Centralblatt für Chirurgie*, April 4, 1874 ("Ueber die Osteotomia subtrochanterica"), and of two a detailed account is given at the end of the present article. The latter were both girls about thirteen years of age; in one the shaft of the femur, and in the other the shafts of both femur and tibia were divided with a chisel close to the joints; both were treated with strict antiseptic precautions, and recovered, like the rest of the thirteen cases mentioned before, without a trace of suppuration or the slightest local reaction or constitutional disturbance. He describes how the blood-clot resulting from the operation remained between the lips of the wounds up to the time of cicatrisation, the most superficial layer being at last separated by the growing in of epidermis from the edges, and thus indicating that healing had taken place not only without suppuration, but also without granulation. The duration of the two cases from the day of the operation to the time of complete closure of the wounds and consolidation of the bones was respectively August 8 to September 11, or thirty-four days; and August 12 to September 14, or thirty-three days. Both patients at the time of writing the article were able to walk with a high-soled boot, one of them without even the aid of a stick.

GENESIS ACCORDING TO SCIENCE (SO CALLED).

We cannot resist giving our readers the amusement—though the feeling excited will probably be by no means one of unmixed amusement—of reading the following smart concrete statement of some modern 'scientific" schemes of creation from one of our Transatlantic contemporaries:—

"*The New Scriptures, according to Tyndal and others.*

"1. Primarily the Unknowable moved upon cosmos and evolved protoplasm.

"2. And protoplasm was inorganic and undifferentiated, containing all things in potential energy; and a spirit of evolution moved upon the fluid mass.

"3. And the Unknowable said, Let atoms attract; and their contact begat light, heit, and electricity.

"4. And the Unconditioned differentiated the atoms, each after its kind; and their combinations begat rock, air, and water.

"5. And there went out a spirit of evolution from the Unconditioned, and, working in protoplasm by accretion and absorption, produced the organic cell.

"6. And cell, by nutrition, evolved primordial germ, and germ developed protogene, and protogene begat eozoon, and eozoon begat monad, and monad begat animalcule.

"7. And animalcule begat ephemera; then began creeping things to multiply on the face of the earth.

"8. And earthy atom in vegetable protoplasm begat the molecule, and thence came all grass and every herb in the earth.

"9. And animalcula in the water evolved fins, tails, claws, and scales; and in the air, wings and beaks; and on the land they sprouted such organs as were necessary as played upon by the environment.

"10. And by accretion and absorption came the radiata and mollusca, and mollusca begat articulata, and articulata begat vertebrata.

"11. Now these are the generations of the higher vertebrata, in the cosmic period that the Unknowable evoluted the bipedal mammalia.

"12. And every man of the earth, while he was yet a monkey, and the horse, while he was a hipparion, and the hipparion, before he was an oredon.

"13. Out of the ascidian came the amphibian and begat the pentadactyle, and the pentadactyle by inheritance and selection produced the hylobate, from which are the simiadæ in all their tribes.

"14. And out of the simiadæ the lemur prevailed above his fellows and produced the platyrhine monkey.

"15. And the platyrhine begat the catarrhine, and the catarrhine monkey begat the anthropoid ape, and the ape begat the longimanous ourang, and the ourang begat the chimpanzee, and the chimpanzee evoluted the what-is-it.

"16. And the what-is-it went into the land of Nod and took him a wife of the longimanous gibbons.

"17. And in process of the cosmic period were born unto them and their children the anthropomorphic primordial types.

"18. The homunculus, the prognathus, the troglodyte, the autochthon, the terragen—these are the generations of primeval man.

"19. And primeval man was naked and not ashamed, but lived in quadrumanous innocence, and struggled mightily to harmonise with the environment.

"20. And by inheritance and natural selection did he progress from the stable and homogeneous to the complex and heterogeneous; for the weakest died, and the strongest grew and multiplied.

"21. And man grew a thumb, for that he had need of it, and developed capacities for prey.

"22. For, behold, the swiftest men caught the most animals, and the swiftest animas got away from the most men; wherefore the slow animals were eaten, and the slow men starved to death.

"23. And as types were differentiated, the weaker types continually disappeared

"24. And the earth was filled with violence; for man strove with man, and tribe with tribe, whereby they killed off the weak and foolish, and secured the survival of the fittest."

THE PATHOLOGICAL SOCIETY.

The usual routine of the meeting of the Pathological Society was broken on the evening of Tuesday last by an incident, which, although at the moment it afforded considerable amusement to many of the members present, did not fail to elicit expressions of surprise, and even indignation, and will certainly demand the serious consideration of the Council. The occurrence to which we refer may be briefly described:—Dr. Hoggan, a comparatively new member of the Pathological Society, exhibited "Microscopical Specimens of Melanoid Sarcoma in a Cod," and "Microscopical Specimens of Cancer," both of which were displayed for the inspection of the members. The specimens from the first case were accompanied by a portion of the tumour; in the second case none of the morbid organs were produced. In the description which was given of the specimens, the only point of pathological interest to which reference was made by the exhibitor was a purely histological one. Upon the question being put to Dr. Hoggan, "What was the new method by which the specimens had been prepared?" he made the remarkable reply—"Certainly this is a new method, but it was invented by a lady, and it would not be right to divulge it." It is impossible to describe the variety of expressions with which this speech was received by the meeting. The President at once declared his resolution not to allow the subject to be further discussed on that occasion, and the exhibition of other specimens was forthwith continued. But the matter did not end here. Taking advantage of a suitable moment at the end of the next debate, Mr. Hulke, one of the Vice-Presidents of the Society, rose, and in the strongest possible terms expressed his amazement at the conduct of Dr. Hoggan in thus, as a member of the Pathological Society, having refused to make known a method of preparing specimens which he had found to be valuable. Then came the significant reply from Dr. Hoggan, "The lady who invented the method has a medical degree, and will be ready to give out the process *when she is admitted here to do so.*" After what must be described as the derisive laughter of the members had in some degree subsided, the President again declared that this was not a fit subject for discussion by the meeting. But Dr. Hoggan was irrepressible, and—true to the colours that he has chosen—he had the last word, "It is quite right to describe new methods of preparation here, and it will be a loss to science while this is withheld."

But one opinion, as it seems to us, can be entertained of this most unfortunate and painful occurrence, and that is, that Dr. Hoggan acted in a manner unworthy of the honourable reputation of the Pathological Society, and unfaithful to the pregnant motto which it has chosen as its own. As we have already indicated, the sole point of scientific interest in Dr. Hoggan's specimens was a histological one, and this, again—as it had reference to the artificial differentiation of morbid and healthy elements,—only in its technical aspect. There could be but little question that the exhibitor was aware of this; and that, taking full advantage of his knowledge, he showed the specimens with a deliberate intention. He refused to "reveal" the process; he stated his reasons why; and he pronounced the terms on which the secret might be disclosed. To use a secret process in pathological research, and to refuse to divulge it, may be dignified with the name of scientific quackery; but to traffic upon such knowledge, and to offer it in barter for an honourable membership, is a proceeding for which our medical vocabulary happily possesses no term of definition.

AN EXPOSÉ AT ST. MARY'S HOSPITAL.

The governors of St. Mary's Hospital have recently been holding an investigation into the manner in which the Hospital has been supplied with wines and spirits, it having been alleged that the chairman of the House and Finance Committees had been supplying the Hospital contrary to the rules of the institution. The chairman of the Investigation Committee, Sir Thomas Pycroft, has reported that, upon the recommendation of Mr. John Wilson, the chairman of the House and Finance Committees, 574 gallons of brandy were purchased in October last from Messrs. C. Bendixen and Co., of 62, Basinghall-street. A portion of the spirit was delivered, but without a permit guaranteeing its strength. Upon inquiry it was found that the brandy, for which the Committee had paid 12s. 4d. per gallon, was worth only from 7s. 6d. to 8s. per gallon. It was also found that the Messrs. Bendixen were leather-sellers. Mr. Wilson having offered himself for examination, stated that two years ago he gave up the wine business to Messrs. Bendixen, and since that period had had no pecuniary interest in it, although he lent his name. It appears, however, that these transactions have been going on for about ten years. The goods have been sent back, and an explanation demanded of Mr. Wilson, who has since resigned his seat at the Hospital Board.

INDIAN MEDICAL RETIRING FUND.

Great dissatisfaction has for some time prevailed amongst the subscribers to the Medical Retiring Fund, on account of delays and other inconveniences attending its receipt. The following concessions have been allowed by the Government, in reply to a memorial of a number of medical officers, praying for a refund of subscriptions on equitable terms:—1. An additional annuity has been granted every second year, or eight per annum instead of seven and eight alternately as heretofore. 2. Officers who entered the service between the years 1853 and 1860 are permitted to obtain a refund of subscriptions, at 6 per cent. compound interest, provided (*a*) they all agree to accept of it, or (*b*) that the officer electing not to accept of a refund will sign a guarantee that he will lay no claim to the earlier succession to his annuity caused by retirements consequent on his seniors accepting a refund. In the event of an officer refusing to subscribe such a guarantee, all his seniors will be debarred from obtaining a refund. The interest of officers in the Fund varies, of course, according to their position on the list, and the circumstance of their being single or married; and we hear that some unmarried seniors are unwilling either to accept a refund or subscribe the required guarantee.

THE DISPOSAL OF UNCLAIMED PAUPERS' BODIES.

At the meeting of the Holborn Board of Guardians last week, the monotony of the usual routine proceedings was relieved by an interesting and animated discussion on the disposal of the dead bodies of unclaimed paupers. At present the bodies of paupers who die in the workhouse, and are unclaimed by a friend or friends, are permitted, by a resolution of the Board, to be removed to a hospital medical school for dissection. The Rev. Mr. Maguire, who brought forward the question, proposed the following motion—"That such resolution, being contrary to the instincts of humanity, and a wrong to the friendless and unprotected poor, be hereby rescinded, and that henceforth other arrangements be made that will be more respectful to the bodies of the deceased poor." After considerable discussion the motion was, by the consent of the proposer and seconder, withdrawn.

VITAL STATISTICS OF DUBLIN IN 1874.

During 1874 there were registered in the Dublin Registration District 8903 births—viz., 4722 boys and 4181 girls, or in the proportion of 112¾ boys to 100 girls. The ratio, according to the Census of 1871, was 1 birth in 35, or 28 per 1000 of the population annually. Of the 8903 births, 2218 were registered during the first quarter, 2365 in the second, 2232 in the third, and 2088 in the fourth—the weekly average being 171. The deaths registered during the year amounted to 8190, being equal to 1 in 38, or 26 in every 1000 of the population annually. The death-rate was equal to the average of the preceding ten years. The deaths of males were 4116 in number, and those of females 4074—the ratio being 101 males to 100 females. Of the 8190 deaths, 2112 were registered in the first quarter, 2043 in the second, 1897 in the third, and 2138 in the fourth. The excess of the mortality in the last quarter was due chiefly to the cold weather in December. Zymotic diseases caused 1916 deaths, or 1 in every 4·3 of the deaths—*i.e.*, 23·4 per cent. Scarlatina, which has been epidemic since the beginning of October, 1873, caused 834 deaths, or 10 per cent. of the total mortality. The death-rate from this affection was 2·65 per 1000. Of the other zymotic diseases, fever caused 352 deaths; diarrhœa, 203; measles, 97; diphtheria, 44; whooping-cough, 40; dysentery, 13; cholera, 5; and small-pox, 2. Croup was very fatal—113 deaths. Erysipelas also showed a great prevalence and fatality—49 deaths. The deaths from respiratory affections were 1398—viz., 409 in the first quarter, 344 in the second, 199 in the third, and 446 in the fourth. Bronchitis proved fatal in 1000 cases, and pneumonia in 206. The deaths from phthisis amounted to 862, or 138 below the average of 10 years. Convulsions caused 574 deaths. As regards ages, the yearly average death-rates and those for 1874 per 1000 living at same age, at different periods of life, are as follows:—Under 5 years, 74·1 and 76·6 respectively; 5 and under 15, 10·1 and 12·5; 15 and under 20, 7·6 and 6·6; 20 and under 40, 13·2 and 11·8; 40 and under 60, 25·1 and 24·1; 60 and under 80, 72·4 and 74·5; 80 and upwards, 205·8 and 198·6. The increased mortality among children under 15 was due to the scarlatina epidemic.

THE CEMENTING SUBSTANCE OF THE EPITHELIAL CELLS.

Dr. R. Thoma, Assistant in the Pathological Institute at Heidelberg, has just described (*Centralblatt*, January 9) a method by which the substance that binds together the epithelium cells of the frog's tongue can be stained, and so made clearly visible while the animal is alive. He injects an aqueous solution of pure sulphindigotate of soda (equal volumes of a saturated and filtered solution of the salt, and of distilled water) under a constant pressure of a few centimetres of water into the median abdominal vein, so that about four to six centimetres are injected into a moderate-sized frog in from two to four hours. At the same time he irrigates the frog's tongue with a one and a half per cent. solution of common salt. Considerable dilatation of the bloodvessels and acceleration of the blood-current is the result, and thus more colouring matter is brought to the parts in a given time than under ordinary circumstances. In about two or three hours the bands of substance uniting the epithelium cells (*Kittleisten*) become stained of a deep blue tint, and appear as a fine regular network, which is visible even with a low power of the microscope. The epithelium cells themselves remain unstained, but the connective tissue which underlies them can be seen through them of a pale blue colour.

SCIENTIFIC GRANTS OF THE BRITISH MEDICAL ASSOCIATION.

At the last meeting of the Committee of Council of the British Medical Association, the following grants were made:—Mr. Hicks, Cambridge—Researches on Alcohol, £50; Mr. P. M. Braidswood and Mr. Francis Vacher, Birkenhead—The Life History of Contagion, £15; Dr. R. Caton, Liverpool Royal Infirmary—The Natural Electric Currents of the Brain, £20; Dr. J. M. Fothergill, London—The Effect of Certain Agents upon the Circulation, £10; Dr. McKendrick and Mr. Jas. Dewar, Edinburgh—Physiological Action of Chinoline and Pyridine Compounds, £25; Dr. Mahomed, London—The Pathology of Albuminuria, £20; Dr. Munro, Cupar-Fife—An Antidote for Chloroform, £5; Dr. W. H. Spencer, Clifton, Bristol—The Action of Uranium Salts in Diabetes, £20. The grants in all amount to £165. Certain other applications have been referred to a sub-committee, with power to appropriate the balance if the particulars furnished by the applicants are satisfactory.

AN UNHEALTHY LANCASHIRE TOWN.

During the month of January the death-rate of the town of Gorton, in Lancashire, has been unusually high. For the week ending the 2nd ult. the rate of mortality was 54 per 1000; for that ending the 9th, 52 per 1000; the 16th, 38 per 1000; and the 23rd, 30 per 1000. The local medical officer of health states that, in his opinion, the causes of this high death-rate are the wet, clayey soil on which the town is built, and the ill-constructed dwellings that the poor and labouring classes are compelled to inhabit. The latter evil is doubtless a fruitful source of disease and death, not only in Gorton, but also, it is to be feared, in many towns of greater pretensions to sanitary perfection.

NEW COLLEGE FOR WOMEN.

According to the London correspondent of the *Manchester Guardian*, Mr. Holloway, of pill and ointment notoriety, has determined to found a large college or "university" for the higher education of women. It is stated that he has purchased a site at Egham for £25,000, on which will be erected an enormous building to accommodate 400 students. There will be at least twenty professors, and although the clerical element will not be entirely absent, it is intended that the education of the students shall be almost exclusively secular. The building is estimated to cost at least £200,000.

POLLUTION OF RIVERS.

Public meetings for discussing the subject of the pollution of rivers are becoming frequent. An influential and numerously attended meeting of the Local Authorities of the district surrounding Manchester was held last week on this question. On the suggestion of Sir J. Heron, it was decided that no effective steps could be taken by local authorities, or by trades, until it was fully understood that Government was prepared to promote legislation for the purpose of carrying out the recommendation of the River Pollution Commission. A deputation was appointed to wait on the Government on the subject.

OVER DARWEN.

From a letter addressed by the solicitor of Sir W. H. Feilden, Bart., to the Darwen Local Board, it appears that from the medical report of Dr. Stevens it was evident there was a gross miscarriage of justice at the Liverpool Assizes in March, 1872, when the action of Sir William against the Board was tried. Through the want of proper supervision by the Local Board, it is alleged, the River Darwen is polluted in a very reprehensible way. The Board is threatened with legal proceedings unless Sir William's claims are satisfied.

VIVISECTION.

During the past week the Secretary of the Society for the Prevention of Cruelty to Animals has been sending letters to the various schools and hospitals, asking leave to be present at any operations on living animals. The action to be taken by the various authorities has not yet been decided on.

THE CHAIR OF CHEMISTRY, UNIVERSITY OF DUBLIN.

THE election to this chair has not yet been made, the Board of Trinity College having adjourned last Saturday after a selection had been made from amongst the numerous candidates for the vacant chair. We understand the contest now lies practically between Professor J. Emerson Reynolds, Mr. Richard Apjohn, and Dr. J. W. Mallet. The new professor will probably be chosen to-day (February 6).

FEVER IN THE CITY OF LONDON.

DR. SAUNDERS, Medical Officer of Health for the City of London, in his last report states that several cases of fever had been reported by the authorities of the City of London Union as occurring in Chequer-yard, Aldgate, and White-friars-street, and that the necessary sanitary precautions had been adopted. Of thirty-four deaths within the City during the week ending the 30th ult., twelve resulted from diseases of the organs of respiration.

HEALTH OF LONDON.

LAST week in the metropolis 1650 deaths were registered, showing a decrease on the average of twenty-six. The annual death-rate from all causes, which in the three previous weeks had been thirty-five, twenty-nine, and twenty-four per 1000, rose last week to twenty-five. The deaths included five from small-pox and sixty-one from scarlet fever.

FROM ABROAD.

THE DISPOSAL OF INSANE PRISONERS.

AT a meeting of the Berlin Medico-Psychological Society, reported in the *Berlin. Klin. Woch.*, December 14, Herr Baer brought forward the subject of the disposal of insane prisoners. From the documents he has examined, he is convinced that more than 5 per cent. of the inmates of Prussian prisons are suffering more or less from mental disease, and require other kind of management than is to be met with in prisons. That there should be so large a number of prisoners so affected need cause no surprise when we consider the criminal with regard to his descent, education, and mode of life, either when at liberty or within a prison. In no other classes of society are there accumulated so many points exerting an abnormal influence on the psychical condition. What a mass of degenerative influences are inherited by habitual criminals, who not infrequently descend from parents who, themselves vagabonds or criminals, are the subjects of mental disease or epilepsy, dire poverty, debauchery, or a mania for drink! In the year 1871, 4100 male and 967 female inmates of prisons left behind them 5096 children, a portion of whom would certainly themselves become criminals, some of them, indeed, from birth bearing the stamp of the typical expression indicative of the relationship of crime and insanity. Imprisonment itself is so thoroughly unfavourable to development and the maintenance of bodily and mental health, that not only may it rapidly and certainly give rise to mental disturbance in the predisposed, but may itself induce a disposition to such a condition. Yet more frequently do mental affections come on in criminals who have acted under the influence of passion, which, itself often a diseased condition, is after the act aggravated by remorse, shame, consciousness, anxiety for friends or for the future, and the hopelessness and discomforts of a long imprisonment.

Taking these persons at 5 per cent. of the prisoners, this would furnish more than 1100 in the prisons dependent upon the Ministry of the Interior; and the question is whether they should be allowed to remain in these establishments. Therein the stern, unbending will of authority must prevail, the mass of criminal characters only being capable of being ruled by fear. But ought the mentally deranged be placed under such a regimen as this? Although the more obvious cases of insanity may be recognised, and consigned to the infirmary of the establishment, yet in the more chronic cases—in partial and periodic insanity, epilepsy, etc.—much perplexity may be often caused to the administrators of the prison. Such persons cannot permanently remain in the infirmaries, while in the workshops they are the subjects of jeers and witticisms. They may commit excesses, and are not infrequently undeservedly and severely punished. Many are looked upon as simulators, and by the time that their disease is admitted it has become incurable. These persons should be removed from prisons with reference to their possibility of cure and the prevention of their becoming worse, and also for the better observation of suspected simulation.

If an establishment is to be formed so as to serve its purpose, both in a psychiatrical and punitive sense, the following points must be observed:—1. The prisoner must be brought quickly to such asylum, which can only be done by dispensing with present formalities and by its being placed at not too great a distance. 2. It must be devoted to the treatment and cure of disease, and must therefore be under the direction of a physician accustomed to mental disease. 3. The asylum should retain only so much of its prison character as the disposition of most of its inmates renders indispensable. As already observed, the mode of managing insane prisoners has hitherto been very objectionable, and it may be asked whether it would not be the better plan to send them to lunatic asylums. This, at first sight, would seem to be the natural solution of the question. It is, however, not a practical solution, for the transference of such prisoners to asylums is the law at the present time, after due care has been taken to acquire assurance that the patient is not simulating. Dismissal from the prison on prophylactic grounds, however, never takes place, and only chronic and incurable cases are really brought to the asylums. These lunatic asylums hardly suffice for the wants of the free population, and are not suited to insane criminals, who, when assembled together, conspire, and require careful watching. In consequence, and in spite of their insanity, they are persons possessed of criminal intentions and immoral habits, rendering them unfit for the society of other lunatics. Many lunatic asylums have protested against the reception of such patients, and more still will do so if all categories of prisoners of unsound mind are sent to them. Most of the mentally diseased prisoners are not diseased in the sense of rendering them suitable inmates for ordinary lunatic asylums. The best solution of the question would be the establishment of a department of the prison for lunatics, which, as far as the treatment of the diseases of its inmates is concerned, should be under the management of a regular psychological physician. This should be divided into two sections, one of which, destined for the actually insane, should be furnished with every appliance for their treatment. The other section should admit the temporarily insane, the weak-minded, and all those whose cases require watching, as well as those who in consequence of their psychical condition require a milder treatment than could be applied to them in the prison itself.

In the discussion which followed the reading of the paper, Herr Liman observed that we had three categories to distinguish—1. Those who were decidedly insane, and therefore could not be punished. 2. Those who, although insane, had not been acknowledged as such by the medical witnesses or juries, and who, committed to prison, have only in the course of time had their condition admitted. 3. Those who, predisposed to mental disease, have only exhibited this after their committal to prison. All these persons are unfit to be inmates of prisons, and should come under the care of lunatic asylums, whether these be connected with prisons or not. Herr Mendel observed that to those who at the time of their trial were insane, and who were wrongfully committed to prison, reparation is due. Then, again, the number of persons who become insane while in prison is not small, and they ought to be treated like other patients—punishment ceasing, their diet being amended, and their admission into the infirmary or special department secured. Here they may be treated, and if cured their punishment may be resumed. If incurable they should not be the subjects of further punishment, but should be transferred to lunatic asylums. It cannot be regarded as a matter of indifference whether a person is treated in an appendix to a prison or in a lunatic asylum; and if it is so to the unconscious patient, it is not so to his relatives. There would be the danger in attaching asylums as appendices to prisons that many jurors in doubtful cases would, on account of their existence, be induced to pronounce the accused guilty. All medical officers attached to prisons ought, in order to be able to decide upon the questions brought before them, to be possessed of psychiatrical

qualification. Herr Ideler observed that his daily experience convinced him of the impropriety of introducing these insane prisoners into asylums, where they prove constant sources of disturbance. Lunatic asylums should have nothing to do with them, and no harm can result from their being treated in the prisons.

Professor Pajot.

If the Paris medical students occasionally exhibit a somewhat unruly spirit when confronted with a professor who may have rendered himself unpopular on political or other grounds, they can at other times exhibit a devotion to, and admiration of, their teachers which is highly creditable. M. Pajot, Professor of Obstetrics, who by his eloquent and genial teaching has long endeared himself to his successive classes, recently announced his intention, on the ground of ill-health, of giving up his chair, although, having been born in 1816, he is not yet obliged to do so by law. This at once caused great emotion in the Ecole, and a petition was speedily signed by no less than 663 pupils, among whom were the *internes* of all the hospitals, beseeching Prof. Würtz, the Dean of the School, to use his influence with M. Pajot and induce him to withdraw his resignation. In answer to Prof. Würtz's letter to that effect, hoping that his health would allow him to comply with a wish so earnest and so flattering, Prof. Pajot replied—

"I am deeply sensible of this testimony of the esteem and affection of the students of our Ecole, as well as of the personal instances you have honoured me by adding to it. Entirely devoted for thirty years to this *jeunesse*, which we so love, great has been my regret that fatigue, ill-health, aided by age, have for some time past separated me from it. But, now, after a manifestation which has so vividly touched me, it becomes a duty on my part to employ what remains of my strength in the service of the students and of the Faculty. Doubtless the period of my teaching which you so kindly designate as 'brilliant' has for ever passed away, but I shall make every effort to render my lectures profitable."

FOREIGN AND COLONIAL CORRESPONDENCE.

FRANCE.

Paris, January 24.

The Acid of the Gastric Juice—The Treatment of Syphilis—MM. Demarquay, Bouloumié, and Guérin on Suppuration Germs and Surgical Dressings—M. Colin on the Value of Iodine in Malignant Pustule—Report of M. Woillez on Cholera—The Weather in Paris: Parturition under Difficulties.

For some time past there has been a paper war going on among the pharmacists in Paris as to the nature of the acid of the gastric juice, some contending that the acidity of this secretion is due to the presence of lactic acid, while others put it down to hydrochloric acid. I am afraid that the adversaries on either side are actuated by other than purely scientific motives, as each party starts a theory evidently to support some pharmaceutical preparation of which he is the inventor. The question has been brought first before the Biological Society, and subsequently before the Academy of Sciences, by Dr. Rabuteau, a well-known physiological chemist and experimenter, who has proved by direct experiment on man and animals that the acidity of the gastric juice is due, not to lactic acid, but to hydrochloric acid. This conclusion is in accord with some of the leading physiologists and chemists of the day, and M. Wurtz, the eminent Professor of Chemistry at the School of Medicine, asserts that when lactic acid is met with in the stomach it is the result of impaired digestion.

It is strange that, while the non-mercurialists in England are becoming converted to the orthodox treatment of syphilis, there is a tendency on the Continent to adopt the latter mode. Dr. Desprès, of Paris, is a confirmed anti-mercurialist, and he has found in Dr. Hermann, of Vienna, a staunch adherent to his doctrine, though the latter professes to cure syphilis without either mercury or iodine.

I have to apologise for referring to Dr. Hermann in this letter, as a paper from him on the subject was read before the Academy of Sciences of Paris. In this paper Dr. Hermann not only condemns the two substances named in the treatment of syphilis, but makes the startling statement that constitutional or, as he would have it, tertiary syphilis is the sequel, not of syphilis, but of the mercurial treatment invariably adopted in such cases, and that this latter affection is cured in a much shorter time than when the patient is subjected to mercury or iodine. The treatment he recommends is based on what he terms electrolysis, and he states he has cured 20,000 cases by this new mode of treatment. Whatever may be the effect of this statement on the minds of others, it will certainly take a long time before (if ever) the French practitioners will be induced to give up the time-honoured anti-syphilitic remedies.

The subject of antiseptics and the part played by micro-organisms in the process of suppuration and in the different dressings employed in surgery is still occupying the attention of the learned societies in Paris. At the Academy of Sciences, Dr. Demarquay, the learned surgeon of the Maison Municipale de Santé, read a very interesting paper on the capacity of protozoons to resist the divers agents that are generally employed as dressings in surgery. M. Demarquay showed that no mode of dressing prevented the development of protozoons, and that nevertheless the wounds healed all the same. After having tried the so-called "antiseptics" in vogue—such as carbolic acid, alcohol, eucalyptus globulus,—he found that these substances had no influence whatever on the genesis or movements of the protozoons. In a second series of experiments, M. Demarquay tried the action of the different resins and balsams so much used by the ancients in dressing wounds—such as the balsam of Peru, the tincture of myrrh, the tincture of benzoin, the tincture of aloes, spirits of camphor, essence of turpentine,—but none of these substances had any influence on the protozoons. In a third series he tried the effects of astringents, such as tannin or albumen, with the same negative results. From these experiments M. Demarquay concluded that the various modes of dressing were quite powerless against these elements of destruction, but the remedy must be sought in the vital forces of the patient, and in the hygienic conditions in which he may be placed. This, to my mind, is more rational than any of the anti-parasitic or germ theories.

At a subsequent meeting of the same Academy, M. Pasteur, the celebrated authority on germ ferments, read a paper for a Dr. Bouloumié, a young consulting-physician at Vittel, a watering-place, on the same subject, but in which the author enunciates a theory diametrically opposed to that of Dr. Demarquay. After a series of experiments on his side, Dr. Bouloumié has come to the following conclusions:—1. Micro-organisms may exist in suppurations without preventing cicatrisation and affecting the health of the patient. 2. Micro-organisms attack the neighbouring parts of the wound and give rise to abscesses. 3. Micro-organisms attack, through the medium of the lymphatic or venous system, a healthy organism, without causing anything else than a reaction and eliminatory dejections. 4. Micro-organisms attack an organism already profoundly affected, and develope in it septicæmia, first by their toxic action, then by the virulent action of the elements disorganised by them. The indication of treatment would necessarily consist, according to Dr. Bouloumié, in the choice of such agents as would not only favour cicatrisation, but would be opposed to the existence and to the proliferation of micro-organisms. To fulfil these indications, he would give the preference to alcohol and to glycerine. As these agents readily absorb water, they would have the effect of withdrawing from the vibriones the water from their organism, and thus deprive them of life. It is by properly selected dressing that the first stage of infection may often be prevented; and it is by a judicious hygiene that the chances of generalisation of the morbific ferments, if they have passed the limits of the wound, may be reduced to a minimum.

In my letter of June last I gave an account of an analogous subject, but the champion on that occasion was Alphonse Guérin, who, it will be remembered, submitted to the Academy a paper "On the Action of Ferments in Surgical Affections, and a New Method of Dressing Wounds and Amputations." This paper was then made over to a committee, of which M. Gosselin, the eminent surgeon and academician, was appointed member and reporter. M. Gosselin's report has just been read before the Academy, and is a masterpiece of erudition, scientific research, and method. M. Gosselin's inquiry consists of two parts:—1. Whether the cotton-wool dressing, as recommended and employed by M. Guérin, is really superior to the other methods. 2. Whether the qualities attributed to it are due to its capacity of preventing the ingress of germs from the sur-

rounding atmosphere. On the first point the eminent reporter gives it as his unqualified opinion that the cotton-wool dressing possesses many real advantages, which he sums up as follows:—1. Total, or in some rare cases partial, absence of traumatic fever. 2. Continuation of sleep and appetite. 3. Absence of all pain, or existing to a very moderate extent. 4. The healthy appearance of the wound on the removal of the dressing on the twentieth or twenty-first day. 5. The protection, almost complete, of the patient against the dangers of purulent infection. There is scarcely a surgeon of any note who is not agreed on these points; and the advantages and disadvantages of this method have been fully set forth in the *Medical Times and Gazette* of October 31, 1874, to which I beg to direct the attention of your readers. This is so far the rational and practical part of the subject, and, as has been seen, is quite favourable to the "new method," as M. Alphonse Guérin terms it. On the second point, however—that which refers to the theoretical explanation of the *modus operandi* of the cure in these cases,—the report is less favourable. M. Gosselin declared that he would not for a moment attempt to refute the experiments of M. Pasteur in support of the action of ferments under different circumstances, but he thought there can be no comparison between those experiments and the cases referred to by M. Guérin, adding that if M. Guérin had never seen any vibriones and bacteria on the surface of the wounds he had dressed with cotton-wool, it was probably owing to his having employed instruments which were not of sufficient magnifying power. For his part he had seen them several times on the surface of wounds, but they did not seem to interfere in any way with the healing process or with the health of the patients. M. Gosselin therefore attributes to this mode of dressing advantages that are due, not to its preventing the access of germs, but to the uniform warmth and immobility of the injured parts—two conditions necessary for the healing process. Moreover, the compression which the dressing exercises on the parts prevents an afflux of blood, and favours the absorption of the primary exudations. Finally, there is the rarity of the dressing. M. Gosselin recalls to mind that this latter condition had for some time been proposed by Cæsar Magatus; but, he added, to M. Guérin is due the credit of having formulated the method in terms which have rendered it essentially practical. Thus it may be seen that these proto-organisms are not such terrible things after all.

By a strange coincidence, the subject of antiseptics is being discussed also at the Academy of Medicine. It will be remembered that about the beginning of last year Dr. Davaine read a very interesting paper on the value of certain antiseptic agents, amongst which he considered iodine as being the most potent, which he found so efficacious in arresting "charbon," or malignant pustule. M. Colin, a member of the Veterinary Section of the Academy, is not of this opinion, and at the last sitting but one of that learned body he related the result of his experiences on the subject, which may be thus summarised:—(1) That iodine does not possess the power of neutralising the action of the virus in charbon, as attributed to it by Dr. Davaine; (2) that it does not arrest the development of charbon—does not in any way affect the symptoms of the disease, the rapidity of its progress, or its fatal termination; finally, that it does not influence the gravity of the visceral lesions, and the alterations of the blood due to the affection. Dr. Davaine intends soon giving a rejoinder, which will doubtless be most interesting.

That interminable subject, the cholera, is also being revived at the Academy, as M. Woillez, reporter of the commission charged with the investigation concerning epidemics, has just read his report, by which he would make out (1) that cholera is of exotic origin—a point almost universally admitted; (2) that its propagation is directly in proportion to the insalubrity of the localities which it attacks, and that it can be easily arrested in a few days by certain sanitary or hygienic measures. M. Jules Guérin, as was anticipated, is about to enter the field to defend his pet theory as to the spontaneous origin of cholera, a subject I have more than once brought to the notice of your readers.

The weather just now is very unseasonable for the time of the year; it is more like spring than winter, for the thermometer, instead of being below freezing-point, ranges from 50° to 55° Fahr. out of doors, and this is attended with almost incessant rain, much to the disgust of pedestrians, and sore disappointment of skaters, particularly those belonging to the Skating Club, as during the late frost great preparations were being made for the "annual" fête on the lake of the Bois de Boulogne; but, alas! there came a sudden thaw, and drowned the projects of the skaters, who, I am afraid, will have to shelve their skates until next year—that is, if "Jack Frost" will feel disposed then to favour them.

Talking about the frost reminds me of that dreadful night of the new year, when the Parisians seemed more terror-stricken than in the worst days of the Commune. Among the numerous accidents that occurred on that night (which have proved fatal to a great many), I may mention a case of parturition which took place under the most painful circumstances. A poor woman taken with pains of labour was making for the nearest hospital, in company with two men who were her neighbours, but the streets were so slippery that it was impossible for them to advance a single step. They then resolved to spend the night on the pavement, when they were observed by two policemen, who went (or rather crawled up to them) to render them what assistance they could, without, however, having the least idea as to the nature of the assistance they, or rather one of them, required. On learning the nature of the case they bravely set about, with the aid of the two companions, to have the unfortunate creature conveyed to the hospital. But conveyance was out of the question, so they resolved to drag her along the best way they could. After an hour's pulling another difficulty presented itself: parturition took place, to the consternation of the four male companions. Their situation can be more easily imagined than described; but, nothing daunted, one of the policemen wrapped the new-born babe in his hood, and in another half-hour the party reached the hospital (the Lariboisière), where the parturient woman and her infant still lie in a very precarious state. The men who accompanied them had to lie up from exhaustion and the bruises they received from the falls *en route*. This case is a good illustration of what nature can do under difficulties: it was in every sense of the word a case of *natural* labour, as delivery was effected by the unaided efforts of nature. The secundines were expelled with the child; and it is more than probable that, were it not for the intense cold to which they were exposed, both mother and child would now be quite well.

Accoucheurs might take a good lesson from the above case and that which follows, as many, in my opinion, err from premature interference, and thus retard instead of accelerate the natural process of parturition. Even in difficult cases the intervention of art ought to be the exception, and not the rule, for it is wonderful what unaided nature can do under such circumstances, as may be seen by the following case, which I lately witnessed at the lying-in hospital under the charge of Professor Depaul. A woman in the commencement of labour was admitted, but on examination the presenting part of the fœtus could not be attained with the finger. The causes (such as narrowness of the pelvis, breech presentation, etc.) that would explain the difficulty were absent in this case; but M. Depaul, having with great difficulty felt the head of the child, and having heard the beats of the fœtal heart much above and to the left of the umbilicus of the mother, judged it more prudent to wait than to interfere. He was rewarded for his patience and judgment, as the woman was spontaneously delivered of a fine boy, weighing 3180 grammes, or nearly nine pounds, after a labour of only eight hours and fifty minutes. M. Depaul gave a very interesting lecture on the subject, which of course he generalised, and dwelt upon the necessity of patient watchfulness and forbearance from all untimely interference.

PROVINCIAL CORRESPONDENCE.

SCOTLAND.

Edinburgh, January 30.

New University Buildings.

The New Royal Infirmary, although not yet half completed, already forms an architectural feature on the northern side of the Meadows, and it is probable that ere long we shall have the gratification of seeing the sister institution—the new portion of the University buildings, which is to be almost entirely devoted to medical purposes—growing up alongside of it. The sum required for the latter is £100,000, and already £75,000 has been subscribed. An important step was taken yesterday by the acting committee entrusted with the carrying out of the scheme. They held a final meeting to consider the various plans submitted to them by

the competing architects, and decided to accept that of Mr. R. Anderson. A great deal of thought has been bestowed upon these plans, and from the first the Committee have steadily adhered to their determination that the internal arrangements should have their first consideration, and after that the external architectural effect of the buildings. Mr. R. Anderson seems to have kept these points steadily in view, and has spared no pains necessary to make his plan as perfect as possible. He has procured the published plans of every building of any reputation he could hear of—such as the magnificent new University of Vienna, the Chemical and Polytechnic Schools in the same place; the chemical laboratories at Pesth, in Hungary, the latest built of the Continental laboratories; the chemical laboratories at Berlin, Leipsic, and Greifswald; the anatomical schools at Berlin, Heidelberg, Munich, Giessen, Bonn, etc.,—and in order to make himself further acquainted with the special requirements and details of such buildings, he has visited and carefully examined the schools and laboratories of Glasgow, Liverpool, Manchester, Oxford, and London; those of Berlin, Leipzig, Bonn, and Aix-la-Chapelle in Germany, and of Utrecht and Amsterdam in Holland. He has had, besides, numerous interviews with the various professors and others connected with these universities and institutions, from whom useful information could be obtained. The result is a block of buildings which, while strictly confined to the space laid down, has been most carefully planned with reference the requirements of the different departments. The most important room in the building as to size is the University Hall, which is to be of the shape generally described as that of the Greek theatre. This is constructed on the best acoustic principles, and will accommodate about 2000 people, and, by a slight alteration in the plan, can be made to accommodate 2300. The class-rooms, laboratories, etc., are constructed on the most modern principles, and are carefully arranged with a due regard to light, convenience, etc.

Mr. Anderson estimates that the cost of carrying out his plan, without the belfry, will amount to about £70,000. These buildings, which when completed will, with the exception of the University Hall, be devoted to the Medical School of the University, will occupy a site closely adjoining the New Royal Infirmary, and running towards the old University buildings. When they are completed, they will, along with the New Infirmary, fully meet what has long been felt to be a great need, and will enable our long and justly renowned medical school to maintain its pre-eminence among the medical schools in this country. Making allowance for the time which must be occupied in preparing the working drawings, it is probable that building operations will be commenced during the ensuing season.

GENERAL CORRESPONDENCE.

DIPSOMANIA.

Letter from Mr. Carsten Holthouse.

[To the Editor of the Medical Times and Gazette.]

Sir,—It is now more than twelve months since I was urgently entreated by a former patient to try and establish a home in the environs of London for the treatment of intemperance in the upper and middle classes. I set myself the task, therefore, of ascertaining whether such an institution would be desirable; whether it would receive the countenance and aid of my medical brethren; and whether it could be made self-supporting. On all these points the evidence was conclusive, and in the affirmative.

That an institution devoted exclusively to this class of patients, and this only, was desirable seemed proved by the fact, within my own knowledge, that many dipsomaniacs of the above classes, who would gladly avail themselves of such a home, did one exist, are now disposed of either as inmates of lunatic asylums or of hydropathic institutes, or in the families of medical men or of clergymen—in none of which establishments can they be treated as their case demands. The desirability was also attested by all those leading physicians and psychologists to whom I applied for information and advice on the subject, and who have kindly attached their names to the document accompanying this letter. Further testimony was met with in the report of the Select Committee on Habitual Drunkards. Dr. Forbes Winslow in his evidence expresses his belief that "if establishments were organised for the reception of persons addicted to chronic habits of intemperance, hundreds would avail themselves of these institutions, and voluntarily surrender themselves for a time to control and treatment. Such institutions are, to my mind, one of the great and crying wants of the age." Dr. Druitt expressed his opinion that inebriate asylums were quite as much required as lunatic asylums, and that "they would be the salvation of many."

That the home I propose to establish would receive the countenance and aid of my professional brethren I have every reason to believe, from the letters I have received from members of the profession in different parts of the country, and from the promised support of those eminent men who have signed the accompanying letter. I am aware that many take a less sanguine view than myself of the amount of good likely to be achieved, and consider it essential that there should be a legal power of detention; and it is well known that the late Mr. Donald Dalrymple gave up his practice and entered Parliament for the express purpose of inducing the Legislature to grant this power. Admitting the desirability of getting such a law passed, and the increased success in treatment that would result, yet I maintain, both from personal experience and from the reports I have received of the working of similar institutions in America, that much more might be done than is actually accomplished were a more systematic method of treatment pursued than has hitherto been attempted in this country. And this brings me to the last point of my inquiry—whether the institution could be made self-supporting? On this subject I have ascertained that, provided the establishment be conducted on a sufficiently large scale, little or no risk will be incurred.

To assist me in raising funds for the purpose, the Earl of Shaftesbury has kindly consented to preside at a meeting at Willis's Rooms, on Thursday, February 11, at three o'clock in the afternoon, and I earnestly entreat all those of my medical brethren who are interested in the subject to attend and support his lordship. Several eminent members of the three learned professions have promised to take part in the proceedings. I am, &c., Carsten Holthouse.

[*Document referred to.*]

To Carsten Holthouse, Esq., 3, George-st., Hanover-square.

We, the undersigned, fully alive to the prevalence of this disease and to the great want of an institution specially devoted to its treatment, are of opinion that such a one as you propose, which shall afford to its inmates the comforts of a home and the pleasures of society, while at the same time they are protected from temptation, would be a great boon both to the patients and to their families, and is well entitled to our recommendation and support.

George Burrows, M.D., F.R.S. (President of the Royal College of Physicians).
Thomas Watson, M.D., F.R.S.
Charles J. B. Williams, M.D., F.R.S. (President of the Royal Medical and Chirurgical Society).
William Jenner, M.D., F.R.S.
William W. Gull, M.D., F.R.S.
J. Russell Reynolds, F.R.S.
C. B. Radcliffe, M.D.
Henry Monro, M.D.
William Wood, M.D.
H. Maudsley, M.D.
G. Fielding Blandford, M.D.
William Fergusson, F.R.S.
James Paget, F.R.S.
Prescott Hewett.
Henry Thompson.

THE TREATMENT OF MAGGOTS IN THE NOSE.

Letter from Inspector-General R. W. Lawson.

[To the Editor of the Medical Times and Gazette.]

Sir,—In the notes on "Native Practice in Rajpootana," in your last number, allusion is made to the difficulty in dislodging maggots from the nose when they have once established themselves there, even although injections of carbolic acid, turpentine, etc., be freely employed. Many years ago, in the West Indies, I found the following instance in the reports of the late Dr. Bone, Inspector-General of Hospitals, which indicates a simple and more effective plan of treatment in such cases.

A white soldier, at Demerara, complained of severe pain across the forehead, with other signs of disturbance, the cause of which was not made out until maggots began to pass from the nose. Injections of various descriptions, embracing turpentine and several other irritants, were then had recourse to, without overcoming the insects, though they aggravated the

patient's sufferings considerably. At this juncture the insufflation of snuff was recommended, and, on being adopted, produced a speedy cure. The *rationale* of its action is clear: tobacco, in any of its forms, is a virulent poison to these insects, and on being subjected to its influence their powers for mischief are soon terminated.

A medical officer, recently from India, informed me that he had employed camphor, in substance, to destroy maggots in the cavity of an abscess, with good effect. When there is great destruction to surrounding parts, and many of the insects have burrowed so far into the *débris* of the tissues as to be beyond the influence of either remedy, much good cannot be expected from them; but short of this, their employment offers a much better chance of stopping the ravages of these creatures than mere irritants, however powerful they may be.

I am, &c., R. W. Lawson,
London, February 1. Inspector-General of Hospitals.

THE ALDERBURY UNION.

Letter from Mr. F. C. Bennett.

[To the Editor of the Medical Times and Gazette.]

Sir,—I think it only right to inform any member of the medical profession who may be intending to apply for the post of Medical Officer to the Workhouse and Fourth District of the Alderbury Union, that my sole reason for resigning the post was the insufficiency of the salary for the work that had to be performed. After receiving my resignation the Board of Guardians asked me to continue the appointment at an increase of £20 per annum. I declined, stating that the lowest salary for the two posts I would accept was £150 a year, and that I considered no medical man should be asked to do the work for less. I am, &c., F. C. Bennett,
Late Medical Officer, Workhouse and Fourth District,
Salisbury, Feb. 2. Alderbury Union.

AN OLD QUESTION.

Letter from Dr. J. E. Grinfield Coxwell.

[To the Editor of the Medical Times and Gazette.]

Sir,—Will you kindly oblige me by stating whether, in your opinion, I am justified in calling myself Dr. Coxwell? I am a Licentiate of the King and Queen's College of Physicians in Ireland, and in the body of my diploma it is stated that I am thereby a physician. I am, &c.,
J. E. Grinfield Coxwell.

[By your diploma you are legally a physician—or, as the Latin language therein used says, a *doctor*,—and by immemorial use and custom physicians are given the title of "Dr."—Ed. *M. T. and G.*]

DEGREES BY THE ARCHBISHOP.

[To the Editor of the Medical Times and Gazette.]

Sir,—In the *Medical Times and Gazette* of the 23rd inst. (page 110) you have stated that the Medical Act of 1858 deprived the Archbishop of Canterbury of the privilege of conferring the title of Doctor of Medicine. This statement needs correction. The Archbishop retains the power of granting the title; but the doctors made after the passing of the Act do not share in the privilege of being registered, which was given to those who were created before that date. The Doctorate, therefore, if granted since the Medical Act of 1858 is not a qualification for practice. I am, &c.,
Oxford, January 30. E. L. H.

In the case of Mr. Stanning, a druggist at Hull, which was before the police-magistrate on Tuesday, against whom the Inland Revenue authorities had taken proceedings for selling a tonic which contained 67 per cent. of spirit, the solicitor to the Chemists' Association contended that it was a medicine, whilst the Excise deemed it an intoxicating beverage. The Court decided that the defendant was liable to a fine of £50, but, as no intentional breach of the law was committed, judgment was respited for six months.

REPORTS OF SOCIETIES.

EPIDEMIOLOGICAL SOCIETY.

Wednesday, January 13.

Dr. W. R. E. Smart, C.B., President, in the Chair.

On the Relations of Diphtheria and Scarlet Fever. A paper by Dr. Arthur Ransome on the above subject was read. After detailing two cases of diphtheria derived from an epidemic of scarlet fever, Dr. Ransome pointed out how much these diseases agree in their epidemic character, in the degree and course of their pyrexia, and in their chief points of attack being the throat and the skin. The sequelæ of the two diseases are similar: suppuration in the lymphatic glands; ulceration of the ears; arthritic affections, with or without cardiac complication; kidney disease and dropsy; general or localised paralysis of the nervous system. Each and all these consequences have been met with after both diseases; yet the differences between them are too important and too numerous to permit of their effects being considered as different manifestations of the same disease. First, as the cases brought forward show, diphtheria may arise directly from scarlet fever, but the converse action is not met with. There are also other etiological differences: diphtheria is less energetically contagious, and is more frequently associated with local causes than scarlet fever, and is not so entirely dependent on the personal conveyance of infection for its spread. Scarlet fever prevails most in the autumn with us; diphtheria is less dependent upon season; nor is it influenced by heat or moisture, or by locality, for it occurs in India and Australia, and at considerable elevations. Another point of difference between the two diseases is, that while scarlet fever is rarely associated with other complaints, diphtheritic affections are commonly met with in the course of various pyrexial disorders. In the report of the Diphtheria Subcommittee of the Epidemiological Society, it is recorded that of 122 cases in the epidemic of 1861, 57 occurred alone, 34 with scarlet fever, 9 with small-pox, 7 with measles, 6 with fever, and 3 each with ordinary sore throat, croup, and catarrh. The points of unlikeness in the nature and symptoms of the two diseases are too great to allow us to rank them as varieties of the same species: thus the rash of diphtheria is often absent, is very variable as to the time of its appearance, occurring seldom at the outset of the malady, and it may occur as late as the third week. Albuminuria is often found within two or three days of the commencement of diphtheria, whilst in scarlatina it seldom sets in until desquamation of the kidney has commenced. There is an absence of definiteness about the duration of symptoms in diphtheria which marks it off from the regular sequence of events in scarlet fever; in the former, exudation may form on the fauces for six weeks or two months without much affection of the cervical glands. The mode in which diphtheria localises itself on the mucous membranes or on broken surfaces separates it from any other disease. Different epidemics differ widely in the point selected for attack; often the larynx and bronchi have been seized, as well as the throat. But does scarlet fever ever attack the larynx? It is remarkable that in epidemics affecting other mucous membranes, with little fatality, the subsequent complications were frequent and troublesome. Lastly, does an attack of diphtheria confer any immunity from subsequent seizures? The susceptibility of the throat seems rather increased than diminished, while scarlatina seldom reappears in the same individual. It is evident that the two diseases are distinct, and yet that some very definite and close connexion exists between them. It is not easy to point out wherein the bond consists; but it is possible that the relations of some other ferments may throw some light on the subject. M. Bertholot's discovery of an unorganised glucosic ferment derived from yeast (*Comptes-Rendus*, vol. i., p. 980), and the fact that one fermentation by organised beings frequently prepares the way for a different one, suggest two ways in which the singular relation existing between scarlatina and diphtheria might be accounted for.

The President, in moving a vote of thanks to the author of the paper, expressed the satisfaction with which the Society received this communication from Manchester, and remarked on the advantage to be hoped from similar assistance and co-operation from other large towns.

Dr. Squire fully concurred with Dr. Ransome in considering diphtheria and scarlet fever specifically distinct. He had himself seen instances of diphtheria arising from scarlet fever, but had never seen diphtheria give rise to scarlet fever. Agreeing entirely with so much that was most ably set forth in this paper—he would mention specially the pathological differences and the period of albuminuria,—it might be permitted him to doubt if the etiological differences were quite as great as they are there assumed to be. He had known four deaths from diphtheria at a house in North Wales at an elevation of 1000 feet; but an elevated site is no protection against the spread of scarlet fever. It is important to disinfect the clothes or handkerchiefs used by diphtheritic patients; both diseases can be spread by fomites, or by sewer gas, and water may be a medium. The geographical differences are by no means clear. The late Dr. Chuckerbutty was convinced of scarlatina existing in Calcutta: he thought dengue might be only a modification of it. The fatality of diphtheria is not less in hot climates and seasons, while some of the risks of scarlet fever are diminished. Some persons suffer from sore throat on every exposure to scarlet fever, and instances are not wanting of a protective effect resulting after diphtheria. The prolongation of symptoms in diphtheria to six or eight weeks closely corresponds to what is often observed in scarlatina; nor are the sequelæ altogether irregular: we know when and in what order to expect paralytic complications; both diseases are frequently spread by convalescents up to eight or nine weeks afterwards, while they are escaped if the healthy are separated from the sick during the first days of illness. A specific difference is here observable: in scarlet fever three to five days is generally a sufficient period in which to determine whether the disease will appear, and often a much shorter time; diphtheria may also show itself quickly, but it is not uncommon to find an interval of eight days, whereas no such length of incubation for scarlet fever is established.

Dr. Murray remarked that scarlet fever in India was seldom severe, while diphtheria was often fatal. Dengue differed from scarlatina in that it caused no mortality at all.

Mr. Lawson spoke to the existence of both diphtheria and scarlatina at the Cape. We must not suppose diseases first appear in the colonies or abroad when we first hear of them; they are often reported in consequence of attention being at that time drawn to them at home.

Dr. Smart described the distinctive features of dengue. Doubtless many of those suddenly seized with that disease under his observation had previously had scarlet fever at home; he had never met with scarlet fever in hot climates. In the epidemic of diphtheria reported by him in the *Transactions* of this Society, the black races did not escape. The first case he saw was in a black servant, who had visited a neighbouring island where many cases of malignant sore throat and pneumonia had occurred. Some of the convalescents had diphtheritic paralysis, yet until this case attracted his attention the epidemic was not recognised as one of diphtheria.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, January 26.

C. J. B. Williams, M.D., F.R.S., President, in the Chair.

On the Temperature of Phthisis Pulmonalis, and on the various Conditions influencing it.

Dr. C. Theodore Williams read a paper on the above subject. The author, after briefly reviewing the labours of Jochmann, Lebert, Küchenmeister, Ringer, Wilson Fox, and others on the thermometry of phthisis, proceeds to demonstrate the reasons why hitherto no definite laws governing the rises and falls of the temperature in the disease have been discovered; the main point being the comparatively few observations taken per diem, and the acute and exceptional character of the cases under observation. A clinical and pathological account is then given of 104 consumptive patients, inmates of the Brompton Hospital, and therefore subjected to the same equable atmospheric and hygienic conditions, in all of whom the temperature was taken at least five times, and in many of them seven, ten, and twelve times daily, for periods varying from seven to thirty days. The patients were sixty-three males and forty-one females, embracing all acute and chronic forms of the disease except tuberculosis. The temperature were taken for the most part in the axilla, and in some instances, for comparison, in the mouth, by the clinical assistants and by Dr. Williams himself, with thermometers manufactured by the best makers. These observations amount in number to between 4000 and 5000. To ascertain more fully the exact thermometrical phenomena of the disease, and especially the night changes, in twelve cases an hourly record was carried out for twenty-four consecutive hours, and in some instances it was repeated for a second similar period. The state of the pulse, respiration, skin, bowels, and urine was likewise noted; as also the time of meals and the amount of food taken. The cases are classified in the following manner according to stages:—1. First stage, active (where formation of tubercle is taking place). 2. First stage, quiescent. 3. Second stage, that of softening. 4. Third stage, active (with increasing excavation and tuberculisation). 5. Third stage, quiescent (or chronic cavity). The results of the analyses under these headings are then given, and the temperature at each of the hours of observation—viz., 8, 10, and 11 a.m., 2, 5, 8, 10, 11, and 12 p.m., as also the intermediate day temperatures occasionally taken and the night observations. The media, maxima, and minima of each stage were stated, and tables and charts exhibited to explain more fully the methods of calculation and the results arrived at. The influence of the states of consolidation and of tubercle-formation, of softening and of excavation, as well as extension of disease, on the temperature, are dwelt upon, and illustrative instances of each given, the pathological state being proved in many cases by post-mortem examinations. The chief conclusions as to the diurnal temperature of the disease are as follows:—In a large number of chronic phthisis cases the temperature is normal or subnormal, sometimes falling to between 93° and 94° Fahr., a continuity of low temperatures being most marked in the first and third quiescent classes. In pyrexial cases the temperature is seldom very high, 104·6° Fahr. being the highest recorded. In the majority a marked rise takes place after 2 p.m., and a rapid fall occurs after 10 p.m., which continues throughout the night, until its minimum, sometimes as low as 94°, is reached before 7 a.m. A slight recovery is then perceptible, the normal being seldom attained, however, before nine or ten o'clock. This temperature-wave may be shifted a few hours, the rise taking place later in the afternoon, the high temperature being maintained farther on into the night, and the lowering consequently delayed by some hours. Any continuous rise of temperature is followed by a certain amount of collapse, though not always to a corresponding degree. The disease in all its stages shows the post-meridian rise and the nocturnal fall, with the early morning collapse temperatures; and that the latter is a characteristic of phthisis is proved by Dr. Williams' observations on a healthy man (placed under similar conditions to the consumptive patients), in whom the night temperatures did not fall materially below the day ones. The first stage exhibits a more gradual rise and fewer extremes of temperature than the third. In the third stage the temperatures are the highest and the lowest, both afternoon pyrexial and nocturnal collapse being most strongly marked—the one having been known to rise to 104° Fahr., the other to sink to 93° Fahr., thus exhibiting a range of eleven degrees. The second stage shows intermediate thermal features between the first and third stages, active. Tubercle may form, and the various processes of lung-disorganisation may proceed uninterruptedly without apparently causing any considerable rise of temperature, and may even be accompanied by a subnormal temperature, this being probably due to the collapse influence on the constitution. Many of the variations in the phenomena are to be explained by the formation of pus, the liquefaction of adjoining tissues, the imprisonment of the purulent and caseous compounds, and their subsequent evacuation by expectoration. Phthisis has a distinct temperature-course, marked, on account of these changes, by great intermissions, but the idea that in each case it depends on individual idiosyncrasy is founded on imperfect observation. In all cases two principal agencies appear to determine the temperature-course—first, an excessive action of the natural processes by which the body-heat is maintained; secondly, the influence of collapse, proceeding from the well-marked weakening of the constitutional powers in phthisis. These two agencies are continually struggling for the mastery, and the result of this conflict is the temperature-course of the disease. The influence of the first is seen in the rise in the afternoon and evening, well marked in the active forms of all three stages, and regularly recurring day after day for long periods; the influence

of the second being shown in the rapid nocturnal fall and low temperatures of early morning. The collapse influence is also seen in the subnormal day temperatures occasionally occurring in all stages of the disease, and even where the active processes of lung tuberculisation, of softening, and of excavation may be taking place. It is, however, chiefly noted in the quiescent forms of the first and third stages. When low temperatures accompany active forms of the disease, it is probable that the collapse influence is stronger than the pyrexial, and therefore masks it. When the chart shows occasional fitful variations, these agencies are perhaps evenly balanced, and may alternately prevail, as is witnessed in the end temperatures of consumption; and to these deviations, noticed in advanced cases, may be ascribed the prevailing, but erroneous, opinion of phthisis having no definite temperature-courses. The author concluded with a careful comparison of weights of the above patients, with their temperatures, and made some deductions therefrom.

Dr. Wilson Fox said that the profession must be much indebted to anyone who would take such trouble in the recording of temperatures as Dr. Williams had done. For some years he had attemped the same thing; but he had not yet made an analysis of the results. The fact as to the morning and evening temperatures was generally known. What was wanted was, to know at what hours the temperature could be taken with the greatest accuracy. It appeared that the highest evening temperature was at 5 p.m.; but there seemed to be this difficulty, that on no two days at the same hour was the temperature alike. For instance, the temperature at 8 a.m.—the lowest—might be in successive days 97°, 98°, 99°, and 100°, and at 2 or 3 p.m. it might be 101°, 102°, or 103°. These facts must influence our ideas as to treatment; they must show that the use of therapeutic agents (excepting the cold bath) must be guided by the vitality of the patient rather than by the thermometer. Phthisis was one of the exhausting diseases; chronic suppuration was another. In a case of chronic suppuration following delivery, the extreme variation of temperature was 10°. He believed that Dr. Burdon-Sanderson regarded great variations in temperature as indicative of suppurative fever. He thought that it was not the existence of pus, but the process of its formation, that led to pyrexia. The more that inflammatory processes tending to destruction took place, the more frequent were the variations of temperature. There was, however, an exception to this in pneumonia. It was not yet possible to give the reasons for the variations in individual cases; but Dr. Fox believed that at some future day this would become possible.

Dr. Douglas Powell objected to Dr. Williams' view of the unity of phthisis in all its forms. He thought that a more useful classification could have been made than that into stages. Taking the first and second stages together, anyone who had studied the subject carefully, as Dr. Williams had done, must be struck with the different ways in which the disease commenced. When cases of all kinds were mixed, the mean results obtained were less valuable than they would be if a classification were made. The observations of Dr. Williams as to evening temperatures were of much value; the great fact, however, which had come out, was the great fall of temperature in the early morning hours; and this would probably be of much importance in treatment. This fall must be due, he thought, to exhaustion; it might, perhaps, be avoided by feeding the patient by night. He asked whether Dr. Williams had made any observations as to the effect of food in modifying the fall of temperature. It had been suggested that the best plan of preventing night-sweats was to feed the patients. The most striking facts were those observed in the third stage; it was towards the end of the disease that the physical signs merged into one kind.

Dr. Drysdale had observed, in the North London Hospital for Consumption at Hampstead, that for a month or two at a time almost every patient increased in weight, no matter what their temperature might be. He agreed very much with Dr. Williams in his objections to Niemeyer's doctrine of the varieties of phthisis. The only variety that he sometimes met with was one which he attributed to syphilis. He thought that in miliary tuberculosis the temperature would be high in proportion to the number of tubercles.

Dr. T. H. Green asked whether the pyrexia in the third stage was due to disintegration and softening, or to the presence of the first stage of the disease in some other part of the lung. He believed that the latter was the cause. He asked also whether the thermometer would indicate the occurrence of an infective process in phthisis.

Mr. Herbert Page said that the curves of temperature in the first stage of phthisis resembled what was seen in surgical cases, where the occurrence of suppuration was marked by similar variations.

Dr. Leared asked whether the observations on temperature would assist in the diagnosis of the stages of phthisis.

Dr. Symes Thompson said that previous observers found that phthisical patients presented idiosyncrasies which rendered thermometric observations futile as regarded treatment. He thought that it had been proved that quinine was a powerful agent in keeping down a high elevation of temperature; but how far real good was done by preventing a rise of temperature, was another question.

Dr. Curnow had taken the temperatures of several of Dr. Thompson's patients in the Brompton Hospital by day and by night. There was great difficulty in finding the averages, although the temperatures touched at certain parts of the day. In some cases complicated with diabetes there was no rise of temperature. With regard to the influence of the formation of pus, similar fluctuations of temperature were observed in cases of softening of the brain after embolism. Hence, the formation of pus did not sufficiently explain the variations of temperature. The same was the case in separation of fibrin in the blood, leading to metastatic abscesses.

Dr. Theodore Williams thanked the Society for the careful criticism which his paper had received, and for the suggestions given, which he would not fail to lay to heart in his future work. In reply to the various speakers, he stated that, though it was true that it had been known that morning temperatures were lower than evening in consumption, the exact temperature-course, with its variations, was now depicted for the first time, with its remarkable afternoon rise, and still more striking nocturnal fall. As to irregularity of temperatures taken at the same hour, this was not more the case in phthisia than in health, where the observations varied considerably; but variations of this kind in phthisis were sometimes to be explained by a shifting of the whole temperature-course by an hour or so. He was strongly of opinion that the chart of third stage, active class, was typical of suppuration; and various speakers had strengthened this conclusion by adducing evidence from other suppurative diseases, medical and surgical. The low temperature of the early morning was due to exhaustion, and might possibly be avoided by feeding the patient through the night; but his observations on this point were not yet complete. Whether the local infective process in the lung from a caseous centre could be detected by temperature, he could not tell; but, in several instances where general infection of the system had taken place, it had been characterised by a chart resembling pyæmia. He was aware of his classification being rather too simple; but, the results of investigations on this point having been confirmatory of the unity of phthisis, he preferred a few distinct classes, with well-marked features, to a number of small divisions hardly to be distinguished from each other. The thermometer might sometimes detect the formation of tubercle before physical signs did; but, on the other hand, tubercle might form without any rise or fall of temperature. The best hours for clinical records in phthisis were: for the low temperatures, from 3 to 6 a.m.; for the high, from 5 to 8 p.m.

CLINICAL SOCIETY OF LONDON.

Friday, January 22.

George W. Callender, F.R.C.S., Vice-President, in the Chair.

Owing to the absence of Sir W. Jenner at Osborne House, the newly elected President was unable to take the chair, which was accordingly, for the time being, filled by Mr. Callender.

Periostitis Relieved by Incision.

Mr. Prescott Hewett exhibited a patient who had been under his care with periostitis of the humerus. The patient was a railway porter, aged forty-six, who had always enjoyed good health. As a young man he had contracted a chancre, but this was not followed by secondary symptoms. He had never had any accident. For some time previous to his coming under observation he had suffered from pain in the right arm, which he had attributed to rheumatism; but he had had no symptoms of rheumatism in any other part of the body. Six years ago he began to suffer from intense pain in the right

arm, especially at night, and this was followed by the appearance of a swelling on the outer side of the middle of the arm. This had continued for two years, when he came under the care of Mr. Hewett. There was then found to be a mass as large as the fist, and as hard as ivory, spreading along the bone from the point of insertion of the deltoid muscle, firmly connected with the bone, from which it could not be moved. The diagnosis was made that the case was one of periostitis, with effusion of lymph spreading into the sheath of the deltoid muscle. He was ordered iodide of potassium—thirty grains three times a day—but without any effect beyond the fact that the pain appeared to be somewhat lessened occasionally, and then returned with renewed vigour. After a few months of this treatment, as no relief was afforded, he was admitted into St. George's Hospital, and, under the influence of chloroform, a free incision was made through the whole thickness of the tumour down to the bone. The mass was excessively hard, so that the knife was quite blunted by the operation; in fact, the tissue cut through resembled a piece of dense fibro-cartilage. From this time the pain entirely disappeared, and the swelling gradually decreased. There was now only a little lateral thickening about the bone; the movements of the shoulder-joint were, however, impaired, and there was a certain amount of fibrous anchylosis of the elbow-joint. Some mobility which was apparently left at the shoulder was due to the motion of the scapula upon the trunk. The patient was able to follow his occupation as porter, and could lift as much as a hundredweight. He had remained entirely free from pain, and had gained flesh.

Mr. Callender said that the late Mr. Stanley laid great stress on cutting down to the bone when there was chronic enlargement, much pain, and other signs of deep-seated inflammation. This would lead to the belief that the pain was mainly due to tension. In his own researches he had found that exostoses often grew from the ridges in which muscles were inserted. This he thought might arise from some irritation connected with the muscles tending to new growth of bone.

Mr. Holmes remarked on the difficulty in diagnosis in this case, which he saw in St. George's Hospital. Mr. Holmes had seen similar cases in children, and there amputations at the hip had been discussed. One case was on record where a surgeon had amputated for a syphilitic affection of the joint. Early amputation was thus not desirable in such cases.

Dr. Buzzard said that frequently when doses of ten grains of iodide of potassium did no good, doses of twenty, thirty, forty, or even more, given every four hours, did speedy good.

Mr. Barwell had seen a case where the knee was injured by a fall. The patient became able to move about, but an exostosis developed at the tubercle of the patella, which was growing when last seen.

Mr. Callender mentioned a similar case. A gentleman had sprained his arm. When seen the whole arm was swollen and œdematous. He would have thought seriously of the case had the gentleman not recovered from the same kind of thing formerly. He gave iodide of potassium, and recovery soon followed.

Mr. Hewett had broken down several anchylosed elbow-joints, but none succeeded; they all became stiff again. The shoulder-joint and its surrounding parts might become so altered as to permit of a fair amount of movement. The dose of iodide of potassium given was thirty grains three times a day.

Subperiosteal Excision of the Os Calcis.

Mr. Holmes brought forward a case, which had been performed as nearly as possible after the method prescribed by M. Ollier. The patient was a boy, aged fourteen, and the operation was performed on January 31, 1874, by a curved incision carried down the external inferior border of the calcaneum and along the external margin of the os calcis. The only tendon which was divided was the tendo Achillis, which was turned away from the bone along with the periosteum. The bone was removed, perfectly free from soft structures, except on the inner side, where some of the periosteum was necessarily taken away with the bone. The case was a very favourable one for the operation; but a good deal of difficulty was experienced in performing the excision, and the operation was followed by great inflammatory reaction, and ultimately, though the boy recovered well, the ankle-joint and the transverse tarsal joint, as well as could be ascertained, were found to be anchylosed; and the use of the foot was not so good as in other cases which had been under the care of the author, in which no care had been taken to preserve the periosteum. The patient had been exhibited to the Society at the last meeting. Mr. Holmes remarked that in a former case in which he had followed M. Ollier's rules in the subperiosteal excision of the elbow, he had found the result inferior to that obtained by the ordinary method in the most successful cases.

Mr. Barwell referred to a case of subperiosteal resection of the hip where Mr. Sayre assisted. When tried on the knee, anchylosis appeared before the wound closed. The bad result in Mr. Holmes's case was probably due to the suppurating cavity formed by the periosteum.

Mr. Haward had operated on the elbow-joint of a girl in this way. The bone was diseased a long way up and down, and there was great difficulty in saving the periosteum. The subsequent inflammation was not very great, and ultimately she recovered much mobility in the joint.

Mr. Callender agreed that this method was not likely to succeed with the elbow, because the bone was carious in most cases, and the periosteum changed in important respects; and again, only a small amount of periosteum covered the exposed part of the humerus. Mr. Hilton's plan of elevating the extremity before operating was hardly the same as Esmarch's method, though identical in practice.

Mr. Holmes thought it unnecessary to cut so low down as in Sayre's operation on the hip-joint. There was a good deal of periosteum on the olecranon, and the bone developed from it might prove troublesome. Neither for the elbow or os calcis did the subperiosteal operation advantage anything.

Optic Neuritis, with Complete Loss of Vision: Recovery under Treatment.

Dr. Thorowgood read notes of the case. Kate G., aged twelve, was admitted into the West London Hospital, October 23, 1873. The history, taken by Mr. Blackman, the clinical clerk, was as follows:—Patient had had, five weeks previously, a pain at the lower part of the back from a blow against a desk. Liniment was used; and in a short time this pain left her. Shortly afterwards, a pain came at the back of her neck, with tenderness, swelling, and stiffness on movement. For this she saw Dr. Thorowgood, who gave her a belladonna and mercury liniment, which she used, and the pain and stiffness went away. A week after this she noticed a fog before her eyes, which gradually increased, till in a week vision was perfectly lost in both eyes. She was now admitted to the hospital. No sign of disease or injury of spine could be detected. She could just discern between light and shade. October 24: Mr. Bowater Vernon examined her eyes with the ophthalmoscope. Optic discs swollen, with irregular outline; veins engorged, and obscured in places; whole fundus oculi paler, and more yellow than normal. No hæmorrhage. The same description applied to both eyes. She was not feverish; organs of chest healthy; no albumen in urine. Two leeches applied to temples, and three grains of hydrargyrum cum cretâ given every three hours. October 28: Much the same; to have thirty minims of liquor hydrargyri perchloridi three times daily in decoction of bark. Leeches repeated to temples. November 1: Mr. Vernon examined the eyes again. Right optic disc much swollen; its outline completely obscured. Fundus ashen grey in colour. Left eye had surface of disc marked by apparently numerous small vessels. Under treatment with iodide of potassium, and then liquor strychniæ with iron, this patient improved; and on December 23, 1873, was seen as out-patient, and able to read well. January 22, 1875: Seen again, and vision, tested by Mr. Vernon with Snellen's type-board, was declared normal. Left eye rather better than right, which was, perhaps, not quite up to normal range. Optic discs looked pale and anæmic. In commenting on the case, Dr. Thorowgood said that Mr. Vernon considered the case one of true optic neuritis, not a mere congestion from impeded return of blood to the sinuses. The question was, had the spinal pain any connexion with the neuritis? In cases of loss of vision due to spinal disease, atrophy of disc might be expected from the great sympathetic being involved. The present case seemed one of basic meningitis extending and involving the optic nerves. Meningitis might be very insidious in its progress, and might do much mischief if not controlled by treatment. The present case showed the value of the ophthalmoscope in detecting meningitis, and so guiding to a plan of treatment by local depletion and mercurial medicines, which proved very successful.

OBITUARY.

BENJAMIN HANDS, F.R.C.S.

It is with deep regret we have to record the death of this gentleman, which took place on January 6, at Sydenham, whither he had retired, after having practised for upwards of forty years in Hornsey, where he held the appointments of District Medical Officer and Medical Assistant of the Royal Humane Society. His loss will be deeply deplored by his former patients and a large circle of friends, to whom he was endeared by his faithful and conscientious discharge of duty, together with his amiability of disposition and high moral rectitude.

WILLIAM JAMESON, M.D. Glasg.,

Fellow and ex-President of the Royal College of Surgeons, Ireland.

For the third time within one short month it becomes our melancholy duty to chronicle the death of a distinguished surgeon of the Dublin School. Francis L'Estrange, Robert Adams, and now William Jameson, have passed away since the new year dawned. All three were eminent in their profession, and all three died in a good old age amidst the sorrowful regrets of a wide circle of friends. Dr. Jameson, died, aged seventy-two years, on Monday, the 1st inst., at his residence, 68, Harcourt-street, Dublin. He had been for some time back in failing health; ultimately, we believe, symptoms of diabetes appeared, and to this malady he succumbed. Jameson became a Licentiate of the Royal College of Surgeons, Ireland, in 1829, and proceeded to the Fellowship in 1833. At an early period of his career he devoted his attention principally to midwifery. He became Master of the Coombe Lying-in Hospital, and Lecturer on Midwifery and Diseases of Women and Children in the Dublin School of Medicine and Surgery, Parkes-street. He afterwards lectured on Practice of Surgery and Anatomy in this School. He soon obtained the surgeoncy to Mercer's Hospital, and was appointed Examiner in Anatomy, Physiology, and Midwifery at different times in the College of Surgeons. In 1861 he was chosen President of the College, having, as is usual, served as Vice-President in the preceding year. Dr. Jameson's contributions to practical surgery were not very numerous, but amongst them were some papers of extreme value. Here we would mention but two—an article on "Strangulated Femoral Hernia," which appeared in the *Medical Press* (1847); and an admirable paper entitled "Observations on Œdema of the Glottis, occasioned by the Attempt to Swallow Boiling Water," illustrated by thirteen cases. This monograph is to be found in the *Dublin Quarterly Journal*, February, 1848, page 59, and is as valuable to-day to the practical surgeon as it was when it originally appeared.

MEDICAL NEWS.

Royal College of Physicians of London.—The following gentleman was admitted Fellow on January 28, viz:—

Hunter, William Guyer, M.D. Aber., India.

The following gentlemen were admitted Members, viz:—

Corbould, Francis John, M.D. Aber., Reigate.
Coupland, Sidney, M.D. Lond., 33, Elsham-road, W.
Dukes, Clement, M.B. Lond., Rugby.
Elliott, George Frederick, M.D. Dub., Hull.
Evershed, Arthur, 8, Belle Vue, N.
Gowers, William Richard, M.D. Lond., 50, Queen Anne-street, W.
Hunt, Benjamin, M.D. St. And., Edgbaston, Birmingham.
Mackey, Edward, M.D. Lond., Birmingham.
Stretton, William Harris, M.D. St. And., St. Bartholomew's Hospital, E.C.

The following gentleman was admitted Licentiate, viz:—

Edwards, Roger, University Hospital, W.C.

Royal College of Surgeons of England.—The following gentlemen, having undergone the necessary examinations for the diploma, were admitted Members of the College at a meeting of the Court of Examiners on the 28th ult., viz.:—

Balshaw, Edward Pass, Bayswater, student of St. Mary's Hospital.
Basham, William Richard, Aldershot, of the Westminster Hospital.
Champneys, Francis Henry, B.A. Oxon., Lichfield, of St. Bartholomew's Hospital.
Cumming, Hugh Gordon, Exeter, of St. Bartholomew's Hospital.
Edwards, Roger, L.R.C.P. Lond., Dolgelley, North Wales, student of University College.
Footner, John Bulkley, Romsey, Hants, of King's College.
Gonsalves, Manoel Martinho, L.S.A., Cambridge-terrace, Hyde-park, of St. Mary's Hospital.
Hart, George Henry, Birmingham, of the Birmingham School.
Harvey, William Yeo, Rutland-street, of University College.
Hastings, George, Brixton, of St. Bartholomew's Hospital.
Lovett, Henry Albert, Norwich, of Guy's Hospital.
Peck, Awdry, Bath, of University College.
Smailes, Thomas, Pickering, Yorkshire, of the Leeds School.
Smalley, Herbert, Grays, Essex, of King's College.
Spooner, Frederick Henry, Plymouth, of St. Bartholomew's Hospital.
Wharry, Robert, Charlton, Kent, of St. Bartholomew's Hospital.

The following gentlemen were admitted Members on the 29th ult., viz.:—

Kempe, John Arthur, Exeter, student of University College.
Lane, Levi Cooper, M.D. Jeff. Coll. Philad., of San Francisco, California.
North, Henry, Winchester, of St. Thomas's Hospital.
Pitts, Bernard, B.A. Cantab., Northampton, of St. Thomas's Hospital.
Tonge-Smith, Winckworth, Jamaica, of University College.

The following analysis will, perhaps, be read with some interest:—Of the 110 candidates examined, sixty-five obtained the diploma, and twenty-nine, having failed to acquit themselves to the satisfaction of the Court of Examiners, were referred to their professional studies for six months. Of those who went in for Surgery only there were eleven candidates, eight of whom passed. Of the others, eight were approved in Surgery but referred in Medicine, and five approved in Medicine were referred in Surgery. Of the medical licences held by candidates there were seventeen "L.S.A.'s," "L.R.C.P. Edin. and L.S.A. Lond.," 3; "L.R.C.P. Edin.," 3; "L.R.C.P. Lond.," 2; "L.K. & Q.C.P. Ire." 2; "M.D. Queen's Univ., Ire.," 1; "M.B. Toronto," 1; and "M.D. Jeff. Coll. Philad." 1.

Apothecaries' Hall, London. — The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, January 28:—

Barrow, Arthur Haynes, Denbigh-place, Pimlico.
Bowker, Edward Harwood, Chesterfield, Derbyshire.
Gonsalves, Manoel Martinho, St. Mary's Hospital.
Lacy, Alexander Gairdner, Guernsey.

The following gentleman also on the same day passed his primary professional examination:—

Neylan, John, London Hospital.

At the Preliminary Examination in Arts held at the Hall on January 29 and 30, 51 candidates presented themselves, of whom 26 were rejected, 1 retired, and the following 24 passed, and received certificates of proficiency in general education, viz., in the first class, in order of merit:—

First: Charles Matthias Lamb. Second: Annie de la Cherois. Third: Henry Hinds Austen. Fourth: Knowlson Townsend. Fifth: Charles Graham Havell.

In the second class, in alphabetical order:—

H. K. Bamber, John Cock, J. C. Culling, W. H. Day, T. Dutton, C. H. Fowler, G. C. Hamilton, H. Hawksworth, Joseph King, R. J. Oswald, H. R. Powell, G. W. Roberts, G. S. Robinson, F. H. Saunders, E. W. Shepard, John Smith, H. Tause, Jane Waterson, and A. G. Whitmore.

Apothecaries' Hall, Dublin.—At the professional examinations held in January, 1875, the licence to practise Medicine and Pharmacy was granted to—

Cuffe, George Michael. | Nichols, John Moore.

At the preliminary examination in Arts, held on Thursday, January 21, the following candidates were successful:—

Boland, Patrick Joseph.
Burland, Benjamin.
Butler, Matthias.
Cohen, Michael Joseph.
Donaldson, John.
Hayes, John Joseph.
Leinham, Patrick Joseph.
O'Dwyer, James.
Ralph, Richard Michael.
Wall, Charles.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

Goodhart, James F., M.D., L.R.C.P., M.R.C.S.—Physician to the Out-patients at the Evelina Hospital for Children, Southwark-bridge-road, *vice* Dr. F. Taylor, appointed Physician to the In-patients.

Taylor, Frederick, M.D., M.R.C.P., M.R.C.S.—Physician to the In-patients at the Evelina Hospital for Children, Southwark-bridge-road, *vice* Dr. Hilton Fagge, resigned.

MILITARY APPOINTMENTS.

War Office—Medical Department.—Surgeon-Major Charles Gray retires upon temporary half-pay; Surgeon-Major William George Swan, M.D., is removed from the service, the period for which he was placed on half-pay having expired; Surgeon Alexander Johnston, M.D., to be Surgeon-Major, *vice* Joseph Gray, retired upon temporary half-pay.

BIRTHS.

BENT.—On January 29, at Oat Hall, Lindfield, Sussex, the wife of John F. V. Bent, M.D., of a daughter.

COX.—On January 31, at Sutton, Surrey, the wife of William Alfred Cox, M.R.C.S., L.S.A., L.M., of a son.

CURGENVEN.—On February 1, at 40, Friar-gate, Derby, the wife of William Grafton Curgenven, M.D., of a daughter.

DALTON.—On December 28, 1874, at Haslington House, Demerara, the wife of Henry Dalton, M.D., of a daughter.

GROSE.—On January 22, at Westbourne, Melksham, Wilts, the wife of S. Grose, F.R.C.S., Staff-Surgeon R.N. (retired), of a daughter.

HATCHELL.—On January 18, at Burslem, Staffordshire, the wife of F. H. Hatchell, L.R.C.S.I., of a daughter.

POCOCK.—On January 30, at 374, Brixton-road, S.W., the wife of Edward Pocock, M.R.C.S., of a daughter.

MACKAY.—On January 28, at 22, Clifton-road, St. John's-wood, the wife of Alexander E. Mackay, M.D., R.N., F.R.C.P., Deputy Inspector-General of Hospitals and Fleets, of a daughter.

SWAN.—On January 24, at Northleach, Gloucestershire, the wife of R. Jocelyn Swan, M.R.C.S., of a son.

THOMPSON.—On February 2, at 3, Upper George-street, Bryanston-square, W., the wife of E. Symes Thompson, M.D., F.R.C.P., of a son.

MARRIAGES.

PEACOCK—OGILVIE.—On January 21, at SS. Mary and Eanswith, Folkestone, Henry Peacock, R.N., M.R.C.P., F.R.C.S. Eng., late of the Royal Dockyard, Chatham, of Albion House, The Spa, Gloucester, to Lucy Jemima, youngest daughter of the late John Ogilvie, Surgeon R.N., of Boughton-under-Blean, Faversham, Kent.

SELFE—ROGERS.—On December 28, 1874, at All Souls Church, Coimbatore, East Indies, Sydney G. F. Selfe, Lieutenant Royal Artillery, fourth son of the late Henry Selfe Selfe, metropolitan police magistrate, to Marie Kenerley Edith, second daughter of Surgeon-Major Charles James Rogers, Zillah Surgeon, of Coimbatore.

WRIGHT—LYON.—On January 28, at St. George's, Hanover-square, John Robert Wright, of the Inner Temple, barrister-at-law, and of the Middle Temple, only son of Frederick Wright, Esq., of Eridge House, Fulham, to Mary Ann Elizabeth, only surviving child of the late Charles Collier, M.D., F.R.S., Deputy Inspector-General of H.M.'s Hospitals, and widow of James Tennent Lyon, Esq.

DEATHS.

ARCHER, MARIA ELIZABETH, wife of George Archer, L.S.A., of Feltwell, Brandon, Norfolk, and daughter of the late Captain Joseph Hammont, of Pettistree, Suffolk, on January 28, aged 62.

HANOS, BENJAMIN, F.R.C.S., formerly of Hornsey, Middlesex, at Kirkdale Lodge, Sydenham, on January 6, aged 78 years.

NOTT, MARY, widow of John Neale Nott, Captain R.N., eldest daughter of the late Sir William Burnett, M.D., K.C.B., at The Treasury, Chichester, on January 28.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

HAILSHAM UNION.—Medical Officer for the Parish of Heathfield. Candidates must be duly qualified. Applications, with testimonials, to the Chairman of the Board of Guardians, Board Room, Union Workhouse, Hellingly, before March 8.

KENT AND CANTERBURY HOSPITAL, CANTERBURY.—Dispenser and Assistant House-Surgeon (one office). Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before February 12.

KILBURN DISPENSARY.—Assistant Resident Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to the Honorary Secretary, 33, Boundary-road, N.W., on or before 5 p.m. on Monday, February 8.

NORTH WALES COUNTIES LUNATIC ASYLUM, DENBIGH.—Assistant Medical Officer. Candidates must be unmarried, and possess a knowledge of the Welsh language. Applications, with testimonials, to the Chairman of the Committee of Visitors, on or before February 17.

PAISLEY INFIRMARY.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to Mr. Wm. Hodge, Writer, Paisley, on or before February 6.

ROYAL FREE HOSPITAL, GRAY'S-INN-ROAD, W.C.—Two Junior House-Surgeons. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before February 10.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, CITY-ROAD, E.C.—Physician. Candidates must be F. or M.R.C.P. Applications, with testimonials, to the Secretary, on or before February 15.

ROYAL INFIRMARY FOR CHILDREN AND WOMEN, WATERLOO-BRIDGE-ROAD, S.E.—Physician. Candidates must be M.D. and M.R.C.P. Applications, with testimonials, to the Secretary.

SALOP INFIRMARY.—Assistant House-Surgeon. Applications, with testimonials, to Secretary.

SEAMEN'S HOSPITAL, GREENWICH.—House-Physician. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before February 22.

UNIVERSITY COLLEGE HOSPITAL.—Resident Medical Officer. Applications, with testimonials, to John Robson, B.A., on or before February 13.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Alderbury Union.—Mr. F. C. Bennett has resigned the Fourth District; area 17,586; population 3140; salary £60 per annum. Also the Workhouse; salary £40 per annum.

Brampton Union.—Mr. A. Thom has resigned the Union; population 10,673; salary £35 per annum. Also the Workhouse; salary £15 per annum.

APPOINTMENTS.

Blything Union.—Joseph Packard, M.R.C.S. Eng., L.S.A., to the Seventh District.

Hackney Union.—James H. Turtle, M.R.C.S. Eng., L.S.A., to the Second District.

Liverpool Parish.—Wm. Alexander, M.D., M.C. Queen's Univ., to the Workhouse.

Woodbridge Union.—Walter M. Dunlop, B.M. and M.C. Univ. Glasg., to the First and Second Districts.

STAFF-SURGEON COLAN, M.D., has been appointed Senior Medical Officer of the Arctic Expedition.

THE Museum of the Royal College of Surgeons contains a series of casts of the interior of the cranial cavity, representing exactly the form and size of the brain (when covered by its membranes), of men of various races, and of many species of animals. With a view to diffuse the information to be derived from the study of these casts, and believing that many educational institutions will be glad to avail themselves of the opportunity of possessing them, the Council of the College has authorised the issue of copies at the lowest price at which they can be reproduced, which will partly depend upon the number likely to be required. The Conservator of the Museum would like those who desire to possess the whole or part of the series, which comprises many rare forms, to communicate with him on the subject.

MEDICAL LECTURES AT ROME.—In consequence of the students at the School of Medicine in Rome having expressed regret for the disturbances which recently took place, the Minister of Public Instruction has ordered the resumption of the courses of lectures.

THE HAMPSTEAD HOSPITAL.—The Permanent Committee of the Residents of Hampstead have offered an additional piece of land, immediately contiguous to the new site offered the week before last, to the Metropolitan Asylums Board, for the site of the new Hampstead Fever Hospital.

HOSPITAL SUNDAY IN SHEFFIELD.—On Sunday last collections were made in the various churches and chapels in Sheffield in aid of the local hospitals and dispensaries. The amount already announced exceeds £1700, which is within £100 of the total sum realised last year.

OBSERVATIONS ON THE URINE.—Dr. Rabuteau, as the result of 157 observations made on himself during the years 1867-70, comes to the conclusion that the urine in individuals in the normal condition, and pursuing a regular regimen, is not excreted in larger quantities during winter than during summer. It is eliminated in larger quantities during winter only in persons who drink without thirst, especially those who abuse alcoholic drinks. The normal quantity of urine passed daily is stated by different authors in very divergent terms, and Dr. Rabuteau states the results of more than 3000 examinations of the urine passed in the twenty-four hours which he has made,—the observations having been made on persons in good health, not under the influence of medicines, and pursuing their ordinary regimen. He believes that 1200 grammes, or approximatively 1175 cubic centimetres, may be taken as the average quantity. The mean is somewhat less in young adults, the quantity eliminated being greater between thirty and forty than between twenty and thirty, as it also is in persons of high stature.—*Gazette Médicale*, January 30.

UNIVERSITY INTELLIGENCE.—An examination for three minor scholarships will be held in Downing College on Tuesday, April 6 next, and the three following days, and will begin at 9 a.m. on Tuesday. The examination will be in classics, elementary mathematics, law, and natural sciences. There will be two papers in law—one on jurisprudence and elementary Roman law, and one on international law; including the relations of these to moral science. The examination in natural sciences will include chemistry (theoretical and practical), physics, comparative anatomy, and physiology. Candidates in law and natural sciences will be expected to show such a knowledge of classics and mathematics as will enable them to pass the "previous" examination. Persons who have not been entered at any college in the University, or who have not resided one entire term in any such college, are eligible to these minor scholarships, which will be of the value of £60 per annum, and tenable for two years, or until their holders are elected to foundation scholarships. No one elected minor scholar will receive any emoluments until he has commenced residence as a student of the College. Satisfactory testimonials

as to moral character must be sent to the Master by all candidates on or before Thursday, April 1, and each candidate is requested to state in which subjects he desires to be examined. Further information will, if required, be given by John Perkins, Esq., Tutor of the College.

VAGINISMUS.—It has been recommended to treat it by the same means as a fistula in ano, but this I consider as a very bad procedure. It would be preferable to pursue a sedative and anti-spasmodic treatment; and the employment of bromide of potassium, as recommended by Raciborski, seems more rational and efficacious. But the treatment of vaginismus is really extremely difficult, for we often have to do with patients of extreme delicacy and susceptibility, and in some cases the physician hardly dares to intervene. It is a more common affection than is generally believed. I have reached an age when one receives these kinds of confidences, and I receive many of them. I do not believe that vaginismus is due to any narrowness of the organs, but rather to a feeling of fear at the moment of introduction, which prevents dilatation. There are an enormous number of women, highly distinguished in the world, who have never undergone coition. For this there are sometimes reasons, as when men are devoid of the delicacy and preliminary attentions, persons devoid of all tact, and who seek to enter without knocking at the door. I do not insist on this subject, which is a very delicate one; but I repeat that vaginismus is often caused by the brutality and clumsiness of the husband; and persons who have nervous and impressionable wives to deal with cannot be too strongly recommended to surround the conjugal act with every possible precaution. All has not yet been said on vaginismus, and it forms an important subject for study. It is, however, a somewhat difficult one, especially for a young man.—Dr. Lorain, *Gaz. des Hôp.*, January 26.

LECTURES AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Professor Prosser Flower, F.R.S., commenced his course of six lectures on Dermatology in the theatre of the Royal College of Surgeons on Monday last. The following is his programme, viz.:—General classification of diseases of the skin under three heads—inflammation, nutrition, and innervation. Preceding courses devoted to diseases of inflammation and part of those of nutrition. Diseases of nutrition are—dystrophic, atrophic, and hypertrophic. Dystrophic affections include—lepra, struma, lupus, lymphoma, xanthoma, and epithelioma. Atrophic affections—dermatoxerasia, ichthyosis, sauriosis, striæ atrophicæ, morphœa, and scleriasis. Dermatoxerasia, its relations with ichthyosis and sauriosis; therapeutic considerations. Striæ atrophicæ, morphœa, and scleriasis; their pathology and therapeutic treatment. Hypertrophic affections—verrucæ, horns and concretions, corns, angeioma or vascular nævus, areolo-fibroma, areolo-fibrous tumours, and fibrous tumours. Verrucæ, their pathology; pathology of horns and concretions; therapeutical treatment of verrucæ; pathology of corns and their treatment; pathology and treatment of angeioma. Pathology of areolo-fibroma; the Bosjeman; remarkable cases of dermatolysis; hypertrophic nose; spargosis; bouenemia; elephantiasis arabum, therapeutic management. Areolo-fibrous tumours—acrochordon, spilus or tegumentary nævus, molluscum, fibrous tumour, cheloma; therapeutic considerations. Diseases of innervation—pruritus, prurigo, neuropathic excoriations, hæmorrhagic stigmata; illustrative cases: Louise Lateau's case. Hyperæsthesia; anæsthesia. On Monday, the 15th inst., Professor Parkes, F.R.S., will commence his course of eighteen lectures on the Structure and Development of the Skull, in continuation of his course of last year. Professors Lee and Turner will not commence their several courses until June next.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—Bacon.

Dr. Hugh Macdonald.—Letter (with enclosure) received.

Mr. Horatio Stokes.—Letter (with enclosure) received.

Dr. De la Porte.—Letter (with enclosure) received.

Dr. A. Florance.—Letter (with enclosure) received.

N. McD., Bristol.—We are sorry to say that the individual referred to is a member of the profession, little though this might be supposed from his conduct.

J. M. A., Poets' Corner.—That celebrated poet, the Rev. George Crabbe, was a member of our profession, and served an apprenticeship to Mr. Page, a surgeon at Woodbridge, seventeen miles from Aldborough, Suffolk, where he was born.

Mr. E. C., Guy's Hospital.—Doubtless you mean John Belchier (of whom there is a portrait and bust in the Royal College of Surgeons), who is said to have "made a large fortune, but, seeing the vanity of all earthly riches, desired at last to be buried in Guy's Hospital, with iron nails in his coffin, and this to be filled with sawdust."

Sir Walter Raleigh.—It is said that Sir Theodore Mayerne took lessons from this great man in medicine.

H. B., St. Bartholomew's.—No more examinations at the College of Surgeons until April next. Write to Mr. Trimmer or Mr. Stone.

G. J. G.—The Hunterian Oration will be delivered on Saturday, the 13th instant. Members only, with the exception of a few favoured visitors, are admitted. Make application to the Secretary.

M.D., Epsom.—We cannot give you the desired information, but perhaps the following epitaph will assist you:—

> "Here lies I, and my three daughters,
> Killed by a-drinking of the *Cheltenham* waters.
> If we had stuck to *Epsom* salts,
> We'd not been lying in these here vaults."

Senex.—Dr. Nathaniel Hulme obtained, in 1787, a gold medal from the Royal Medical Society at Paris for an answer to a prize question concerning the cellular skin of new-born infants.

T. P. P.—The Ophthalmic Infirmary, Moorfields, was founded in 1804.

Ewyn.—1. September 30, 1842. 2. The Egyptian medical practitioners were under the control of the State, and doctors who departed from the prescribed methods of treatment were guilty of a capital offence in the event of their patients' decease.

Lewis C. N.—Dr. Samuel Fourt Simmons was elected Physician to the Westminster Dispensary in 1780, which situation he resigned on his appointment to St. Luke's Hospital. In 1811 he retired from St. Luke's, and for his services was elected a governor of that institution. He died in 1813. He was editor of the *London Medical Journal*.

A. R., M.D., Molong, New South Wales, is thanked for his communication. We can sympathise with him; for the conflict between medicine and law respecting the definition and recognition of insanity, and on the responsibility of alleged criminals, is by no means at an end yet in the mother country. But his paper is not suited for our columns, as the cases and facts used to support and illustrate his arguments are quite unknown to our readers in this country.

Corrigendum.—At the meeting of the Medico-Chirurgical Society, when yellow fever was under discussion, Dr. Fayrer said he *did* believe in a specific contagious continued yellow fever prevailing at times within certain latitudes, and liable to be conveyed even beyond its usual geographical limits, but that it is unknown in India, notwithstanding that all the physical conditions generally considered essential to its development exist in that country; that malarious remittent fever in the Terai and other parts of India sometimes assume an appearance very like the *true* yellow fever, but that they are nevertheless quite distinct from that disease; that malarious remittent fevers have at times in India, from insanitary conditions, overcrowding, etc., assumed what has been regarded as a contagious condition, but that there is no sufficient reason for believing that they are identical with the yellow fever as it is seen in the West Indies, or that they are other than modified forms of malarious fever; that albuminuria is not peculiarly the characteristic of yellow fever, but that it also occurs—and probably more frequently—in malarious fever than is sometimes supposed.

A QUESTION FOR THE WISE.

TO THE EDITOR OF THE MEDICAL TIMES AND GAZETTE.

SIR,—Has any definite chemical constitution been as yet assigned to the body resulting from the contact of alcohol with the red colouring matter of the blood? and, if so, is it found to be one of direct combination or of mutual reaction, in which the elements of water are either eliminated or assimilated? Information on the above points, besides on that whether steel enters into the composition of the new compound—which some of your readers may be able to supply—will oblige Yours, &c.,

INQUISITOR.

COMMUNICATIONS have been received from—

Mr. F. C. BENNETT, Salisbury; THE REGISTRAR-GENERAL OF EDINBURGH; THE REGISTRAR OF THE KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND; Inspector-General LAWSON, London; Mr. T. M. STONE, London; Dr. FAYRER, London; Dr. GRAY, Oxford; D. T. C. O. WILL, Aberdeen; THE REGISTRAR OF THE ROYAL COLLEGE OF SURGEONS, LONDON; Surgeon ALCOCK, Aldershot; GREAT SUPERFICIAL; Dr. T. H. GREEN, London; Mr. F. GORDON BROWN, London; Dr. DE NEGRI, London; Dr. HUSSEY, Oxford; Dr. JAMES RUSSELL, Birmingham; Mr. HENRY MORRIS, London; Dr. W. SQUIRE, London; Mr. R. J. GODLEE, London; Dr. SPARKS, London; Mr. JONATHAN HUTCHINSON, London; Dr. TAYLOR, London; Mr. J. CHATTO, London; N. McD.; Mr. VINCENT, London; Mr. HANCOCK WATHEN, Fishguard; Dr. LATHAM, Cambridge; Mr. T. P. PICK, London; Mr. F. FOWKE, London.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Pharmaceutical Journal—Allgemeine Wiener Medizinische Zeitung—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—La Tribune

Médicale—Le Mouvement Médical—La France Médicale—Le Progrès Médical—Bulletin de l'Académie de Médecine—The High Peak News—Students' Journal and Hospital Gazette—National Food and Fuel Reformer—Philadelphia Medical Times—Indian Medical Gazette—Pacific Medical and Surgical Journal—Irish Hospital Gazette—Monthly Microscopical Journal—L'Archives Générale de Médecine—Liverpool Daily Courier—Edinburgh Daily Review—Leisure Hour—Sunday at Home—The British Mail—West Country Lantern—Dietetic Reformer—American Journal of Medical Sciences.

BOOKS AND PAMPHLETS RECEIVED—

Manual of Public Health for Ireland, by Grimshaw, Reynolds, Furlong, and Moore—Heredity and Hybridism: a Suggestion by E. W. Cox, S.L.—Fox on the Disposal of the Slop-Water of Villages—Fox on Water Analysis—Du Vaginisme, ses Causes, sa Nature, son Traitement, par M. le Dr. Lutaud—Report on the Health of the Borough of Birmingham, by Dr. A. Hill—Annual Sanitary Report of the Borough of Longton, by Dr. J. Weaver—Salt's Medico-Electric Apparatus, and How to Use it—General Index to the Transactions of the Pathological Society of London for Vols. XVI. to XXV.—Leçons sur les Anesthésiques et sur l'Asphyxie, par M. le Professeur Claude Bernard—Traité des Maladies des Yeux, par M. le Dr. X. Galezowski—Contributions a l'Etude des Névroses Extraordinaires, par M. le Dr. Billet—Monographie sur le Type et la Spécificité de la Fièvre Jaune, par M. le Dr. Faget.

APPOINTMENTS FOR THE WEEK.

February 6. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 9 a.m. and 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

Royal Institution, 3 p.m. Mr. J. T. Wood, "On the Discovery of the Temple of Diana, and other Results of the Government Excavations at Ephesus."

8. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

Medical Society of London, 8½ p.m. Mr. T. S. Dowse, "Some Practical Hints on the Relief of Pain by the External Use of Hydrate of Chloral." Dr. Sansom, "A Case of Presystolic Murmur" (patient shown). Dr. Thudichum, "On Chemical Statics of the Brain."

Royal College of Surgeons of England, 4 p.m. Professor Erasmus Wilson, "On Dermatology."

9. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Anthropological Institute, 8 p.m. Meeting.

Royal Institution, 3 p.m. Mr. E. Ray Lankester, "On the Pedigree of the Animal Kingdom."

Royal Medical and Chirurgical Society, 8½ p.m. Dr. Wm. Murray (of Newcastle), "On the Treatment of Fistulous Openings by Dilatation." Mr. Thomas Bryant, "On the Diagnostic Value of the Ileo-Femoral Triangle in Cases of Injury to the Hip, more particularly of Impacted Fracture."

10. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Epidemiological Society, 8 p.m. Dr. Squire, "Further Remarks on the Period of Infection in Epidemic Disease."

Hunterian Society (London Institution), (General Meeting, 7 p.m.), 8 p.m. Dr. Gervis will deliver the Annual Oration.

Royal College of Surgeons of England, 4 p.m. Professor Erasmus Wilson, "On Dermatology."

11. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.

Royal Institution, 3 p.m. Prof. Tyndall, "On Subjects connected with Electricity."

12. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

Clinical Society, 8½ p.m. Dr. Vivian Poore will exhibit a patient with Paralysis of Serratus Magnus. Dr. Southey will exhibit a patient with Lepra Anæsthetica. Mr. Pugin Thornton, "On a Case of Exceeding Infrequency of the Pulse." Dr. T. T. Whipham, "On a Case of Fatal Pleuro-Pneumonia in an Opium-Eater."

Hunterian Society, 6 p.m. The Annual Dinner will take place at the Albion Hotel, Aldersgate-street.

Royal College of Surgeons of England, 4 p.m. Professor Erasmus Wilson, "On Dermatology."

Royal Institution (Weekly Evening Meeting, 8 p.m.), 9 p.m. Mr. W. R. Greg, "Life at High Pressure."

VITAL STATISTICS OF LONDON.

Week ending Saturday, January 30.

BIRTHS.

Births of Boys, 1342; Girls, 1225; Total, 2567.
Average of 10 corresponding years 1865-74, 2279·3.

DEATHS.

	Males	Females.	Total.
Deaths during the week	821	829	1650
Average of the ten years 1865-74	796·6	769·9	1566·5
Average corrected to increased population	...	...	1676
Deaths of people aged 80 and upwards	...	...	68

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric or Typhoid Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	...	6	2	9	...	2	...	3
North	751729	1	1	10	1	7	...	5	...	4
Central ...	334369	...	...	7	...	3	...	1	...	1
East	639111	...	1	15	1	9	2	5	2	2
South	967692	4	6	23	3	11	...	10	4	10
Total	3254260	5	8	61	7	39	2	23	6	20

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·851 in.
Mean temperature	43·2°
Highest point of thermometer	51·9°
Lowest point of thermometer	31·4°
Mean dew-point temperature	38·0°
General direction of wind	Variable.
Whole amount of rain in the week	1·25 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, January 30, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1876.)	Births Registered during the week ending Jan. 30.	Deaths Registered during the week ending Jan. 30.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3445160	45·7	2567	1650	51·9	34·4	43·2	6·22	1·25	3·17
Portsmouth ...	122632	27·3	72	41	...	34·0	...	...	1·26	3·20
Norwich	82842	11·1	67	41	50·5	31·5	40·4	4·66	0·46	1·17
Bristol	196186	41·1	135	90	52·5	33·3	45·5	7·50	1·17	2·97
Wolverhampton ...	71718	21·1	56	25	51·3	35·2	42·8	6·00	0·76	1·93
Birmingham ...	366325	43·6	241	244	55·2	35·6	44·2	6·78	1·40	3·56
Leicester	109830	34·3	101	53	51·5	35·2	42·4	5·78	0·76	1·93
Nottingham ...	92251	46·2	64	54	46·1	34·3	39·3	4·06	0·74	1·88
Liverpool	516063	99·1	407	313	51·9	36·5	42·7	5·95	0·79	2·01
Manchester ...	356626	83·1	301	215	52·0	33·0	42·6	5·90	0·76	1·93
Salford	135720	26·3	128	92	51·7	33·8	42·4	5·78	0·75	1·90
Oldham	87437	18·7	76	50	...	...	...	...	...	...
Bradford	168305	23·3	121	84	57·2	34·7	43·6	6·45	0·97	2·46
Leeds	285118	13·2	217	159	52·0	35·0	43·4	6·33	0·84	2·13
Sheffield	267881	13·6	249	147	52·0	34·0	43·2	6·22	0·67	1·79
Hull	133932	36·8	108	65	54·0	30·0	41·1	5·05	0·31	0·77
Sunderland ...	106342	32·2	96	55	56·0	32·5	42·6	5·90	0·42	1·00
Newcastle-on-Tyne	137065	25·5	148	61	48·0	30·0	39·3	4·06	0·00	0·00
Edinburgh	211626	30·5	147	118	...	...	...	...	...	...
Glasgow	531765	88·1	411	285	53·9	31·8	41·4	5·22	1·05	2·67
Dublin	314666	31·3	197	234	58·5	33·0	45·5	7·50	0·64	1·63
Total of 21 Towns in United Kingdm	7739490	37·0	5909	4080	58·5	30·0	42·5	5 84	0·79	2·01

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·85 in. The lowest was 28·92 in. on Sunday afternoon, the 24th ult., and the highest 30·49 in. at the end of the week.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

LECTURES ON INJURIES TO THE HEAD.

By JONATHAN HUTCHINSON, F.R.C.S.,
Senior Surgeon to the London Hospital.

Preliminary Observations—Many Sources of Fallacy in Observation—Importance of Attention to Small Symptoms—Best Method of Opening the Skull at Post-mortems—Arrangement to be adopted in the Course—Injuries to the Scalp—Use of Sutures, Pressure, etc., in Adjusting Flaps—Import of Detachment of the Pericranium—Contusion of the Bone—Scratch-Fractures—Fissure-Fractures—Compound Fractures, without Depression—Danger of Traumatic Meningitis—Precautionary use of Mercury—Cases illustrative of the Practice of Primary Trephining—Cases of Death from Pyæmia.

GENTLEMEN,—There is in the range of professional study no subject of more varied and enchaining interest than that of injuries to the head. Not only do these lesions claim a paramount importance from the fact that they implicate the noblest part of the man—or rather that part for which all others subsist,—but they throw important light upon almost all the facts of anatomy and physiology. It is in investigating them that we can best appreciate those marvellous endowments of the central nervous system, by which it assumes an influence over all the details of vital function throughout the body. At the bedside of a "head case" we often witness an invaluable experiment in physiology, and one which, if we take the pains to appreciate its bearings, may teach us far more than a host of vivisections performed on other animals whose organisation differs from our own. In some cases the experiment is undoubtedly a complicated one, but in others the conditions are sufficiently simple and definite to allow of our obtaining clear inferences.

The minute study of head cases, whilst of the greatest interest in regard to the functions of the nervous system,—whether in its higher endowments of thought, memory, imagination, language, and the special senses, or those of motion and sensation, and its influence over circulation, respiration, excretion, and nutrition,—is also very far from being barren of immediately practical results. On the contrary, whilst frequently obtaining from them important knowledge of general laws, we are also constantly finding that little and apparently trivial facts of this kind furnish us with the clue to the diagnosis of the case before us, and lead us more or less directly to its correct treatment. We soon see that we cannot afford to neglect even the very smallest matters ("twopenny-halfpenny symptoms," as I have heard them irreverently called), and we are also encouraged by finding that the painstaking investigation of *all* the symptoms which the case displays will often enable us to find our way to the goal through an apparently inexplicable labyrinth. The paralysis of some single nerve-twig, or the escape of another, may suffice to put us in the right track. Not that I mean to assert that we are as yet anything like perfect in our power of estimating the symptoms displayed by the nervous system when injured or diseased; on the contrary, we stand as yet but on the threshold of knowledge in these matters, and there is plenty left for us and others to discover. Our ignorance on some points is still frequently leading us into important errors.

Before taking my plunge *in medias res*, I may, perhaps, be permitted to make a few general remarks.

In the first place, I must apologise for the circumstance that I purpose in the following lectures to draw chiefly on the experience of our own hospital, and but little on the facts supplied by books. I do this, not in the least degree from defective appreciation of the labours of others, but, first, because our own facts are very abundant, and fresher and more vivid for us, than those which we know only in letter-press; and secondly, because with my own facts I am at liberty to deal freely. The sources of inaccuracy in respect to these cases are almost numberless, and many apparent contradictions contained in the literature of the subject are doubtless to be explained as the consequences of defective observations or of errors in recording. This statement I am at liberty to make in a general sense, or as applicable to any case of my own, but not in respect to those of any other individual author. To take an instance—no one, excepting those who have been hard at work at many cases at the same time, can have any notion how easily mistakes are made as to *left* and *right*. First, in dictating or writing the notes at the bedside—I speak *haud ignarus mali*,—errors, mere slips of the tongue, frequently occur; then there is risk in transcribing; and another, though much less risk, in the printer's hands. If these terms have once been transposed the blunder will in all probability never be found out, and the case will stand as a permanent puzzle for pathologists. The use of terms of general assertion, instead of those which record the observation of detailed facts, is also a fertile source of error. If an author writes of a patient, "he had no paralysis," I am obliged, in all courtesy, to take his statement as he gives it, although the effect on my own mind, as to conviction, is very different from what it would have been if he had recorded "the man could frown on both sides of his face, shut both his eyes, put his tongue out straight, and lift all his four limbs." The latter implies clearly that paralysis has been looked for, whereas the other but too often means only that it has been overlooked. Let me beg of you to be most careful and detailed in your examination of symptoms, and also in the notes which you record. It is only by an almost tedious attention to detail that we can hope to avoid mistakes.

In many instances it is desirable to examine the patient on a plan, taking each of his cranial nerves in succession and noting their condition, then that of the several limbs, next the state of the cerebral functions proper, and lastly the breathing, pulse, and temperature. Before you infer that any given nerve is not paralysed, take care that you have subjected it to a physiological test. A patient who has a laceration of one portio dura after an injury to the head (fracture of petrous bone) may have his face, when at rest, quite symmetrical, and it is only when you have roused him to frown or cry out that you observe that he can produce expression only on one side.

Further, in the performance of post-mortem examinations there is need for the greatest care. If the calvaria be roughly torn off,—if, as is frequently done, a hammer and wedge be used,—it is very likely that if lines of fracture already exist they will be extended or greatly widened, or nerve-trunks may be torn through, or the brain-substance lacerated. In these cases I never employ the usual method of examination—that, namely, by removal of the calvaria first, leaving the dura mater and brain *in situ*: it always involves the employment of force, and may produce lesions which it is impossible to distinguish from those due to the accident. I prefer to saw deeply through the skull all round, then with a large wide knife to slice through everything, thus allowing the hemispheres to be lifted off in the calvaria without displacement. In this way you can note the exact effects of pressure on any part of the brain mass, the extent to which the dura mater has been depressed by a fracture, etc. You have also by the plan alluded to a much better opportunity for inspecting the base of the brain and the cranial nerves whilst *in situ*. Make your section as low down as may be, and you will then have the crura, the pons, and the medulla easily exposed to view, without the slightest traction on the nerves which arise from them. Be deliberate, and carefully inspect the state of each structure before removing it from its normal situation. On coming to the base of the skull, if you would ascertain whether or not there is fracture, you must strip the dura mater from every part, and then, if no fissures are to be seen, try by forcible pressure, back and front, whether any can be thus made apparent. Owing to neglect of these precautions, a large number of fractures of the base are never discovered at all, even at the autopsy.

Lastly, I have to say a few words as to the arrangement which I shall adopt. I shall be compelled repeatedly to protest against attempts at a too arbitrary classification, and to urge that a great majority of head cases are essentially complicated ones. If, for instance, we are to have one division for concussion cases, one for fractures of the base of the skull, another for laceration of the brain, and a fourth for compression, we shall find that it is quite impossible to assign a large number of our cases to any one alone. All cases of fracture of the base of the skull are complicated by severe concussion of the brain, very often by laceration also, and a large majority of compression cases are far from being instances of that lesion only. Then, again, when secondary changes ensue, these must always be estimated in reference to the original lesion, which has thus become complicated. Whilst insisting, however, that all arbitrary groupings are most mischievous and contrary to clinical fact, it still remains of the utmost consequence that

we should carefully study each separate lesion, and endeavour to ascertain what are its special symptoms and tendencies. In this way we shall seek to assign a precise meaning to the terms concussion, compression, contusion, meningitis, etc., freely admitting meanwhile that we very rarely meet with these conditions uncomplicated by others. A few rare instances of single lesions will help us greatly in this task, and I shall have the pleasure of bringing before you some very valuable facts of this kind.

I purpose to commence with injuries to the external parts, and with the secondary consequences which ensue from them, and shall then proceed to the consideration of lesions of the brain itself and of cranial nerves, concluding with injuries to the spinal cord and to spinal nerve-trunks.

Injuries to External Parts.

Respecting contusions and lacerations of the scalp and face, I have little that is new to state. The remarkable vitality of the scalp, as evinced by the extreme rarity of sloughing, and by the very rapid repair, even of extensive injuries, is a fact which comes daily under our notice, nor do superficial injuries to these parts call for any departure from the ordinary rules of surgery. To remove no portion of skin, however hopelessly lacerated it may appear, to close the wound as perfectly as possible, to scrupulously avoid all risk of poisoning it by the use of foul sponges, to readjust the injured parts as accurately as may be, are points respecting which all are agreed, and on which there is little that can be added.

Respecting the propriety of using sutures, I may state, as the result of a considerable experience of their employment, that they do not appear to me to have any disadvantage. Inflammation of the scalp does not follow in the least more frequently after their employment, and very often they enable us to secure much better coaptation of parts than could be obtained by other means. Wire sutures are probably somewhat less irritating than silk, but we often see sutures of the latter material removed after the lapse of ten days or a fortnight in cases in which there is not the slightest evidence of irritation.

At this hospital we very frequently use sutures in scalp cases, and the number in which erysipelas follows is not at all greater than it is when they are avoided. It is desirable to avoid passing the sutures through the aponeurosis. In many cases it is very advisable to apply moderate pressure from the first. This may be done by a pad of lint or cotton-wool. The scalp bears it well, and it prevents oozing of blood, and materially increases the chance of primary union.

In the after-treatment of scalp wounds, if attended with suppuration, it is essential to bear in mind the anatomical peculiarities of the part, and to remember that with the skin is also stripped up the dense tendinous expansion of the occipito-frontalis. In the comparatively loose cellular tissue between this aponeurosis and the pericranium matter very easily burrows; hence the surgical rule of providing with the utmost care for the escape of matter which may have been formed beneath the scalp. If a scalp wound be unhealthy, the use of chloride of lime or Condy's fluid is indicated, and the patient's general health should be carefully attended to. Burrowing of matter under the scalp, although it may be troublesome and annoying both to patient and surgeon, is not, I believe, attended by any material danger. It does not tend to lead to any inflammation of the bone. As I shall have to show in a subsequent lecture, the cases in which osteitis follows, with its consequent risks, arachnitis and pyæmia, are not usually those in which the wound has been ill-conditioned. On the contrary, this most dangerous affection occurs frequently in cases in which, up to the day of the first rigor, and even sometimes up to the time of the death of the patient, the wound had shown a healthy condition.

It is very desirable, in the first examination of scalp injuries, to be precise as to the extent of injury done to the pericranium. It is upon this, more than upon any other peculiarity in the case, that our prognosis must depend. I have not been able to convince myself that the state of the patient's health at the time of the injury exercises so important an influence on the subsequent progress of the case as some have thought. In a multitude of cases patients of the most various conditions of health have come under my observation on account of injuries to the scalp, and my observation has been that intemperate draymen, and persons whose general health was very far from satisfactory, have often presented us with the best instances of rapid healing. On the other hand, I shall subsequently show that the most healthy and temperate have often supplied us with examples of osteitis and pyæmia. It appears to me that this latter affection stands by itself, as a far more specific and, so to speak, accidental malady than is usually supposed.

In contusion of the scalp it is to be supposed that the bones beneath must also be more or less contused; and probably the degree of contusion exercises some influence in predisposing to osteitis. I am not able, however, to prove by the citation of facts that any really evident influence is thus exerted. In one case the most typical form of osteitis and its consequences occurred in connexion with a mere scalp laceration. The injury had been received in connexion with a dog-bite, and there was no contusion of the bone.

In certain cases we occasionally find the external table scratched by direct attrition upon some hard substance. Now and then these scratches are so superficial that, being exactly limited in length to the part actually touched by the substance causing the injury, they scarcely deserve the name of fracture. Their existence always goes to prove severe contusion of the bone. Now and then it is very difficult to distinguish between a scratch and a linear fracture. Sometimes they involve more than this, and the outer surface of the bone may be ploughed up over a considerable extent, still without any fissuring.

In close connexion with laceration of the scalp and pericranium we may suitably consider the subject of compound fractures without depression. In many of these cases the only addition to the injury to the soft parts is a mere fissure in the bone beneath. In others it is very possible that, although only a fissure is visible, there may be splintering of the inner table to a much greater extent. If the injury be restricted to a fissure only, it probably adds but little to the danger of the case, excepting in so far as its presence demonstrates that the blow received by the bone must have been a severe one. There is no proof that such cases are more liable to be followed by inflammation of the bone than are cases in which the pericranium has been stripped up without fracturing the bone. There is therefore no reason for adopting any other measures of treatment than those requisite for the injury to the soft parts. The case should, however, be watched with additional circumspection, and if headache of a fixed and persistent character should occur the trephine should be used. As I shall endeavour to show in a future lecture, if we wait until rigors occur we wait until the case has declared itself almost hopeless. There is, of course, need of great care in the examination of this symptom of headache; but supposing that a patient who had been quite comfortable during the first few days should begin to complain of very severe pains beneath the seat of the injury, that the pain should be persistent and sufficient to keep him awake at night, the propriety of exploration would certainly be indicated, and the probability that a small quantity of lymph and pus would be found between the dura mater and the bone would be very great. I have carefully considered the early symptoms of inflammation of the dura mater, and have often watched their development at the bedside, and the conviction forced upon my mind is that the symptoms usually mentioned as indicating the propriety for interference are those not of the early stage—whilst the inflammation is limited to the external surface of the dura mater,—but those which occur after thrombosis of the bloodvessels on the one hand, or diffuse inflammation of the arachnoid sac on the other. Of these two conditions, rigors and hemiplegia are severally the pathognomonic symptoms, and each of them indicates a condition of things almost hopeless. Mr. Pott taught that trephining ought to be performed in the first instance in all cases of compound fissure-fracture. A sufficient number of these cases, however, recover, without any drawback, to prevent our adopting his rule of practice. In laying it aside it is yet necessary that we should do so with the utmost caution, and that we should prepare ourselves in each case to take alarm at the earliest manifestations of intracranial mischief. Amongst the early symptoms we have only general feverishness, loss of appetite, and headache; and of these undoubtedly headache, if cautiously estimated, is the most important.

The condition of the external wound goes for very little, since in many cases of the most severe pyæmia the wound remains perfectly healthy almost to the last.

For long I have entertained a high opinion of the usefulness of mercury against traumatic inflammation of the bones and membranes of the skull. If a patient, after such an injury, began to complain of headache, I should certainly at once commence a course of mercury. In some cases you have seen me go further than this, and, instead of waiting for headache or other symptoms to occur, we have ordered what might be

called a precautionary course of calomel. In all cases of compound fracture of the skull I have latterly adopted this practice, and we have had some excellent cases of recovery under it, but whether the results had any connexion with the treatment or not it is difficult to feel confident. At any rate, of this I am sure, that injuries of this kind may progress most rapidly in healing in patients whose gums are touched, and that, further, a patient will often lose his headache and feverishness just when the ptyalism begins. That a slight ptyalism, cautiously conducted, injures a man's health in any appreciable degree I do not believe; and when we consider how frequent and how fatal arachnitis and osteitis are after compound fractures of the skull, a little risk in another direction is easily counterbalanced. In another lecture I shall give reasons why fractures of the petrous bone communicating with the ear or Eustachian tube ought to count as *compound* fractures, and why they have the same class of dangers. In these, as well as in compound fractures of the vault, I usually order a grain of calomel every six hours until the gums are touched, and begin from the first.

I will now ask your attention to some cases illustrating the points of treatment to which I have just referred. You will see how we have been led from slight injuries to severe ones. The steps are indeed quite gradual, and abrupt classification is most absurd. We begin with a mere laceration of the scalp, the bone not being denuded; then we have cases in which, with the scalp, the pericranium is also torn up, and here the risk of osteitis commences; next we have cases of denuded bone with "scratch-fractures" or with contusion of the bone; then those with fissure-fractures of the denuded bone; and, lastly, those with depressed fractures. Probably a great number of cases in which fissure-fractures exist get well without the fracture having ever been recognised, for their discovery, unless the bone is laid bare to sight, is impossible. We scarcely ever perform an autopsy in a head case without finding more extensive injuries than we had expected, more especially in the form of fissures in the base or vault of the skull. These latter often extend widely.

The element of danger is not so much the fracture of the bone as its being exposed to the air. If air has been admitted —*i.e.*, if the fracture be compound—there is great risk that suppuration will follow, and if suppuration, then there may be osteitis, pyæmia, and arachnitis. On this point we ground our rules of practice. If there be no admission of air we scrupulously avoid its introduction, and, whether the fracture be depressed or not, we equally decline to operate. If, however, air has been admitted, the aspect of the case is wholly changed. We no longer fear to use the knife or the trephine, for all the danger that they can bring (if cautiously used) is there already, and, as inflammation will almost necessarily follow, it is most important to put the parts in a favourable condition for the escape of the secreted pus. I have never regretted the performance of primary trephining, and have often regretted its omission. I will now read the notes of some cases in which I operated for compound depressed fractures without symptoms:—

Case 1.—*Compound Depressed Fracture of the Left Parietal Bone —No Cerebral Symptoms—Primary Trephining—Perforation of Outer Table only—Recovery.*

A man, aged about fifty, was admitted under my care with a compound fracture of the skull on the vertex, a little to the left of the median line. There was an irregular laceration of the scalp of about three inches in length, and near the middle of this the bone was exposed and fractured. The injury had been inflicted by his wife, whom he described as subject to maniacal fits of passion. In one of these she had struck him with a "flat-iron." The blow knocked him down and stunned him for a short time. He soon recovered, however, and when admitted at the hospital an hour later was able to walk into the ward and had no cerebral symptoms.

When I saw him he had been about two hours in bed. He had no particular pain in the head, was perfectly conscious, and gave me the above account of his injury. I could detect no symptoms of cerebral injury. On examining the injured part I found that the chief fissure ran transversely from the posterior part of the sagittal suture outwards to the left. In front of this was a triangular fragment the size of half-a-crown, which at its posterior edge was much depressed. By measurement with the probe the depression was found to be about a third of an inch, and was greatest at the inner angle. On account of the limited size of the fragment and the very considerable degree of depression I judged that the dura mater must be much stretched by it, and determined, in the hope of preventing meningitis, to elevate. I applied the trephine to the sound bone just behind the outer part of the fracture, and was careful to desist as soon as I had cut through the outer table. It chanced that this table was unusually thick. Having done this, I was able with the forceps and elevator to get away some small fragments which were impacted edgewise in the line of fracture, and which acted as wedges in entirely preventing all possibility of elevation. When this was done, I introduced the point of the elevator very carefully into the diploe of the depressed fragment, and was able with gentle force to lift the latter into its place. The dura mater had not been exposed, and beneath the trephine hole a thin layer of the inner table remained entire. I had touched the dura mater with the probe through the cleft, but had not seen it. Water dressing was applied to the wound. The man was kept quiet in bed and on low diet.

The subsequent narrative is merely of uninterrupted recovery. The man never had any head symptoms whatever. His wound began in due time to suppurate and granulate freely. It was then treated by poulticing. We insisted, as a precaution, on his remaining in bed for about three weeks, but during the latter part of this time he was quite well. Some very small bits of bone came away in the poultice, but the fragment which had been depressed remained in its place. In about five weeks from the date of the operation the wound was healed, and the man left the hospital in excellent health.

Case 2.—*Compound Fracture of the Left Parietal Bone, with Depression—No Symptoms—Primary Trephining—Perforation of Outer Table only—Recovery.*

A ship-builder, aged thirty-six, was admitted with a compound depressed fracture of his left parietal bone, which had been caused by a hammer which fell from a great height upon his head. He had walked to his bed, and had, when I saw him two hours after the accident, no head symptoms whatever. The scalp wound was about an inch and a half long, and ran from near the middle of the vertex outwards towards the left ear. The bone below it was quite bare, and the fracture was easily seen. The amount of depression as measured by a probe was nearly a quarter of an inch. The fragment which was depressed sloped from behind forwards, being depressed at its anterior part. As the abrupt depression seemed likely to stretch the dura mater and cause irritation, I determined on an immediate operation, to which the man readily assented.

With a small trephine I removed a circle of the bone in front of the depression, not going deeper than just into the diploe. This done, with a little trouble I got away some small fragments which acted as buttresses between the depressed fragment and the other part, and would have entirely prevented its being elevated. When these were removed I easily got the point of an elevator into the diploe of the depressed portion, and succeeded in lifting it into place. Wet lint was applied to the wound, and ice to the scalp. The patient was kept in bed and on spare diet. He never had a single ill symptom, and left the hospital quite well about a month after his admission.

It will be observed that in the operation described the dura mater was never seen.

Case 3.—*Compound Fracture of the Frontal Bone—Primary Trephining—Recovery.*

A woman, aged forty-one, was admitted with a compound fracture of the right side of the frontal bone. A fragment was depressed into the orbit. She had no symptoms, but I preferred to examine thoroughly, and accordingly trephined, and elevated the depressed portion. I did not see the dura mater, so I am not sure that it was exposed. She never had any ill symptom, and recovered perfectly. She was only fifteen days in the hospital. The injury had been caused by a fall on the edge of a bucket.

Case 4.—*Compound Fracture of Frontal and Parietal Bones on the Right Side—Primary Trephining—Precautionary Ptyalism —Recovery.*

On October 10 was admitted a healthy labourer, aged forty-one, who had been kicked on the left temple. He had a severe compound fracture with depression, and the pulsations of the brain could be seen in the movements of the blood in the wound. He had no cerebral symptoms. I at once trephined and elevated a detached fragment of bone about as large

as half-a-crown, but irregular in shape. Calomel was immediately commenced, and pushed until the gums were sore. The man never had any symptoms either of osteitis or arachnitis, and excepting an attack of erysipelas he recovered without any drawback. The fragment of detached bone did not exfoliate; it remained for several weeks exposed in the wound, new granulations formed on it, and finally a healthy scar resulted. Two months later the man was in robust health, and said he had never felt better in his life.

With these cases let me contrast some others in which the operation was not performed. Before doing so, I may observe that I might add to the number of successes after primary trephining several other important ones as well from my own practice as from that of my colleagues; Mr. Adams and Mr. Maunder, in particular, have had several very satisfactory cases.

Case 5.—About the same time that Case 1 was under my care a man was brought in with almost a similar state of things. He had what we sometimes call a "pond fracture" of the left parietal bone. It had been caused by the falling of a lump of coal on his head. It was compound, but there were no head symptoms, and the depression was not great at any part. All the fragments sloped to a common centre. Having regard to this latter peculiarity, and thinking it likely that the dura mater would be less stretched than if one edge were alone depressed, I decided not to trephine. In due time the man had severe headache, followed by rigors, hemiplegia, and death. I could not obtain an autopsy, but there was no doubt that suppuration beneath the fracture had occurred, and had induced arachnitis and pyæmia. Mercury had not been used.

Case 6.—This case will be adverted to at greater length subsequently. The patient, a boy, was admitted with a gutter-fracture of the left parietal bone. The depression was but slight, and there were no symptoms. I did not trephine, and osteitis and death from pyæmia resulted.

Case 7.—A woman, aged forty-one, was admitted under the care of my former colleague, Mr. Little, having sustained a compound fracture of the right parietal bone by the fall of a bell. The fracture looked like a deep scratch of the bone, and we had no reason to think that the inner table was involved. She had no symptoms beyond those of concussion. I was in part responsible for the decision not to trephine, for we had a careful consultation on the case within an hour after the woman's admission. During the first week the woman did well, and then symptoms of osteitis and its usual sequences set in. Death from pyæmia resulted, and the autopsy showed that the fractures of the inner table were much more extensive than we had suspected. Some fragments of this table were, in fact, so displaced that they presented sharp edges to the dura mater.

I show you the specimen from this case, and will now read a diary of it from detailed notes kindly supplied to me by Mr. J. S. Colquhoun, the dresser of the patient. Not only is the case interesting as an example of osteitis and its sequences, but we have a good illustration of the symptoms of diffuse arachnitis. You will notice that the woman became hemiplegic in the side opposite to the injury. This symptom of arachnitis is most valuable. With this case I will conclude the present lecture, and at our next we shall have to investigate the course and symptoms of inflammation of the skull-bones.

Diary of Case 7.—Osteitis, Pyæmia, Erysipelas, and Arachnitis after Compound Fracture of the Skull.

May 11: Sarah W., aged forty one; scalp wound and scratch-fracture of right parietal; insensibility and collapse. 12th: Conscious, but does not speak; no paralysis; restless and sick. 13th: Retention of urine. 14th: Restless, but improving; wound healthy. 15th: Much better; knows her friends, and answers questions; pulse 60, weak; wine ordered. 16th: Complains of severe pain in the head. 17th: Appetite better, but still great pain in the head. 18th: Much the same. 19th: Much the same. 20th: Is drowsy, and roused with difficulty; severe headache; pulse 70, feeble. 21st: Drowsy, and at times unconscious; thin discharge from wound. 22nd: Worse; severe pain; drowsy. 23rd: A rigor at nine o'clock; heavy and at times unconscious. 24th: Erysipelas of scalp; several rigors. 25th: Left leg motionless and hotter than the right; arm not paralysed; face too much swollen to allow us to estimate paralysis. 26th: Low delirium. 28th: Another rigor; in evening another attack of convulsions, the spasms confined to right arm and leg; left arm and leg both partially paralysed. 29th: Much as yesterday. 30th: Another convulsion; spasms confined to right side; the mouth is now drawn to right side; ptosis of left upper eyelid; death at 9 p.m.

Autopsy.—Pus in temporal muscle and beneath pericranium on right side. Inflamed bone and arachnitis over right hemisphere. Fracture through both tables of skull with depression of inner table. Softened thrombus in superior longitudinal sinus. Internal organs not examined.

The calvaria is preserved in the museum of the London Hospital.

ORIGINAL COMMUNICATIONS.

NOTES ON THE

PATHOLOGY OF PULMONARY PHTHISIS.

By T. HENRY GREEN, M.D., F.R.C.P.,
Physician to Charing-cross Hospital, and Lecturer on Pathological Anatomy in the Medical School.

VIII.—Etiology of Phthisis—(*concluded*).

Catarrh of Bronchi may be a Cause of Pulmonary Consolidation by giving rise to Small-Celled Growth in Bronchial Wall—Direct Effect of Injuries inflicted through medium of Bronchi upon Inner Surface of Air-Vesicles—Nature of Bronchial Injury—Respired Air—Mechanical Irritants—Inhaled Blood—Distribution of Lesions—3. Injury by Infection—Influence of General Health—Varieties of Phthisis—Influence of Pathological Investigation upon Treatment.

The other way in which catarrh of the bronchi may become a cause of pulmonary consolidation is by its producing a small-celled growth in the bronchial wall, which gradually invades the adjacent alveoli. That repeated attacks of bronchial inflammation may ultimately lead to the production of a growth in the walls of the smaller bronchi was seen when describing the histology of phthisis. Even in non-phthisical lungs this growth may invade the walls of the alveoli, and ultimately produce large tracts of peribronchial induration. In phthisical lungs,—those which are constitutionally weak,—not only is there usually a marked tendency to bronchial catarrh, but, the lung-tissue being especially susceptible to injury, the bronchial growth takes place much more readily, the invasion of the adjacent alveoli proceeds more quickly, and the new growth has a much greater tendency to undergo retrograde change. Another result of this invasion of the alveolar walls by the growth originating in the bronchi, is that the elasticity of the air-vesicles is thereby impaired, the circulation in the pulmonary capillaries hindered, and consequently the removal of any products which may be accumulated within the alveoli is less readily effected.

Thus far I have considered the effect of injuries inflicted through the medium of the bronchi only in so far as these have produced bronchial catarrh and a thickening of the bronchial wall. Probably a still more important way in which such injuries produce pulmonary consolidation is by *their direct effect upon the inner surface of the air-vesicles*. When it is remembered that the inner surface of the alveoli is equally with the bronchial wall in direct communication with the external air, although the influence of the air must be modified by its passage through the tubes, it will readily be understood that the same injury which affects the bronchi may at the same time affect the alveolar walls. Further, as it is the alveolar walls which appear to be more especially susceptible to injury in phthisis, inflammatory processes are induced in them even more readily than in the bronchi themselves. Such being the case, it must, I think, be regarded as probable that, although injuries inflicted through the medium of the bronchi may cause bronchial catarrh, and such bronchial catarrh may, in the manner described, be an auxiliary in the production of pulmonary consolidation, the most important result of these injuries as causes of phthisis is the direct irritation which they produce of the alveolar walls, in consequence of which the epithelium proliferates and a small-celled growth is developed.

Having described how injuries inflicted through the medium of the bronchi may be causes of phthisis, it remains to consider the *nature* of the injury. This is obviously, in most cases, some condition of the respired air. It would be beyond the scope of the present "Notes" to enter into the various atmospherical conditions which act injuriously upon the respi-

ratory organs. Suffice it to say that the one which appears to be injurious above all others is cold and damp. The air may also contain substances which, either from their mechanical or chemical properties, act as direct irritants. The respiration of impure air, and of air containing solid particles, may thus set up inflammatory processes in the lungs. The last-named condition obtains in the case of colliers, stonemasons, etc. In these people the constant respiration of an atmosphere containing solid particles produces that chronic inflammation and ulceration of the bronchi, and gradual induration of the lungs, which is usually known as potters' or colliers', etc., phthisis. This disease, however, differs from ordinary phthisis in its chronicity, in the textural changes being in the earlier stages peribronchial, and in the comparative absence of caseation of the new tissue. Lastly, I must very briefly allude to the presence of blood in the bronchi as a cause of phthisis, inasmuch as some recent observers have expressed the opinion that bronchial hæmorrhage may give rise to phthisical consolidation of the lung (hæmorrhagic phthisis). That blood which has been inhaled into the alveoli may, under certain circumstances, set up inflammatory processes in the alveolar walls, and ultimately cause a disintegrative consolidation, there can be no doubt. The question is as to whether the hæmorrhage is the sole cause of the phthisis, or whether it is not itself the result of pre-existing phthisical disease. For my own part, I doubt whether blood *per se*, in the absence of a pulmonary predisposition, can cause phthisis; but, given the predisposition, it may produce sufficient irritation to set up a phthisical process. The accumulation of blood in the lungs in a case of phthisis may also constitute an important element in causing an increase of the consolidation. As to whether bronchial hæmorrhage occurs independently of pre-existing phthisis, I hesitate to express an opinion. It must certainly be rare, and in many cases it must be difficult, to exclude completely the presence of any pre-existing phthisical disease.

In concluding this consideration of the production of phthisis by means of irritation through the medium of the bronchi, it must be remembered that the inflammatory processes which are thus set up are characterised by the disseminated character of their distribution. Groups of air-vesicles, communicating with the terminal bronchioles, become implicated, and thus are produced lobular lesions. These lesions usually ultimately coalesce, and so give rise to more diffused tracts of consolidation. The form of lesion thus differs from that which is produced by injuries inflicted upon the surface of the body, in which the inflammatory process involves primarily a wide tract of tissue (lobar pneumonia).

The third and last method by which injuries may be inflicted on the lung is by means of *infection*. By this I mean that irritation of small areas of the pulmonary tissue by means of minute particles derived from some pre-existing inflammatory product, such as occurs in acute tuberculosis. In this general infective disease the source of infection may be situated in any part of the body; but when infection becomes an auxiliary in the production of phthisical consolidation of the lungs, the infective particles are usually derived from some pre-existing phthisical disease. In other words, the infective process usually supervenes upon pre-existing phthisis. Any mass of phthisical consolidation may, under certain circumstances, constitute an infective focus, and so give rise to disseminated inflammatory processes in adjacent or distant tissues, the area of infection depending upon whether the infective materials are distributed by means of the bloodvessels or lymphatics. The infection which is so common in phthisis is that localised process in which the lymphatic vessels and serous canals are the carriers of the infective agents, so that the secondary inflammatory processes are more or less confined to the neighbourhood of the infective focus. The resulting disseminated lesions are in all respects precisely similar histologically to those which have been already described as occurring in pulmonary tuberculosis. The part which infection plays in the production of phthisis varies very considerably in different cases. It is probably not common for phthisical consolidation to exist without its, at some time or other, acting more or less injuriously upon the pulmonary tissues. In many cases it causes merely a small amount of secondary consolidation in its immediate vicinity; but in others the infection extends over a much wider area, and may involve the whole of that lung in which the primary disease is situated. It is in this way that infection is sometimes met with as an acute process terminating chronic phthisical disease.

There remains still one other factor which has a most important influence upon the causation of phthisis—*the general health of the individual*. That the development and progress of phthisis is greatly influenced by the state of the general health is well known. That this should be so will be readily understood if the inflammatory nature of the disease be kept in view, inasmuch as, in all cases, the susceptibility of a living tissue to injury is, *cæteris paribus*, greater, and the power of recovering itself from the effect of the inflammation less, the lower the standard of the general health. Consequently, in phthisis the influence both of primary and secondary irritation (infection), the progress of the inflammatory process, and the amount of permanent damage which is inflicted upon the lung, vary according to the health of the individual. Further, as the health of the individual is influenced by the health of the parents, a low standard of health in either parent may so influence the child as to produce a weakness of the tissues generally, in which the lungs participate.

Having now considered somewhat fully the histological changes met with in the lungs in phthisis, and the nature and etiology of the morbid processes upon which they depend, the question arises as to how far a subdivision of the disease into different *pathological* varieties is admissible. There can be no doubt that in exceedingly rare and exceptional cases the development of a progressive disintegrative consolidation of the lung is determined by a foreign body or an embolus, and consequently such cases might be regarded as constituting distinct pathological varieties of phthisis. If these, however, be excluded, there are, I think, no grounds for making any pathological divisions of the disease, such as has been attempted by a few observers during recent years. The variations observed in the clinical history of phthisis and in the physical characters of phthisical lungs are, I think, mainly to be ascribed to variations in the intensity and duration of the inflammatory processes which give rise to the pulmonary consolidation, and also to the parts which primary pulmonary inflammation, bronchial inflammation, and infection play respectively in the causation of the disease.

In concluding these "Notes" on the pathology of phthisis it may be asked what bearing such pathological questions have upon the prevention and treatment of the disease. To this I would reply that the older doctrines which were held respecting the specificity of tubercle and phthisis undoubtedly exercised an unfavourable influence upon treatment. During recent years there has been a gradually increasing tendency to regard phthisis as an inflammatory affection, and there has consequently been a corresponding tendency to attempt by treatment to prevent the occurrence and control the influence of pulmonary inflammation. Continued pathological research points, I think, to the necessity of moving still further in this direction. We do not perhaps even yet sufficiently recognise the fact that the development of phthisis is determined, and the progress of the disease influenced, by the ordinary causes of inflammation; and the results of pathological investigation indicate, I think, the advisability of directing our treatment still more closely with the object of preventing and rapidly controlling all inflammatory processes in the lungs.

LARGE COLOBOMA OF THE UPPER EYELID, SUCCESSFULLY TREATED BY OPERATION.

By A. D. DAVIDSON, M.D.,
Ophthalmic Surgeon to the Royal Infirmary, Aberdeen.

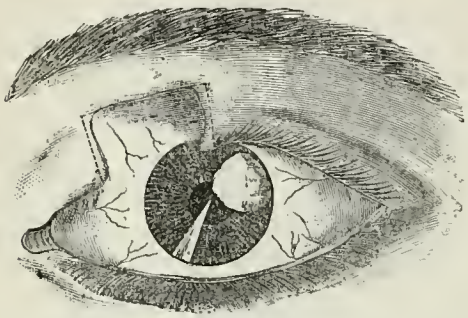
A FEMALE child, three weeks old, was brought as an outpatient to the Infirmary, presenting the following appearances:—There was a large coloboma of the left upper eyelid, at the junction of the inner with the middle third, reaching up to the conjunctival *cul-de-sac*. Continuous with the upper free edge of the coloboma, the skin extended over the ocular conjunctiva for a considerable distance downwards and outwards, until it was lost near the cornео-sclerotical margin. On the upper and temporal surface of the cornea was a pinkish-white thickening, rising considerably above its surface, exactly resembling skin of the eyelids, but no hairs were visible upon it. The child's nose was flattened, and extending from the bridge to the tip was a broad cicatrix, on the sides of which were three wart-like projections. The upper lip and palate were perfectly normal.

So great was the deficiency in the upper lid, that when the

child was asleep the eyeball remained almost wholly uncovered, and this exposure had already occasioned a considerable degree of irritation to the eye. Dreading the necessary consequences of this exposure, and taking into account the unsightly appearance of the child, together with the mother's anxiety that something should be done to remedy the deformity, we resolved to make the trial of an operation.

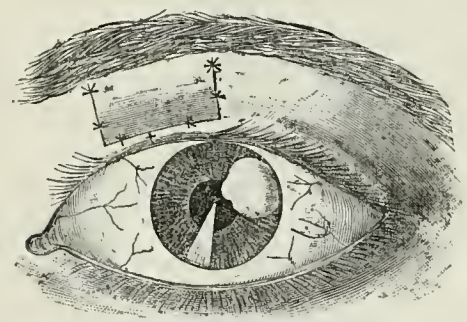
Accordingly, the infant having been brought under the influence of chloroform, two incisions were made parallel to the lateral edges of the coloboma, about a line and a half from their free borders, and through their entire thickness, downwards to within a short distance of the free edge of the lid—Fig. 1.

Fig. 1.



The skin between the upper edge of the fissure and the eyebrow being now firmly retracted by the aid of a lens hook, the skin covering the conjunctiva was carefully dissected up, the separation being carried well back to the conjunctival *cul-de-sac*. By this means a well-sized quadrilateral flap was obtained—Fig. 2. After the oozing had been arrested, the two lateral

Fig. 2.



flaps were moved downwards, and their extremities secured by a stitch of the finest carbolised catgut passed through their entire thickness. The quadrilateral flap was now brought forward and secured to the eyelid and the depressed flaps, and the operation was completed. So rapidly did the healing go on that in two days the sutures admitted of being removed. Three months after the operation little or no trace remained, saving a slight thickening of the square flap and the absence of eyelashes in that portion of the free border which had been supplied.

Such cases as the one here narrated, although rare, are sufficiently familiar to surgeons; and the association of other congenital deformities of the face—such as harelip, coloboma of iris, and choroid, etc.—with coloboma of the eyelids is generally understood. When simple fissures, just as in simple harelip, they are to be treated by vivifying the edges and bringing them into apposition. But in those cases where there is great loss of substance, this would manifestly be useless; and rarely or never do we hear of such cases being remedied by operation. This, at all events, is true in the only two cases which, so far as I am aware, are fully recorded. In the one (Wilkinson, *Pathological Society's Transactions*, xxiii., 214-15) the coloboma was double, and the conjunctival surfaces seem to have been thickened. In the other (Fluger, *Monatsbl. für Augenheilkunde*, x., 250-53) the coloboma was in the lower lid, and was associated with harelip and extreme concavity of the hard palate. These cases were, indeed, evidently brought forward as curious cases of arrested development rather than as cases to be treated by the surgeon.

The object of this communication is to draw attention to the possibility of curing or improving such unsightly deformities, which fortunately, owing to the presence of the skin-flap, was in this case a matter of no great difficulty.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

ST. BARTHOLOMEW'S HOSPITAL.

SUDDEN HEMICHOREA IN AN ADULT.

(Under the care of Dr. BLACK.)

For the following notes we are indebted to Mr. Sawtell, House-Physician:—

R.R., aged thirty-seven years, a man of intelligent and healthy appearance, was admitted to Matthew ward on December 16, under the care of Dr. Black. The patient, who is an assistant in a chemical laboratory, stated that he was quite well up to the morning before his admission, when he was at work in the laboratory. At about eleven o'clock he suddenly found that he was unable to retain his hold of some glass tubes which he was using. Shortly afterwards he was seized with "twitchings" of the left arm, which increased to jactitations, and compelled him to cease work.

On admission, the left side was found to be affected with choreic movements, those of the arm being very violent and characteristic; the movements of the left leg were less marked; the muscles of the mouth and face were only slightly affected; the tongue was quite free. The right side of the body was entirely exempt. There was no history of a previous similar attack, and the only previous illness was an attack of ague in India fourteen years ago. The patient has a child eight years of age with paralysis of the right side. Heart-sounds feeble, but no bruit audible.

Ordered to take twenty-five grains of bromide of potassium and a drachm of sulphate of magnesia three times a day. Towards evening the movements became more severe; but he soon fell asleep, and had a good night's rest. On awaking next morning, the limbs were perfectly steady and entirely under control, with the exception of slight flexions of the fingers and wrist. The patient continued to improve, and was discharged quite well on December 24.

Remarks.—The above case is one of some interest on account of the sudden onset of the attack and the rapid recovery of the patient. Up to the moment that the tubes fell from his hand the patient felt quite well, and he had no warning of impending cerebral disturbance. As far as could be ascertained, there was no cause for the attack. The only unusual circumstance that the patient could remember was the spilling of the contents of a bottle of nitrite of amyl on the same morning, some of the fumes of which he inhaled. It is doubtful whether this can be accepted as the cause of the attack, for although this agent is known to produce peculiar effects, such as giddiness, feeling of intoxication, breathlessness, etc., its best-known and generally accepted use in medicine is to allay spasm; and for this purpose it has been given in tetanus, epilepsy, and spasmodic asthma, and to prevent the fearful heart-pangs of angina pectoris. A few cases of sudden unilateral chorea have been observed as following endocarditis, the cause being, in all probability, the plugging of the middle cerebral artery by a small plug of lymph washed from one of the valves; but in the present case this must be excluded, as there was not the slightest indication of endocarditis or other form of heart disease.

THE MIDDLESEX HOSPITAL.

CASES OF HERNIA UNDER THE CARE OF MR. HULKE.

Acute Strangulation of a Bubonocele—Limited Gangrene of Intestine—Peritonitis—Herniotomy—Death.

The strangulation was here very acute. If medical aid had been procured on the night of the accident, and the rupture been operated on immediately if irreducible by taxis, very probably the patient might have been saved. The postponement of the operation till the third evening was fatal. The propriety of replacing intestine with a small gangrenous spot,

questioned by some authorities on hernia, and sanctioned by others, was justified by the agglutinations which took place between the time of the operation and the patient's death, and which would have effectually hindered the escape of the intestinal contents into the peritoneal cavity.

A groom, aged fifty-eight, two years ruptured, riding late from the races, felt his truss break and his rupture instantly slip down, upon which he was directly in extreme pain. When he reached home no doctor was sent for, as it was night, but sundry domestic measures were tried. He spent the night in great suffering, and in the morning a medical man was fetched, who perseveringly tried the taxis without success. On the third evening the patient was brought into the hospital. An oval tumour, of the size of a small hen's egg, exquisitely tender and very painful, filled the right inguinal canal. His belly was tympanitic, and very tender and painful. He almost incessantly retched. His pulse was very small, feeble, and rapid. Chloroform was immediately given, and herniotomy done without repeating the taxis. The sac and tissues outside it were purple from congestion. On opening the sac about four drachms of fetid greyish flocculent serum escaped, and a loop of almost black small intestine came into view. At one spot the intestine was attached to the bottom of the sac by a recent adhesion, and when this was gently separated a small grey gangrenous patch was apparent. The protruded gut and sac were washed with an aqueous solution of carbolic acid of the strength of 1 per cent., and after dividing the constriction, which was very tight and situated at the internal abdominal ring, the gut was cautiously returned into the belly, the bend of the loop—where was the gangrenous patch—being left at the internal ring, in order that if the gangrene should have implicated the whole thickness of the gut the fæcal contents might, when the slough exfoliated, escape outwardly and not be shed into the peritoneal cavity. With the same object a piece of lint was placed in the external wound to prevent its closing. A large hot linseed poultice was put on the belly, and opium was ordered. Retching continued, and he died at one o'clock p.m. next day.

On examining his body, signs of general peritonitis were found—most intense near the rupture. The strangulated gut which had been replaced was already so fixed by adhesions to the abdominal wall that had the sloughy spot given way—it was lying directly at the ring—no extravasation could have occurred into the belly.

Three Cases of Strangulated Epiplocele—Herniotomy—Recovery.

These cases illustrate a fact well known—viz., that strangulation of omentum produces symptoms not unlike, and often as severe as, those of a strangulated enterocele. The first case also furnishes an example of the formation of a spurious hydrocele by the accumulation of serum in the serotal part of the sac, which had become shut off from the inguinal part by adhesions, probably induced by the pressure of the truss. Such cystiform collections of serum in hernial sacs no longer communicating with the belly are believed to be not very infrequent, and to occur less rarely in femoral than in scrotal ruptures; in a very popular surgical text-book they are stated to be very rare. In this case (No. 1) it will not escape notice that the adherent omentum in the serotal loculus of the sac was free from those marks of obstructed circulation which characterised the strangulation of the part above in the inguinal loculus of the sac. Its extensive vascularised adhesion to the sac made it very independent of blood-supply through the proper omental arteries, and moderated the congestion which would have otherwise followed pressure upon the omental veins. The preservative influence of vascularised adhesions to the sac in maintaining the life of omentum in a tightly strangulated hernia was very conclusively proved in a strangulated femoral rupture, where two adherent pieces of omentum were found living, and but slightly disordered, whilst the remainder of the omentum, non-adherent, was dead and crepitant with gas. When omentum is actually gangrenous, there is an almost unanimous agreement that it is better to cut it away than to leave it in the sac to be thrown off; and no doubt this is the best practice, since its exfoliation is always attended with much suppuration, the products of decomposition and the pus infect the surrounding tissues, the sac itself often necroses, and puriform œdema often spreads widely in the scrotum or in the thigh along the intermuscular planes of connective tissue. This untoward course more often happens in the old and feeble than in young and vigorous subjects. Again, where the extruded omentum retains its normal structure, all agree that the proper course is to replace it; but in the third case, where the extruded omentum is only freshly congested and œdematously swollen, and this not beyond a reasonable expectation of recovery, and where it has undergone merely those chronic alterations—viz., thickening and induration—to which all long-extruded viscera are liable, no uniformity of practice prevails, some surgeons returning omentum into the belly which others would unhesitatingly cut off. Where there is the slightest doubt of the recovery of congested œdematous omentum, and where chronic induration and thickening exist in more than a very slight degree, experience proves that retrenchment of the parts thus altered yields better results than their replacement. Again, with respect to the method of removing the omentum, differences of practice prevail. Some surgeons, fearing a difficulty in dealing with the possible hæmorrhage, secure the neck of the extruded omentum with a strong ligature, beyond which they cut it off; whilst others simply cut off the omentum through the living or but slightly altered part, and secure separately all vessels which bleed. This was Pott's practice, and it is to be preferred. Whichever method is adopted, one point of practice is important—not to cut through the omentum too close to the internal abdominal aperture, because, as soon as the neck of the omentum is no longer held by the constriction, there is a strong tendency for the stump to be retracted, and it may be pulled entirely inside the belly, where, if bleeding should perchance happen, the vessels will be beyond reach, and where, if the omentum has been tied in mass, the gangrenous stump beyond the thread may infect the peritoneal cavity, and the ligatures which have been brought out at the surface through the wound will conduct inwards the inflammatory products from this into the belly. These are not imaginary dangers. Hæmorrhage, alarming because inaccessible, and even fatal, has followed the replacement of omentum in the belly, where the divided edges have spread out and some unsecured vessel has leaked; and a sloughy stump, still encircled by its stout ligature, has been found nearly as high as the navel, with the ligatures soaked in ichorous discharges stretching between it and the wound.

Case 1.—*Strangulated Inguino-Scrotal Epiplocele — Spurious Hydrocele—Herniotomy—Sac Opened—Recovery.*

A carpenter, aged thirty-seven, was admitted into Clayton ward on July 16, 1874. For twenty-four hours he had been retching almost incessantly, and for three days he had not passed a stool. He had, he said, been ruptured for many years, and he had worn a truss latterly with the rupture partly down. The rupture had once before been strangulated, four years previously, and reduced by taxis in this hospital.

The right side of his scrotum was distended with a granular, knotty mass, painless and not tender when handled; whilst above this the inguinal canal was filled with a hard, painful, tender swelling, beyond which a fulness could be traced above the internal abdominal ring. The taxis and other measures had been perseveringly tried. It appeared imprudent to repeat them; chloroform was therefore given, and an incision was made over the external abdominal ring and upper part of the scrotum, which laid bare the sac. This was extremely thin and very transparent. It adhered very intimately to a layer of omentum which could be distinctly seen through it. On cautiously cutting through this omentum a large smooth cavity was opened, which contained serum only, and which was shut off by firm adhesions from the inguinal part of the sac. This latter contained omentum only, which was congested and swollen, and contrasted strongly with the unaltered omentum in the lower loculus. The adhesions were separated; the neck of the sac notched; the finger passed through it into the belly, in order to make sure that there was not any entanglement of bowel by the sheet of omentum gathered down to the ring; and the extruded piece of omentum was retrenched. The wound united prematurely, and slight suppuration followed. On July 24 he left, convalescent.

Case 2.—*Strangulated Inguino-Scrotal Epiplocele—Herniotomy—Sac Opened—Recovery.*

A labourer, aged fifty-eight, was admitted into Clayton ward on the evening of August 16, 1869, with symptoms of strangulated hernia. The left side of his scrotum, and corresponding inguinal canal, were occupied by an oblong fluctuating swelling, in which knotty lumps as of hardened omentum could be felt. This swelling and his belly, which was tympanitic, were tender and painful. He had constant nausea,

and often vomited. The pulse was quick, small, and weak. He had been ruptured, he said, for twelve years, and he had usually, but not always, worn a truss. The morning before, he had foolishly omitted to put it on; the rupture swelled, and symptoms of strangulation immediately setting in, medical aid was obtained. Two surgeons had assiduously plied the taxis during four hours, and not meeting with success, had applied ice, which also failing, they advised that he should be taken to the hospital.

Chloroform was given, and the taxis was gently repeated for a few minutes, when, reduction being impracticable, herniotomy was done without further delay. It was necessary to open the sac; it contained about two ounces of bloody serum, and a large mass of knotty omentum, most of which was tied to the sac by old vascularised adhesions. These were separated, the omentum retrenched, its bleeding vessels were separately secured, and the stump was left at the external ring; the constriction, which seemed to be constituted by the neck of the sac, having been incised. This part of the sac had been somewhat detached from the fascia transversalis, and pushed inwards by the efforts at reduction by taxis, and a subserous space had been made, into which had the sac (here deprived of its natural support) given way, its contents might have slipped, and so, disappearing from the surface, there would have been a simulated reduction—the extruded viscera all the time lying outside the peritoneal cavity. The wound suppurated; he made a good recovery. The first stool was not passed until the tenth day after the operation.

Case 3.—Strangulated Femoral Epiploecle—Herniotomy—Recovery—Six Months later, Symptoms requiring an Examination of a Knot in the Groin, which proved to be a Cystiform Distension of the Hernial Sac.

The wife of a small tradesman, aged about thirty-five, long ruptured, who had worn a badly fitting truss, which sometimes allowed the rupture to slip down, was seized after breakfast, on August 7, 1871, with violent pain in the lower part of the belly, and tenderness and pain in the rupture, which were soon followed by retching. The rupture was found to be irreducible. Next day, when seen by Mr. Hulke with her medical attendant, the rupture formed a swelling of the size of a walnut, very painful, and so tender that she could not bear it to be touched. She still retched frequently. Her bowels had twice acted slightly since the accident. The taxis had been perseveringly tried; it was gently repeated under chloroform, and, reduction being impracticable, herniotomy was done. The sac was as thin as tissue-paper. It contained only a small piece of omentum, the reduction of which was prevented, after incision of the Gimbernat's ligament, by a little thread crossing its neck within the sac. The wound was dressed with an aqueous solution of sulphurous acid, and opium was given her. She recovered quickly.

On January 22 following she began to be troubled with pinching and griping in the belly, not, however, so severe as to wholly prevent her from attending in her shop. On the sixth day obstinate retching supervened, and it continued when she was seen two days later by Mr. Hulke. From the beginning of this attack till the seventh day her bowels had acted daily. She had now in the right groin, in the place of the former rupture, a small, very hard, and extremely tender and painful knot, from which tenderness and pain extended upwards into the belly.

The symptoms were taken to mean inflammation of the old sac and omentum, which after the operation had probably become agglutinated to the inner surface of the internal femoral aperture. The groin and belly were fomented; one grain of opium was given every six hours, and she was restricted to small quantities of milk, to which a little lime-water was added. Under this treatment the retching ceased, and the tenderness of the belly lessened; but the rupture remained hard and tender. Three days later the retching returned. The old hernial sac was now explored: the skin adhered intimately to it; it had an almost cartilaginous toughness, and was about a quarter of an inch thick; it contained only about a drachm of serum. Opium was again given. The symptoms subsided, and she recovered.

BELFAST MEDICAL BENEVOLENT ASSOCIATION.—The annual meeting of this excellent institution was held on the 3rd inst. at High-street, Belfast. The treasurer's accounts showed that the charges had been £380 14s., and the discharges only £2 13s. 6d.

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Medical Times and Gazette.

SATURDAY, FEBRUARY 13, 1875.

"EARTH TO EARTH."

THE great attention excited by Mr. Seymour Haden's expostulation with the English people on their present modes of burial, and the very considerable amount of approval and assent with which it has been received, are undoubtedly owing in large measure to the opportuneness of its appearance, though as unquestionably due also, and very largely, to the fact that the subjects dealt with are of universal interest, and to the great ability with which they were handled. Not that, in naming opportuneness of appearance first, we mean to rank it as the chiefest and most powerful cause of the interest so immediately excited by what we have called Mr. Seymour Haden's "expostulation," but it has been a very potent and active cause; and it might be not uninteresting to consider whether he was led to his happy choice of the time of publication by the artistic temperament that instinctively perceives the fitness of things, or by the tact, observation, and judgment that may teach a man to read the signs of the time, as well as make him an able and successful medical man; whether he has been most aided on this point by the art he exercises for his own recreation and the delight of his friends, or by the science and art he practises for the benefit of the public. However that may be, the time for the appearance of his famous letter to the *Times* was undoubtedly most happily chosen. The attention of the public had been forcibly directed to the dangers to the living that are in various ways attendant on the existing method of disposal of the dead, and it had been ably argued, by high authority, that the only remedy was the substitution of cremation for burial. Our churchyards, round which so much poetry has gathered, and to which such fond memories cling, were to be swept away, and in their stead we were to have the cremation furnace and so many pounds weight of ashes, which we might inurn—or, still better, it

was suggested, utilise,—and the yearly value of the ashes as manure was kindly calculated for us. That cremation of the dead could be perfectly carried out was clearly proved, and the idea was enthusiastically taken up by some: lectures and addresses on cremation were given, a Cremation Society was formed to advocate its use, and its adoption was pressed on us further by accounts of the favour with which it had been received abroad. But the proposal of burning their dead was by no means acceptable to the public generally, and, indeed, was rather hostilely received; while nowhere, except in our own pages, which are not addressed to the public, was it even hinted that the evils and dangers of our cemeteries and churchyards arise very largely, if not entirely, from the fact that, instead of committing our dead to the earth, we inclose them in strong air-tight coffins, and store them up in brick graves, vaults, or catacombs. Then Mr. Seymour Haden stepped forward, and eloquently told how our dead may still be safely and rightly committed to our mother earth, pointed out that the true burial of the dead would be more free from possible injury to the living than even cremation can be, showed us how to lighten the oppressive gloom of our funeral observances, and restored to us our churchyards and cemeteries freed from all objections and evils, and more than ever clothed in the beauty and poetry of Nature. No wonder, then, that his proposals have received so much approval and support; though we must confess ourselves agreeably surprised to find that, among the numerous letters which have appeared in the *Times* on the subject, not one has contained any objection to his requirement that burial should take place within about thirty-six hours after death. Lord Essex, in an excellent letter, strongly supported Mr. Seymour Haden's opinions, and appealed to the women of England to lend them their powerful advocacy; and his appeal was at once answered by "Vita" and another lady, who stated that each had written "a memorandum, to be opened immediately after my death," earnestly requesting "that my body may be laid to rest the moment that death has become a certainty, in the simplest possible manner, and with none of the Pagan and hopeless gloom of our funeral customs;" and adding, "let us all do this, and the work is done. It is impossible our survivors should do this good work; the dread lest outsiders should attribute simplicity to 'want of respect or feeling' cruelly ties their hands."

This kind of help given universally or very generally will indeed be needed if the tyranny of custom is to be overcome; and this has been recognised also by others besides the supporters of true burial; for at the end of a book just published by Mr. Eassie, a very able advocate of the cremation of the dead, we find an appeal for the same help in almost the same words:—"If every individual protester, male or female, of fifteen years old and upwards, would, in view of the uncertainty of life, place such a request (in favour of cremation) in his or her writing-desk, cremation would speedily prevail. The change from burial will otherwise be a protracted one, since few persons have enough strength of mind to run counter to the general custom, fearing the indignation of other relatives of the deceased."(a)

The *Times* followed up, on February 2, its first commendation of Mr. Seymour Haden's letter with a powerfully written article on the folly and wicked extravagance of our funeral customs, and the wrongness of our modes of interment; and made appeal to the "great, wealthy, and ambitious middle-class" to make up its mind "to return in due time, at the appointed hour, to the earth it springs from, with cheerfulness, alacrity, and goodwill"; and Mr. Seymour Haden promises us a future letter, in which shall be contained "replies, where they are required; the particular treatment of the body after death, and its exceptional treatment after various kinds of death; the mechanical preparations for burial on a plan which has yet to be reduced to working detail; an exposition of the unmistakable signs of death; and the radical changes which it will be necessary to propose in our whole cemeterial arrangements."

For the accomplishment of this he asks for "an armistice"; and we shall wait for the letter with much interest, and with what patience we may be able to command. In the meantime we venture to congratulate that gentleman on the degree in which he has succeeded in awakening public attention "to the existence of a great self-created moral and material evil,"—a degree so great that we are almost tempted to believe as well as to hope that it will not fade fruitlessly away, but will lead to a real and large reform in, or rather to the revolutionising of, our funeral customs and modes of burial.

(a) "Cremation of the Dead: its History and Bearings upon Public Health." By William Eassie, C.E., F.L.S., etc.

THE PATHOLOGICAL SIGNIFICATION OF NEMATODE HÆMATOZOA.

It will be within the recollection of many of our readers that some year or two ago Dr. T. R. Lewis, of H.M. British Forces, but attached for special duty to the Indian Sanitary Commission, announced the singular and important discovery that in the blood and some discharges of patients suffering from chyluria he had been able to discover multitudes of nematode worms in the embryonic state. In the case of a European woman a careful post-mortem examination was made, but no source of these worms, which abounded especially in the kidneys, was detected. This was not the first time that hæmatozoa had been detected: in 1852 two Frenchmen had described them as existing in the blood of some dogs; and they had been still longer known as infesting the dogs of China and Japan; but these were probably of an entirely different species, as was established by later workers, especially Welch and Cobbold. Last year, however, it happened that Dr. Lewis, in examining the dead body of a Pariah dog, found that its blood contained multitudes of these filariæ, but apparently of a different character from those heretofore described, and closely resembling those found in the human subject. They differed, however, in certain respects—the absence of an external sheath in the newly discovered animal being apparently one of the most characteristic distinctions. These canine parasites are, unlike others heretofore described, found mainly in the aorta, instead of in the right side of the heart only, and seem to originate in small tumours most frequent at the base of the heart and its neighbourhood. There are also small tumours to be seen situated in the walls of the aorta, giving the interior of the vessel a somewhat pitted appearance. If these larger tumours be examined, they are found to contain six or more mature parasites of the nematode kind, reddish in colour, and in the case of the female, which is the larger, amounting to two or three inches in length. The smaller tumours in the aorta being examined, furnish specimens of the worm in various stages of development, which may be thus most readily studied, and the injuries done to the coats of the vessel demonstrated. The process of growth is accomplished by various moultings and the gradual production of sexual organs, whilst the nematode worms assume a more distinctly pinkish hue. They also seem to migrate from the native tumour into those in the neighbourhood, each tunnelling a channel for itself. The ova and embryoes produced by the female are of unknown habit, for no means as yet adopted have been successful in rearing them, and hence the history of that period of their life spent out of their host is unknown; but, having attained a certain stage of growth outside, they probably make their

way by the œsophagus into those parts of the host best suited for complete development. The local site of the mature worms may not always be detected in the human body, and hence may entirely escape notice, even when the blood swarms with their embryoes. Thus, in an examination of the body of a young man who died in the Calcutta Hospital, and whose blood during life had swarmed with embryoes, no mature worms could be detected.

It is hardly possible to doubt that these worms are somehow at the bottom of the malady called chyluria, being almost invariably associated with it. Moreover, it is to be noted that the chyluria only comes on at intervals. Nor is it in such maladies alone that this filaria seems operative for mischief. If they interfere with the circulation of the kidney to such an extent as to cause the transudation of coagulable lymph in the shape of chyle or blood, they may do so elsewhere—in the scrotum, limbs, etc.,—and thus produce elephantiasis. It was long ago shrewdly suspected by Dr. Fayrer, and noted in his work on Indian medicine, that these two diseases had a common cause; and now that has been demonstrated, both by the co-existence of the two diseases in the same patient, and the discovery of the filaria in each separately. The exact mode in which embryo filariæ give rise to such various consequences is not yet known; but assuredly Dr. Lewis is to be congratulated on having thus far and so successfully conducted his researches.

MEDICAL OFFICERS OF THE NAVY.

At length an Order in Council has been issued, bearing date February 4. By it, no doubt, some grave evils will be remedied; but much will remain to be done before the Naval Medical Service will be either popular or even tolerated by well-educated men. The Order in Council enacts:—

"1. That Surgeons on entry shall have the same relative rank as paymasters, chief engineers, and naval instructors—namely, shall rank with lieutenants under eight years' seniority, and shall have uniform corresponding to such relative rank.

"2. That Staff Surgeons shall be denominated 'Fleet Surgeons,' and Staff Surgeons 2nd simply Staff Surgeons; the distinction in rank between these two grades to be denoted by a small difference in the uniform.

"3. That Inspectors-General shall be compulsorily retired at the age of sixty on £2 per day, provided they shall have completed the period of service now required to entitle them to the maximum half-pay of their rank.

"That Deputy-Inspectors General shall be compulsorily retired at sixty, if in the first six of their rank, at 33s. per day, others at 30s. per diem, provided that they shall have completed the period of service now required to entitle them to the maximum half-pay of their rank.

"5. That Fleet Surgeons and Staff Surgeons shall be placed on the same scale of retirement as chaplains and naval instructors, secretaries, and paymasters; that is, the maximum to be £450 per year instead of £400.

"6. That any Fleet Surgeon shall have the option of retiring after twenty years' full-pay service in all ranks at 15s. per day, and after twenty-five years' service at 21s., subject in each case to our approval; but that of those now on the list, not more than ten shall retire under this clause in each year (the officers having the option according to seniority), unless we should approve (with the consent of the Lords Commissioners of your Majesty's Treasury) of a larger number so retiring.

"7. That of the medical officers to be hereafter entered, all shall have the option of so retiring, subject to our approval in each case; and we beg leave to represent to your Majesty that the Lords Commissioners of your Majesty's Treasury have signified their concurrence in the proposed arrangements."

From the foregoing Order it will be seen that, although there has been no addition to the rate of pay, yet on entering the Service the status of medical officers has been somewhat improved. Formerly, a Surgeon on joining ranked with a sub-lieutenant only, and then only according to date of commission. It was possible, therefore, for the doctor to take rank next above the senior midshipman on board. He will now on appointment have three grades below him, and will rank only one grade below the late second-class Staff Surgeon.

The second paragraph of the Order, in establishing a new title for Staff Surgeons, does away with the invidious appellation of "second-class," which has always been more or less unpopular. No alteration, however, in the way of pay or relative rank takes place in either of these grades on active service, but on retirement the maximum sum obtainable has been increased by £50. As was rumoured would be the case some time ago, retirement in the upper grades has been made compulsory at the age of sixty instead of sixty-five. The maximum retiring allowance has, however, in the case of Inspectors-General been raised from 38s. to 40s. per diem, and in that of the Deputy Inspectors-General from 27s. to 33s. per diem for those in the first six of the rank, and to 30s. for those below the first six.

Retirement is also made optional for Fleet Surgeons after twenty years' service at 15s. per diem, which is a reduction of 1s. 6d. per diem on the sum previously granted at twenty years, when the retirement was not optional; after twenty-five years' service, however, the sum granted is 21s. per diem, or 2s. 6d. more than was realisable formerly. In case this liberality should induce a stampede from the Service, the Order announces that of those now on the list not more than ten shall be allowed to retire under the optional clause in each year unless approved of by the authorities. All medical officers, however, entering after this date are to have the option of retiring at the aforesaid periods, the restriction to ten being confined to those already in the Service.

The improvements in the Naval Medical Service thus promulgated, if not so great as had been anticipated, must, at least, be recognised as a step in the right direction. It is asserted that Mr. Ward Hunt had no easy task to wring out of the Treasury the concessions now published; but it is certain that, without additional advantages, the medical profession would have declined to accept service in a department which offered so few advantages to those who adopted it; and future examinations will show, by the number and quality of candidates presenting themselves for appointments, whether what has now been conceded is sufficient to attract good men for the work of the Navy.

PROSPECTS OF SANITARY LEGISLATION FOR 1875.

The Conservative Government is pledged to Sanitary Reform, and Mr. Disraeli is resolved to carry his promise into execution without any further delay. Our readers may remember that at the commencement of the first Parliamentary session of the present Government, in February last, considerable disappointment was expressed by us at the omission from the Queen's Speech of measures for improving the sanitary condition of the people. Several important Bills, however, bearing upon public health obtained the sanction of Parliament. Among these we may mention the Public Health Bills for Scotland and Ireland, the Sanitary Laws Amendment Bill, the Health of Women in Factories, the Vaccination Act Amendment Bill, Registration of Births and Deaths, Slaughter-houses Bill, etc. This year it is to be expected that a very large share of attention will be devoted to the consideration of measures for sanitary reform. The mover of the address in answer to the Royal Speech, prompted, no doubt, by the leaders of the Government, gave, by anticipation, a character to the business of Parliament for the forthcoming session by designating it as one "to be devoted to the consideration of measures for the improvement of the condition of the people," with social legislation as the chief aim of the Ministry.

The Government first of all propose to improve the dwellings of the working-classes in large towns, in accordance with the

pledge of the Home Secretary at the close of last session, when Mr. Kay-Shuttleworth withdrew his proposal on this subject. We have in the Bill before us an emphatic recognition of the weight and importance of the memorial presented by the College of Physicians at the commencement of last session with reference to the need of improved dwellings for the labouring classes. And no learned body could be better fitted to form a sound opinion upon the necessity of remedial measures for checking the spread of fever, and diseases resulting from poverty and overcrowding in ill-constructed houses, than that which stands as the representative of the profession which, through the district medical officers, is to have the initiative of any compulsory powers under the proposed Act.

At the conclusion of the debate on the Speech from the Throne, the Home Secretary moved for leave to introduce his Bill with a view "to facilitate the improvement of dwellings for the working classes in large towns." He laid it down as an axiom that "what the homes of the people are, the people themselves will be found to be." Although much has been already done for improving the condition of the working classes, much undoubtedly remains to be done before any marked benefit can be obtained. The special object of the Bill is to secure easy transfer of property, and suitable housing of the evicted tenants during the process of reconstruction. Mr. Cross is anxious to avoid the danger of doing for the working classes what they ought to do for themselves. He would start by affirming two principles: —First, that "it is not the duty of Government to provide one class of citizens with the necessaries of life," such as habitable dwellings. This would undoubtedly tend to make the State an institution for dispensing charity in a most objectionable way, and would encourage the poor to seek eleemosynary help, which is not the object the College of Physicians or the Charity Organisation Society had in view in promoting this Bill. Secondly, that the State does not wish to provide habitations "at a lower rent than the market value paid elsewhere." The subject must be approached purely on sanitary grounds, with a view of ameliorating the condition of the deserving poor, helping them to quit the wretched and unhealthy homes in which they are now living, and aiding the process of supply of healthy homes. Attempts had been made to enforce existing Acts of Parliament, but it was found that to do so would be to turn the people into the streets. The condition of many of the houses visited by the Home Secretary was such that no expenditure of money upon them could put them into a proper sanitary state. "Family after family goes into a house, to catch the fever which has killed the former occupants; and the only practical remedy is to pull down houses so ingrained with the germs of fever." Reports were presented of the recent attempts made in Liverpool, Glasgow, and Edinburgh to improve the dwellings of the working classes. In Edinburgh many nests of crime have been broken down, and the police report a corresponding diminution in the number of serious offences. In Glasgow an outlay of nearly two million pounds was reduced to £300,000 by the purchase of property adjacent to the doomed districts and re-selling it at an enhanced price. The Town Councils, as representing the Sanitary Authority, are to be invested with the powers for remedying the evils of overcrowding in provincial towns. In the metropolis, the Board of Works and the City Corporation are to have the responsibility of seeing the improvements carried out. The district medical officer is to take the initiative, either independently or in conjunction with the local authority. Accurate reports must be drawn up, with maps and drawings representing the proposed alterations. Provision has been made in the Bill for avoiding unnecessary litigation as far as possible. Accommodation is to be provided in the district for the working classes during the process of reconstruction. The President of the Local Government Board is to act for the provinces, and the Secretary of State for the metropolis, in investigating the proposed schemes and expediting the conduct of them through Parliament.

Looking at it from a professional point of view, we shall welcome any attempt to house the poor in better habitations. No class of persons can be better acquainted with the requirements of the poor, and none can be better pleased to see suitable habitations erected, than the district medical officers, who have to submit to many hardships and annoyances in their daily visitations in these destitute districts. Many a parish doctor has succumbed to fever when visiting these pestilential haunts; for few (if any) of the houses are properly drained, the water-supply is too often tainted by passing through foul and corroded cisterns, and many are chronically infested with fever.

Other clauses in the Queen's Speech, of importance from a sanitary point of view, are those to consolidate and amend the Acts relating to public health in England. Mr. Selater-Booth obtained leave on Thursday last to introduce a Bill for this purpose, and on Friday he was to introduce a Bill to repeal the Adulteration of Food Acts, to make better provision for the sale of food and drugs in a pure state. The Government are also pledged to solve to some extent what at present is a very complicated subject—viz., that of the pollution of rivers. The Bill shortly to be introduced must provide for the removal of the refuse of factories other than into the adjacent river; also for the utilisation or purification of the sewage of towns previous to the discharge of the effluent water. Chancery suits are still pending upon several large towns, such as Birmingham, Salford, Windsor, etc., for infringing existing laws on this subject, and some remedy will have to be suggested. At present no comprehensive scheme of sewage filtration or purification has been accepted as universally applicable. The water-carriage system appears to be the only one applicable to large towns; for isolated dwellings the dry earth system is useful; and for small towns with deficient water supply, etc., the Liernur system, or the A B C process of filtration, is perhaps the most suitable.

Several private members have obtained leave to introduce Bills which rank, or are intended to rank, as sanitary measures. Among these may be mentioned a Bill to encourage the erection of improved dwellings for agricultural labourers in Ireland, introduced by Mr. Bruen, and a similar measure by Mr. Fordyce, for Scotland. Colonel Beresford suggests an improved water supply for the metropolis. Sir Harcourt Johnston asks for the repeal of the Contagious Diseases Acts passed in 1864, 1866, 1868, and 1869. Mr. Cowper-Temple, not deterred by the sudden collapse of his attempt to legislate last session for the unfortunate female aspirants to degrees in medicine at the Edinburgh University, has obtained leave for a Bill to remove any hindrances to the admission of females as graduates of medicine, etc.

It will thus be seen that the principal work of the session will be to ameliorate the social condition of the people, and to remove as far as possible the causes which interfere with the full development of sanitary improvements.

THE WEEK.

TOPICS OF THE DAY.

The Committee appointed by the Metropolitan Asylums Board to consider the merits of the alternative sites proposed for the Hampstead Hospital laid their report before the Board last week. The Committee had inspected both sites. They considered both inferior to that already in the possession of the Board, and recommended an examination of the respective sites by the whole Board, which was agreed to. Since then a deputation from the Local Board of Willesden has waited

upon Mr. Selater-Booth with the object of condemning the proposed new sites for the Hampstead Hospital. Mr. Booth, in reply to the deputation, stated that he was expecting to hear from the Metropolitan Asylums Board, and until he did so he was in perfect ignorance as to the course they intended to pursue.

Dr. James Weaver, in his last annual report of the health of the Borough of Longton, makes the following somewhat startling statement:—"Several schools in the borough have been inspected during the year, and I cannot help thinking that a little closer looking after of these places would do something in preventing the spread of infectious diseases amongst us. We have school boards on the one side urging parents to send their children to school, under pains and penalties, allowing no excuse to stop their progress, sometimes almost ignoring a medical certificate of unfitness; the consequence is that I have known of cases where children have been sent to school from a family where scarlet fever has been amongst their brothers and sisters. No wonder, then, that such diseases spread in our towns and villages!"

Corporations and committees have no consciences, and will often do things from which an individual would shrink. The following short particulars of an affair that has lately occupied the attention of the Committee of the Dorset County Hospital, the house-surgeon of the institution, and the public, is a fresh instance of the injustice that may be perpetrated by an irresponsible board of governors. The present house-surgeon, Mr. Barton Smith, took office in October last. He found that he was expected to have four *tete-a-tete* meals with a young matron, the last meal at eight or nine p.m.; tea being laid in the matron's own private sitting-room. Mr. Smith objected, and a committee of twelve unanimously decided that he might have his meals alone. On this occasion the chairman was not present; he came, however, to the next meeting, and voted with two or three others that the minutes of the former meeting should not be confirmed. The resolution was put and lost. The chaplain's fund attached to the Hospital is very low, and there has been no regular chaplain in the Hospital for six months, the duty being performed by the chaplain of the gaol. The chairman of Committee apparently determined to compel Mr. Smith to dine with the matron, by procuring the election of a chaplain. He accordingly offered £20 a year more than had ever before been given, and obtained one. Mr. Smith was then asked officially by one of the Committee if he would now dine with the matron. His answer was in the negative; and he gave as his reason that whenever the chaplain was absent from meals, which in the case of the last chaplain was five days out of seven, he would be in a position even worse than before, as he had had of late a serious unpleasantness with the matron. The result of this was something like a storm at the next meeting of the Committee, and the Rev. E. W. Pears proposed that, inasmuch as the house-surgeon had expressed his determination not to dine with the chaplain and matron, he be requested at once to resign. The chairman so far forgot his dignity as to exclaim that if this proposition was not carried he would resign as chairman of the Committee. Under these circumstances, and with another battle imminent, we think Mr. Smith has acted wisely in resigning his post. Far better to retire from such a contest with dignity than to pursue a course which only pointed to endless squabbles and heart-burnings. The House-Surgeoncy of the Dorset County Hospital, which office is no sinecure, has a salary attached to it of £80 per year. We trust that the Committee will find some difficulty in procuring a properly qualified gentleman at that stipend, looking at the treatment to which Mr. Barton Smith has been subjected. The local papers, we perceive, support Mr. Smith, and trust that he will be induced to withdraw his resignation. We hope, on the contrary, he will abide by it.

Some short time since an ex-alderman of Liverpool, Mr. William Bennett, offered the munificent sum of £3000 to the Corporation for the purpose of improving the town. But the Town Council referred Mr. Bennett's letter to the Health Committee, and it has been treated by that body with scant courtesy. They had, indeed, the common politeness to answer Mr. Bennett's letter, and thank him for his offer, but they did not think any change could be made in the disconnexion of courts and court-houses from sewer-gas influences—a desideratum which was insisted on as one of the conditions of the gift. Whatever views Mr. Bennett may entertain on the subject of sewer-gas, it is certain that the condition of the town of Liverpool is such as requires much sanitary improvement, and it is the bounden duty of the Town Council to arrange with Mr. Bennett, if possible, to spend his munificent gift for such improvements.

At nine o'clock on Saturday morning last the first new cabmen's rest was opened in Acacia-road, St. John's-wood. The dimensions of this shelter are such that it will comfortably seat twelve men, and six can partake of refreshment at the same time. By the payment of a penny a day, or fourpence per week, the cabman can have food cooked for him, but especially between 8 a.m. and 12 p.m. The meeting to witness the ceremony of opening was not numerous. It was addressed by the Hon. Arthur Kinnaird, who made some practical remarks on the advantages of such "rests." Other shelters will shortly be opened in various parts of the metropolis.

At the nomination of Dr. E. M. Grace for the Coronership of West Gloucestershire, the Duke of Beaufort took occasion to state that no man could come to harm in this country, or to an untimely death, without twelve of his fellow-countrymen being called together to inquire into the cause of death, and to expose the malefactor, if there should be one. They conducted the inquiry under the guidance of an able man—a man who made the laws of the land his study; and frequently, from the fact of the coroner being a medical man, he was able to guide the inquiry into the right channel. This allusion to a medical coroner elicited loud cheers from the audience. Mr. F. Tagart, who seconded the nomination of Dr. Grace, said they did not want a lawyer to inflict his crotchets as to evidence, neither was it the duty of a coroner to make analyses; but what they required was a man gifted with industry, discretion, and common sense. Such a man, he believed, they would find in Dr. Grace, and he was glad he was to be elected without a contest. Dr. Grace having been declared elected, and taken the customary oath, thanked his proposer and seconder, and said that he might tell them that there were about 4600 electors on the list, and 3200 of them had promised to record their votes in his (Dr. Grace's) favour. He was thankful to say, however, that they would be saved the trouble and expense of going to the poll. If Mr. Essery or his friends had but asked to look at his canvassing-books, he thought that gentleman would have retired much earlier than he had. He (Dr. Grace) hoped that, as his Grace the Duke of Beaufort had said, he should truly serve the ancient office of coroner. He should use his best endeavours to do everything that was right and fair, according to the oath that he had just taken. He hoped they would all assist him to the utmost of their power, and he again thanked them for having so handsomely elected him.

Old Charing-cross men will be glad to know that the subscription portrait to Mr. Hancock, the money for which was collected as a testimonial to him on retiring from active duty in the Hospital, is now ready for presentation. It has been painted by Mr. Richmond, R.A., and is a very good likeness. The presentation takes place in the board-room of Charing-cross Hospital, on Wednesday, the 17th instant, at three o'clock.

It is our pleasing duty to announce that at the Tercentenary of the University of Leyden, among the few other distinguished foreigners on whom were bestowed degrees of all kinds, Mr. Spencer Wells and Mr. Darwin were alone among Englishmen created Doctors of Medicine. Bunsen, of Heidelberg, and Milne-Edwards were the only other foreigners so nominated.

The *Boston Medical and Surgical Journal*, almost the oldest medical periodical in America, has renewed its youth, and now appears in a garb almost too gay for what was once the Puritan city. Its contents are, however, good as ever, and we cordially commend them to our readers.

A remarkably good account of the recent advances in cerebral physiology, by Dr. Purser, Professor of Institutes of Medicine in Trinity College, Dublin, is published in the last number of the *Irish Hospital Gazette*. Our readers will find it both short and accurate.

EXPERIMENTS ON ANIMALS.

At the last meeting of the Royal Medical and Chirurgical Society—the most important body of the kind in the kingdom,—the following correspondence was read by Dr. Symes Thompson, one of the Secretaries:—

"Royal Society for the Prevention of Cruelty to Animals, Jan. 29, 1875.

"Sir,—On Monday last, a memorial signed by many distinguished persons was presented by an influential deputation to the Committee of this Society, supported by papers, which allege that experiments on living animals are frequently, if not regularly, performed at the various schools of medicine and physiology, hospitals, and other similar institutions of London, for the purpose of discovery, of demonstration, or of illustration.

"A special committee has been appointed to deliberate on the statements and proposals of the said memorial and papers. I am desired by such committee to ask you to be good enough to do them the great favour of permitting me, with two other gentlemen, to be present as mute spectators on the occasions alluded to when operations on living animals are appointed to be performed at your institution, in order that we may report the proceedings to them.

"The committee trust you will appreciate the nature of this application, which they think it their duty to make, instead of resorting to other usual modes of acquiring information.

"I have the honour to be, Sir, your obedient servant,

"John Colam, Secretary.

"To E. S. Thompson, Esq., M.D., Hon. Sec. Royal Medical and Chirurgical Society."

"Royal Medical and Chirurgical Society, 53, Berners-street, W., February 9, 1875.

"Sir,—We are directed by the Council of the Royal Medical and Chirurgical Society to inform you that the Society is not at present engaged in contemplating any experiment involving vivisections.

"We are requested also to add, that if the Society should undertake any further scientific investigations rendering such processes necessary, they would certainly decline the presence or interference of any unqualified witnesses.

"We are, Sir, faithfully yours,

"E. Symes Thompson, M.D., } *Hon. Secs.*, Roy. Med.
"J. Cooper Forster, } and Chi. Society.

"To the Secretary of the Society for the Prevention of Cruelty to Animals."

No discussion took place; but the reading of the Council's reply was received with marks of approbation by the members present. This answer will probably be adopted in some modified form by most of the bodies addressed by Mr. Colam. In it there is only one omission—with regard to men who possess a medical diploma, but are in other respects quite as pestilent as those who are unqualified.

THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

At the meeting of the Royal Medical and Chirurgical Society, on Tuesday evening, a paper by Dr. Murray, of Newcastle-on-Tyne, was followed by one, of which Mr. Bryant was the author. "On the Ilio-Femoral Triangle." The object of the latter paper was to point out what the author believes to be a new method of measurement for the more ready diagnosis of impacted fracture and other morbid conditions of the neck of the thigh-bone. The paper was followed by a good discussion, in which Messrs. Pollock, John Wood, Callender, Thos. Smith, Maunder, and others took part. As is usual, at the end of the discussion, the author replied to the various speakers; but on this occasion, after doing so, Mr. Bryant commenced a statement of the manner in which an attempt had been made to get him to withdraw his paper, or, as he himself put it, "to strangle it in its birth into the Society." He was, however, interrupted by the President, who objected to any such statement being made publicly to the Fellows on that occasion, and who requested Mr. Bryant to confine his remarks to the subject-matter of his paper and the discussion thereon. Mr. Bryant then asked if he was to understand that he, as a Fellow of the Society, was to receive an insult, through and in the name of the Society, without being allowed an opportunity of drawing attention to it. The President, however, ruled that no such statement as that which Mr. Bryant had commenced to make could be permitted; and thereupon, in deference to this ruling, Mr. Bryant resumed his seat, and the meeting was brought to a conclusion. Sufficient, however, was divulged to make it evident that considerable pressure had been brought to bear on the author to get him to withdraw his paper; and that this pressure had been exercised through the President of the Society. The question as to whether Mr. Bryant's paper should be accepted or not was, at his request, submitted to the Council for decision. The Council decided, and, as the discussion showed, well decided, that the paper should be read.

The Society is to be congratulated on the wisdom with which its Council has acted. Either Mr. Bryant's paper was worthy of being read, or it was not. The Council decided it was worthy: and as no published description of Mr. Bryant's method of measurement exists, although Mr. Stanley years ago in the wards of St. Bartholomew's Hospital seems to have employed very similar measurements, it will not be thought that the Council was wrong in so deciding.

FOOTBALL AMONG HOSPITAL STUDENTS.

A very interesting competition is now taking place between the football clubs of the metropolitan hospitals, to decide the possession of a handsome challenge cup valued at ninety guineas. The first of the series of matches took place on Monday week last, the contending parties being University College and St. Thomas's Hospitals, which was decided in favour of the former by one touch-down to nothing. The next day St. Bartholomew's Hospital Club played St. Mary's, and won by three tries and seven touch-downs to nothing. On the following Thursday, Guy's met King's College, and, after a well-contested game, the former club was declared winner by two goals, two tries, and four touch-downs to nothing. Last Monday, Guy's and Middlesex Hospitals were pitted against each other. The Middlesex men contested the game very pluckily, but were greatly overweighted, Guy's winning by two gaols, seven tries, five touch-downs, and one touch in goal to nothing. The competition is not yet concluded.

THE BRISTOL DISPENSARY.

At a recent special general meeting of the subscribers to the Bristol Dispensary, it was resolved, after a stormy discussion, that the rule by which the election of surgeons to the charity is vested in the hands of the general body of the subscribers be rescinded, and that in future the surgeons shall be elected by the committee for a definite period of five years, which term may be extended by them at their discretion.

ARMY MEDICAL DEPARTMENT.

THE following is a list of army medical candidates who were successful at both the London and Netley examinations, having passed through a course of instruction at the Army Medical School, Netley, together with the number of marks obtained by each :—

	Marks.		Marks.
1. Harrison, C. E. . .	5645	9. Gardner, R. H. .	3680
2. Wellings, B. W. .	5175	10. M'Gann, J. . . .	3678
3. Forrester, J. S. . .	4095	11. Powell, J. . . .	3660
4. Smith, R.	4035	12. Carter, S. H. . .	3490
5. Trevor, F. W. . .	3955	13. May, W. A.. . .	3447
6. Mullane, T. . . .	3948	14. Bourke, G. D. . .	3427
7. Scott, H.	3785	15. Gardner, H. G. .	3367
8. Campbell, W. . .	3755	16. Hoysted, J. . . .	2996

MORE VICTIMS.

THE following is a list of Naval Medical candidates who were successful at both the London and Netley Examinations, having passed through a course of instruction at the Army Medical School, Netley, and of the number of marks which they obtained :—

	Marks.		Marks.
1. O'Connor, D. W. .	4113	4. Breton, W. E. . .	3215
2. Russell, A. W. . .	3595	5. Bourke, M. E. . .	2717
3. O'Callaghan, J. . .	3467	6. Whately, G. F. . .	2447

We cannot congratulate these gentlemen on their choice of such professional occupation, even at the present moment.

HEALTH OF BIRMINGHAM.

DR. ALFRED HILL, in his report of the health of Birmingham for the quarter ending January 2, 1875, says that scarlatina was the most fatal of zymotic diseases, having occasioned as many as 218 deaths. Next came small-pox, to which 153 fell victims; whooping-cough proved fatal to 82 persons, against 31 in the corresponding period of 1873, and 42 in the third quarter of the present year. This increase commenced as soon as the cold weather set in, and continued as the quarter advanced. The number of deaths occasioned by diarrhœa has declined from 106 in the fourth quarter of 1873 to 53 in the fourth quarter of the present year; by fever (typhus, typhoid, and simple continued), from 63 to 51; by measles, from 87 to 22; and by diphtheria from 39 to 22. The Small-pox Hospital had been transferred to the charge of the Borough Sanitary Authority, and provision was being rapidly made for the reception and treatment of persons suffering from scarlet fever. The water of the waterworks company had been analysed once each month, and that of ten wells, in connexion with most of which zymotic disease already existed; and the wells were, almost without exception, highly contaminated with the products of decomposition of excrementitious matters. The report shows that sanitary reform is being earnestly carried out, and goes on to say—

"The sanitary census which you instructed me to have taken is proceeding with all due despatch. It has already been taken in six of the wards, and in a few more weeks will be completed. The results will be of great value, indicating the black spots of the town, and enabling a connexion to be traced between existing diseases and their causes, and so affording that information which is necessary to an amelioration of their condition. Nuisances, structural defects, purification, and disinfection have received what attention it has been possible to give to them, and the offensive middens continue to undergo diminution by the substitution of the water-tight receptacles, 3845 of which had been introduced up to the end of the year."

HOMES FOR WORKING-MEN IN GLASGOW.

AN influential committee was appointed at a public meeting held in Glasgow last week to settle the preliminary arrangements in order to form a limited liability company for the purpose of erecting a number of dwellings for warehousemen, workmen, and clerks. The scheme is a very laudable one, and it is to be hoped that it will meet with success.

THE HOWARD MEDAL.

THE following is the title of the essay for which this medal will be awarded in November, 1875 (the essays are to be sent in on or before June 30, 1875) :—"The State of the Dwellings of the Poor in the Rural Districts of England, with special regard to the improvements that have taken place since the middle of the eighteenth century, and their influence on the health and morals of the inmates." Further particulars or explanations may be obtained from the Assistant-Secretary, at the rooms of the Statistical Society, Somerset House-terrace, King's College, Strand, W.C.

EDINBURGH UNIVERSITY EXTENSION.

THE inhabitants of Berwick-on-Tweed are manifesting great interest in the extension of Edinburgh University, and the scheme is receiving a large amount of support from the neighbourhood. Last week a public meeting was held in the Town Hall, Berwick, to consider the question. The Mayor presided, and resolutions were passed to the effect that the extension of the University buildings deserves the hearty approval of the inhabitants of Berwick-on-Tweed and the surrounding neighbourhood.

CHAIR OF CHEMISTRY, UNIVERSITY OF DUBLIN.

WE have great pleasure in announcing that on Saturday last the Board of Trinity College, Dublin, elected Dr. J. Emerson Reynolds, F.C.S., to this chair, the fixed emoluments of which have been lately raised to £500 per annum. Professor Reynolds, in consequence of this appointment, vacates the chair of Chemistry in the Royal College of Surgeons, Ireland. For this, we have reason to believe, the candidate most likely to be successful is Professor Charles A. Cameron, F.R.C.S.I.

UNIVERSITY OF DUBLIN.

EARLY in March the Academic Council of the University will meet to choose a Regius Professor of Surgery in the place of Dr. Robert Adams, deceased. In addition to Dr. Butcher, whose name we mentioned last week, two most highly qualified candidates are spoken of in connexion with this honourable post—namely, Mr. George H. Porter, Surgeon to her Majesty the Queen in Ireland, and Senior Surgeon to the Meath Hospital; and Mr. William Colles, Surgeon to Madame Steevens' Hospital.

HEALTH OF LONDON.

THE Registrar-General's return last week shows that 1552 deaths occurred in the metropolis, which were 109 below the average. The annual death-rate from all causes, which in the two previous weeks had been 24 and 25 per 1000, decreased again to 24 last week. To the seven principal diseases of the zymotic class 144 deaths were referred, against 199, 180, and 171 in the three preceding weeks. Of these, 2 were from small-pox, and 43 from scarlet fever.

MANCHESTER MEDICAL SOCIETY.

OFFICE-BEARERS for 1875 :—*President :* Dr. Morgan. *Vice-Presidents :* Dr. Borchardt, Dr. Lloyd Roberts, Dr. Ransome, and Mr. Windsor. *Hon. Secretary :* Mr. Walter Whitehead. *Hon. Librarian :* Mr. Cullingworth. *Hon. Treasurer :* Dr. Thorburn. *Committee :* Dr. Bird, Dr. Dreschfeld, Mr. Ewart, Mr. Galt, Dr. Glascott, Dr. Hardie, Mr. Jones, Mr. Knowles, Dr. Leech, Dr. Little, Mr. Lund, and Dr. W. Roberts. *Auditors :* Mr. Coathupe and Mr. Mann.

SIR W. JENNER AND THE CLINICAL SOCIETY.

IT is now understood that Sir W. Jenner will take the chair of the Clinical Society for the first time on Friday, the 12th inst., when he will deliver the customary address. It is unfortunate that earlier notice could not be given, but this was hardly possible, bearing in mind the uncertainty of the period of his detention at Osborne.

ROYAL COLLEGE OF SURGEONS, IRELAND.

Mr. Henry Croly, of Rathfarnham, county Dublin, has been elected Examiner in Midwifery in the room of Dr. John Cronyn, recently appointed Professor of Midwifery in the School of Surgery. Mr. Henry Gray Croly, son of Mr. Henry Croly, has been selected to fill the place on the Council of the College vacant through the death of Dr. Robert Adams.

BACKWARD LEGISLATION IN JERSEY.

The Jersey States threw out, on the adjourned debate, the Bill for Compulsory Vaccination. An amendment, recommending vaccination on voluntary principles, was adopted by a majority of seven. How will this miserable legislation affect the number of persons who are likely to visit, in the ensuing summer, such a pest-house as Jersey?

OVERCROWDING AT CLIFTON.

It having been reported to the local Sanitary Authority that a good deal of overcrowding exists at Clifton, that body has decided to adopt the most stringent measures of the Sanitary Act, 1866, so as to facilitate proceedings against the owners or occupiers of such houses, and to suppress other nuisances too often associated with such houses.

THE LORD RECTORSHIP OF ABERDEEN UNIVERSITY.

Steps are already being taken by the friends of Professor Huxley to secure his re-election at the next election of Lord Rector, which will take place next session. Mr. Gladstone's name has also been mentioned as a probable nominee, as has also that of Dr. Carpenter.

PROPOSED NEW HOSPITAL AT MANCHESTER.

Efforts are being made to establish a hospital for consumption and diseases of the heart at Manchester. A public meeting in aid of the object was held on Monday last, and a committee appointed to carry out the preliminary arrangements.

OPHTHALMIA AT MITCHAM.

Contagious ophthalmia, which has been very prevalent in the pauper schools at Mitcham for some time past, is now on the decline. There are still, however, remaining under treatment forty-one girls, forty-eight boys, and thirty-five infants.

SOCIETY OF PUBLIC ANALYSTS.

In consequence of the uncertainty of the action of the law in cases of adulteration, and in face of the difficulties in dealing with many articles of food, public analysts were led to form an association, and in August, 1874, a meeting was called at the Cannon-street Hotel, all the public analysts in the United Kingdom being invited to attend it. The object of that meeting, which was very numerously attended, was the formation of a "Society of Public Analysts," and, after a very full discussion, resolutions were passed in pursuance of that object. At the same meeting a committee was appointed to frame a constitution for the Society, and to define adulteration. A report by this committee was presented to the general meeting held last December. This report was adopted, and the following definition accepted by three-fourths of the entire body of public analysts who now constitute the Society.

Definition of an Adulterated Article.

An article shall be deemed to be adulterated—

A. In the case of food or drink:—1. If it contain any ingredient which may render such article injurious to the health of a consumer. 2. If it contain any substance that sensibly increases its weight, bulk, or strength, or gives it a fictitious value, unless the amount of such substance present be due to circumstances necessarily appertaining to its collection or manufacture, or be necessary for its preservation, or unless the presence thereof be acknowledged at the time of sale. 3. If any important constituent has been wholly or in part abstracted or omitted, unless acknowledgment of such abstraction or omission be made at the time of sale. 4. If it be in imitation of, or be sold under the name of, another article.

B. In the case of drugs:—1. If, when retailed for medicinal purposes under a name recognised in the British Pharmacopœia, it be not equal in strength and purity to the standard laid down in that work. 2. If, when sold under a name not recognised in the British Pharmacopœia, it differ materially from the standard laid down in approved works on materia medica or the professed standard under which it is sold.

Limits.

The following shall be deemed limits for the respective articles referred to:—

Milk shall contain not less than 9 per cent. by weight of milk solids not fat, and not less than 2·5 per cent. of butter-fat.

Skim Milk shall contain not less than 9 per cent. by weight of milk solids not fat.

Butter shall contain not less than 80 per cent. of butter-fat.

Tea shall not contain more than 8 per cent. of mineral matter calculated on the tea dried at 100° C., of which at least 3 per cent. shall be soluble in water; and the tea *as sold* shall yield at least 30 per cent. of extract.

Cocoa shall contain at least 20 per cent. of cocoa-fat.

Vinegar shall contain not less than 3 per cent. of acetic acid.

All "analytical chemists," but no others, are eligible for membership in the Society of Public Analysts, the Society intending to confine its attention to practical analyses exclusively.

Council of the Society.—President: Theophilus Redwood, Ph.D. Vice-Presidents: Arthur Hill Hassall, M.D.; James Alfred Wanklyn, M.R.C.S. Treasurer: T. Stevenson, M.D. Other Members of Council: Alfred H. Allen; Albert J. Bernays, Ph.D.; C. Estcourt; G. A. Rogers, M.R.C.S.; Francis Sutton; J. W. Tripe, M.D. Hon. Secretaries: C. Heisch and G. W. Wigner.

The first ordinary meeting of the Society of Public Analysts was held on Friday, February 5, at the Cannon-street Hotel: Dr. Redwood, President, in the chair. The public analysts present were—Wanklyn, Stevenson, Allen, Tripe, Rogers, Estcourt, Dupré, Muter, Rimmington, Piesse, Jones, Cleaver, and Wigner. Some Members and Associates were ballotted for and elected, the report of the Council read, and some other preliminary business transacted; after which

Mr. J. A. Wanklyn read a paper "On the Detection of Alum in Bread." Mr. Wanklyn said that the usual quantity of alum employed in aluming bread was between twenty to thirty grains per 4-lb. loaf. Calculated in percentage this is a very small figure, twenty-eight grains of alum in the 4-lb. loaf being 0·1 per cent. of alum, yielding only 0·024 per cent. of phosphate of alumina. The difficulty of detecting this small proportion of phosphate of alumina in bread is still further increased by there being about ten times its weight of phosphate of lime and magnesia along with it. There are two processes for effecting the separation of the phosphate of alumina from the other phosphates—first, by dissolving it in caustic alkali, and leaving the rest insoluble; secondly, by dissolving the phosphate of lime in acetic acid, and leaving the phosphate of alumina insoluble. The first of these processes (Kuhlmann's) can be only a qualitative and not a quantitative process, since the phosphate of lime, being a jelly, retains obstinately some of the phosphate of alumina. The other process, which has been known for many years, but only recently applied by Dr. Dupré to the detection of alum in bread, presents no difficulty of this kind. Mr. Wanklyn said that he had simplified this process, and verified it by numerous experiments on bread alumed to a known degree in his laboratory, and he was now enabled to recommend the process as the best-known method for the detection of alum in bread. He then proceeded to give the practical details of the process, as follows:—A sample of bread weighing 100 grammes is burnt in a large platinum dish, heated by means of a Bunsen burner. The resulting ash is boiled with three cubic centimetres of fuming hydrochloric acid diluted with twenty or thirty cubic centimetres of water. The liquid is then filtered, and the filtrate, which contains the phosphates, is mixed with five cubic centimetres of strong ammonia, causing a precipitate of phosphates. Finally, twenty

cubic centimetres of strong acetic acid is added, and the phosphates of lime and magnesia are dissolved, whilst the phosphate of alumina is left insoluble. On filtration, the phosphate of alumina is left on the filter-paper, and may be ignited and weighed. The trace of iron which accompanies the alumina is measured by a process of titration, and its weight is allowed for.

Dr. Dupré said that he approved of the method suggested by Mr. Wanklyn, as a modification of the process he had been working. He considered that the process was simplified by the improvement, and would be worked in a more satisfactory manner.

Mr. Allen said that he had made many experiments in order to test the accuracy of the various processes for detecting alum in bread, and he had found the process described in Hart's "Manual of Health" very defective. (a) He preferred Dr. Dupré's process to the others.

Dr. Stevenson said that the method of separating the phosphates by means of acetic acid was introduced twenty years ago by the late Mr. Nesbitt.

Mr. Wigner said that a certain quantity of alum could be detected in pure unalumed bread, but that experiments have shown that the maximum amount of alum obtainable was eight grains in the 4-lb. loaf.

After some remarks by Dr. Muter, Dr. Tripe, Mr. Jones, and Mr. Cleaver,

Mr. Wanklyn said that it was important that the process adopted should be as simple as possible.

Mr. Wanklyn then took the chair, and

Dr. Redwood read "Notes on Analysis of Milk." He said that Mr. Wanklyn's system of milk analysis, adopted by the Society of Public Analysts, recommends itself by its simplicity and the accuracy of the results obtained. Many experiments had proved that the standard of 9·3 of solids not fat was a safe and fair one in milk proceeding from healthy cows properly fed. It was desirable that public analysts should, as far as possible, acquaint each other with their special methods of analysis. Dr. Redwood then produced his apparatus for the analysis of milk, and described at some length his mode of operating in porcelain dishes. He preferred porcelain because of their constancy in weight.

Dr. Tripe called attention to the untrustworthiness of the lactometer and specific gravity test. This was strikingly shown in a case which came recently under his own observation. The specific gravity of a sample of new milk was 1026·6, and the yield of cream 15½ per cent.: the specific gravity of the same milk when skimmed being 1033. To this skimmed milk he added 20 per cent. of water, and after doing so he found its specific gravity to be about 1026, which is the same as the specific gravity of the original milk before it was skimmed and watered. On being allowed to stand for twelve hours this milk threw up some 7 per cent. of cream.

Mr. Wanklyn admitted that porcelain vessels keep very constant in weight. The merit of platinum vessels was the economy of time in using them. A platinum dish cools very rapidly, and may be weighed within a minute of its being taken out of the bath; whereas a porcelain dish takes a considerable time to cool, and cannot be weighed promptly.

After some further discussion,

Dr. Thomas Stevenson read a paper "On the Decomposition of Milk, with special reference to its Analysis when in a Decomposed State." He said that the first change which milk undergoes is, that it becomes slightly sour, a little of the milk-sugar being transformed into lactic acid. It is to be noted that this change takes place without either loss or gain in weight, as a molecule of milk-sugar is exactly equal to two molecules of lactic acid. On keeping the milk for a longer period, other changes take place, and small quantities of alcohol and butyric acid are formed, these changes involving of necessity a loss in weight. When the decay of the milk has proceeded very far, the determinations of total solids are of very little use to the public analyst, and the only thing that can be done is to investigate the ash.

Mr. Cleaver related several experiments, which appeared to show that, on being kept, milk experiences a uniform diminution in the amount of its total solids, the loss being at the rate of 0·7 per cent. per month.

Dr. Dupré doubted the validity of Mr. Cleaver's results.

Dr. Muter agreed with Mr. Cleaver in the main, but set down the loss at 0·5.

(a) Kuhlmann's process.

Mr. Rimmington called attention to the growth of fungi and to the production of oxalate of lime when the decay was far advanced.

Mr. Jones had met with some cases in which, after being kept for four or five months, the milk exhibited no diminution in the weight of the total solids.

Mr. Allen suggested that carbolic acid should be used to preserve the milk.

Mr. Wanklyn said that the results of milk analyses were to be depended upon during the first week, but that after milk had been kept for more than a week it became irregular, and that sometimes there was no change in the milk solids, and at other times there was great change in them. When milk was very old, the best thing the analyst could do was to determine the ash.

Dr. Redwood asked what was the normal percentage of ash in milk. He had found 0·65 per cent. in some cases and 0·8 in others. Speaking of the alterations which milk undergoes on keeping, he said they depended on the temperature. At 55° Fahr. milk undergoes little change; but at 70° or 80° Fahr. it changes rapidly.

After a reply from Dr. Stevenson,

Dr. Dupré read a paper "On the Natural Constituents of Wine."

A discussion followed, and the meeting concluded, a paper by Mr. Wigner, entitled "Practical Suggestions as to the Best Method for Public Analysts to adopt in reference to Local Boards, Inspectors, etc., especially as to the Receiving, Dividing, Sealing, and Reporting on Samples," being reserved for the next meeting of the Society, which will take place in about two months. The meeting was opened at 4.30 p.m., and closed at 9.10 p.m.

RESEARCHES ON THE BRAIN.(a)

By Dr. EDWARD HITZIG.

No. I.—On the Position of the Extra-Ventricular Cerebro-Spinal Fluid.

In human post-mortem examinations, which are generally made at least twenty-four hours after death, it is the rule to find a total absence of fluid between the dura mater and pia mater, whereas the meshes of the pia mater are filled with fluid. Dr. Hitzig, on the other hand, has noticed that in opening the brains of dogs during life, or immediately after death, there is generally an abundance of fluid in the former situation, so that the dura mater is distinctly separated from the pia mater by it, and the vessels of the latter rendered indistinct. To reconcile these two sets of facts Hitzig has examined the brains of dogs poisoned with hydrocyanic acid at various times within the first twenty-four hours after death, and finds that there is a gradual disappearance of the fluid from between the dura and pia mater, until a few hours after death it has vanished entirely. This disappearance cannot be due to more than a small extent to the fluid being absorbed into the substance of the brain itself, owing to its hygroscopic properties after death, for the lateral ventricles, if the brain be left *in situ*, are always found full. Hitzig therefore believes that during life the surface of the brain is subject to what he terms "a secretive pressure" on the part of the cerebral fluid, which is greater than that with which the brain is pressed either by its own elasticity or by the blood-pressure inside the skull outwards against the skull. This continuous physiological compression of course ceases when secretion ends at death, and from that moment the brain's own elasticity begins to make itself felt, so that the fluid on the surface is displaced, and forced into the interstices of the brain, while its place is taken by the brain substance.

If this explanation be true, it may help to throw light on one or two post-mortem appearances which have hitherto been puzzling. Thus, exudations rapidly thrown out on the brain-surface may kill by producing cerebral anæmia, and yet the elasticity of the brain-substance may be so little impaired by

(a) "Untersuchungen über das Gehirn." (Neue Folge.) Von Dr. Eduard Hitzig, Privatdocent an der Universität, Berlin. Berlin: Hirschwald. 1874.

"Researches on the Brain." (New Series.) By Dr. Edward Hitzig, *Privatdocent* in the University of Berlin. Berlin: Hirschwald. 1874.

the short duration of the compression that it may be able to expel the cerebral fluid from the cavity of the dura mater. Thus only œdema of the brain may be found post-mortem where the patient has really had an acute hydrocephalus externus. Again, in careful reports of the necropsies of lunatics it is not uncommon to find it stated that, on cutting through the dura mater, several tablespoonfuls of fluid ran out. This is just what we should expect *à priori* if the elasticity of the brain were so diminished by internal disease as to render it incapable of expanding post-mortem, so as to displace the extra-ventricular fluid.

No. II.—Extirpation Experiments on the Cerebrum.

In this new series of researches Hitzig has examined the effects of the removal of portions of the superficial grey substance of the brain in dogs anterior to the crucial fissure, in order to see whether any constant disturbances in the muscular movements, or in any other of the functions of the animals, can be produced thereby. His former experiments(b) were almost entirely made on the surface of the convolution immediately behind the crucial fissure (Owen's post-frontal gyrus, which is marked *e* in Hitzig's diagrams). Electrical irritation was employed almost exclusively in those experiments, whereas in the present ones—after trephining the skull, and removing the pia mater—a layer of grey matter was removed from the brain surface by means of Daviel's scoop. Any bleeding that occurred was stopped by pressure with strips of amadou, and the wound was allowed to heal. In the first few days after the operation there was generally more or less prolapse of the brain-substance into the wound, which became covered with granulations, until, at last, the opening in the bone was filled with a more or less firm connective-tissue substance.

Dr. Hitzig points out that most of the objections which have been raised to the results obtained by this method of operation have less weight than at first sight appeared. Loss of blood can generally be reduced to so small an amount that it is insignificant when compared with the size of the animal operated on.

Cooling of the surface of the brain and the loss of the cerebro-spinal fluids are also unimportant, as far as Hitzig's experience goes; nor has the opening of the skull in dogs, nor even the removal of large portions of the brain, much apparent influence on the animals' health, provided that free exit be given to the secretion from the wound. For further details with regard to the operation itself, and for the carefully recorded histories of several cases, we must refer those interested to the original paper.

The main results of the removal of the grey substance of the frontal convolutions *a*, *b*, and *c* were that in five experiments not the least disturbance of any function was observed which could be proved to depend on the injury to those parts. Hitzig therefore considers that the negative results which he obtained by the electrisation of the same parts are completely confirmed by these extirpation experiments. On the other hand, Hitzig thus continues to disagree with Dr. Ferrier, who has obtained various disturbances of movement by galvanising these parts.

In a second group of experiments, portions of the frontal gyrus *d* (the convolution immediately in front of the crucial fissure) were removed. The results of electrisation of this gyrus had been to a great extent negative, and it had only been possible to produce movements of the head and contractions of the muscles of the neck by using strong currents to its lateral parts. It was therefore important to know whether extirpation of portions of it would confirm the electrical results, and if so to what extent, since it was possible that muscular movements might have been originated by the extension of the currents to contiguous gyri. The results of nine experiments, in which the whole of gyrus *d* was at some time or another extirpated, show that that convolution has no direct relation to muscular movement. In some of these experiments there was noticed, sooner or later, the symptom to which Hitzig has given the name of loss of the muscular consciousness (*Muskelbewusstsein*). By this is meant—first, that the animal allows its right foot (the lesion being in the left hemisphere) to be placed in uncomfortable positions without trying to put it where it was before; and secondly, that in active movements it uses the limbs on the right side in an awkward manner. In all the cases, however, this symptom was proved to be due either to injury inflicted on parts adjoining the gyrus or else to secondary processes of inflammation, which extended beyond the immediate neighbourhood of the operated spot, and specially to the convolution immediately behind the crucial fissure—gyrus *e*.

The present contribution of Dr. Hitzig's to the physiology of the brain contains many observations which are of much interest to those specially engaged in the study of that organ, but which are scarcely of a character to be made intelligible in a short abstract or without the aid of the accompanying diagrams. We have here only called attention to the main result of Hitzig's new experiments—namely, the absence of derangement of muscular action after the removal of the grey matter of the frontal convolutions in the dog. These convolutions, therefore, we may almost certainly conclude are not directly involved in the production of muscular movements.

(b) "Untersuchungen über das Gehirn." Berlin, 1874.

FROM ABROAD.

Uterine Fibroid Tumours.

A paper upon this subject by M. Tillaux, relating some unusual cases, gave rise to an interesting discussion (reported in the *Gaz. des Hôp.*, January 5, 7, and 9) at the Société de Chirurgie.

M. Tillaux observed that cases of small uterine fibroids are met with, which, in consequence of their passing out of the cavity of the uterus and spontaneously re-entering it, give rise to great divergence of opinion among surgeons who have to examine such patients at different periods. He recently met with such a case at the Lariboisière, in which a fibroid body, the size of a walnut, that had been detected external to the cervix had entirely disappeared next day when the patient was brought into the theatre for its removal. These tumours pass out of the cavity of the uterus, especially at the menstrual periods. Another case exhibited a still more curious variety. A patient, who a year before had a pediculated fibroid polypus successfully removed, applied with symptoms denoting a recurrence of the disease. The uterus was most carefully examined with the hystéromètre, and pronounced to be of normal dimensions, and absolutely free of any growth. A few days after, a tumour, the size of an egg, was found to be filling the vagina. M. Tillaux believes that the tumour at the time of the first exploration was situated within the walls of the uterus beneath the mucous membrane in the vicinity of the cervix. Under the influence of uterine contraction induced by a plug which he had applied, it was suddenly expelled from the uterine cavity. It was easily removed. A third case terminated fatally in consequence of a misadventure in the operation. It was an example of one of those rare cases of enormous fibroid which are difficult to deal with. It mounted up above the umbilicus, and projected into the vulva, inducing great metrorrhagia, and causing at the menstrual periods expulsive pains analogous to those of childbirth. It filled the entire cavity of the uterus, so that the finger could not be introduced, nor the point of implantation ascertained. While manipulating it with the forceps prior to removal, the tumour was expelled, the perineum yielding to very moderate traction. The tumour was sessile and intimately connected with the fibres of the uterus at its fundus; and the écraseur having been applied after an incision had been made into the tumour, this was rapidly separated, bringing away with it a portion of the fundus of the uterus. The patient died of peritonitis forty-eight hours after the operation. The lesson which M. Tillaux draws from his case is, that, useful as the écraseur is for the removal of pediculated uterine tumours, it ought not to be used for those that are sessile, which should be detached layer by layer by means of a bistoury.

M. Tarnier observed that intermittent polypi have been noticed by all surgeons; but with respect to M. Tillaux's second case, he believed that it had been ill observed in consequence of the hystéromètre having been used instead of the uterine sound. It is inexplicable that a sessile growth should be so rapidly transformed into a pediculated one. M. Duplay considered the exploration of the uterus much more difficult than that of the bladder. With respect to the removal of large fibroid tumours, he thinks that traction should be avoided as much as possible, the point of implantation of the tumour being sought for by removing it portion by portion. M. Guéniot related a case which occurred in his own practice. Immediately after the removal of a fibroid tumour the size

of an orange, another projection presented itself at the orifice, giving rise to a doubt whether this was another fibroid or the fundus of the inverted uterus. The diagnosis was made by means of acupuncture, under the conviction that, if the tumour were a fibroid, sensation would be absent, while resistance would be considerable. The tumour was removed, and the patient recovered. M. Guéniot does not consider it dangerous to leave in the uterus a portion of a fibroid tumour, as it in general becomes disorganised without producing much inconvenience. M. Guyon agreed in this opinion, providing that the tumour be pediculated. Large fibroid tumours, he added, may of themselves induce inversion, and it is in such cases that the écraseur would prove especially dangerous. M. Hervez de Chégoin observed that the extirpation of these tumours is a work of prolonged patience, which is best brought about by the use of temporary ligatures, the final extirpation taking place at the end of several months. It is, in fact, a prolonged accouchement which he has never seen end fatally. With intra-uterine fibroids he does not meddle. M. Polaillon prefers for the removal of these bodies the *serre-nœud* of Maisonneuve, which divides at the place where it is applied far better than the chain of the écraseur. It is also the only possible instrument that can be applied in cases in which polypi cannot be attacked by the bistoury, in women become anæmic from hæmorrhage, and unable to bear any further loss of blood. M. Blot felt astonished at the preference given by M. Polaillon to the *serre-nœud* over the écraseur on the ground of the latter producing hæmorrhage. In his opinion these bodies can be detached from the uterus by the fingers, just as an adherent placenta is detached. The patient waiting recommended by M. Hervez is often rendered impossible, owing to excessive hæmorrhages and consequent anæmia. The best mode of operating consists in segmentation of the fibroid body, followed by its enucleation with the fingers.

Dr. von Ivanchich's Axioms on Lithotrity.

Dr. von Ivanchich, of Vienna, has been publishing for several years, in the *Wien. Med. Zeitung*, his cases of lithotrity. He now (January 5) interrupts the series at the 233rd case, in order to state what he calls his axioms. We should rather say to re-state them, as he declares they are identical with propositions which he laid down in 1842, therefore more than thirty years since, when he had performed some two dozen operations. They are as follow :—

1. Lithotripsy up to the twelfth year is only exceptionally and very rarely indicated. 2. Sex, as sex, is no contra-indication to it. It may be added that in girls, even under twelve years, the operation is of more frequent performance than in boys. 3. From the twelfth year until old age the chances of a favourable issue after lithotrity are continuously on the increase; so that in old age lithotrity is, as a general rule, to be decidedly preferred to lithotomy. It should be regarded as the usual, and lithotomy as the exceptional procedure. 4. While organic and functional integrity of the sexual and urinary organs favours the successful issue of lithotrity, yet even considerable departures from this need not form an absolute contra-indication. Phymosis is removed by division or circumcision, and strictures of the urethra by appropriate preliminary treatment. Hypertrophy of the prostate, especially of its middle lobe, often presents a fatal impediment, but yet this frequently is not insurmountable. The spontaneous discharge of the fragments prevented by this, or by paralysis of the bladder, may be compensated for by their artificial extraction. Vesical catarrh, even when this is inteuse, and whatever the state of the reaction of the urine, considered in itself, interferes little with lithotripsy. On the other hand, increased sensibility of the urinary passages exerts a powerful influence. The employment of anæsthetics, however, has caused increased sensibility, unaccompanied by other complication, to cease to be a contra-indication to this operation. Organic disease of the urinary organs, when they can be diagnosed, forbid its performance, as they also render the issue of lithotomy problematical. 5. Lithotrity is favourable for one or more small stones up to the size of a walnut, especially if not very hard, the chemical composition not much influencing the indication, even when this is oxalate of lime. But stones, even as large as an egg, and that when they are very hard, are not always refractory to lithotripsy. No. 20 in the list of cases relates to one in which two uric acid calculi, weighing together eight Loth (thirty-two drachms), were successfully removed in fifteen sittings. Nevertheless, the large size of the stone, especially when combined with other complications, often contra-indicates the operation. Such cases will always raise crititical problems, the solution of which will make a demand on the penetration of the surgeon. Stones that are encysted in diverticula of the bladder, or that are impacted in its neck and cannot be readily forced back again, must be removed by incision, as must all calculi that have voluminous non-friable nuclei. 6. Fiually, it may be especially declared that invariable determinate indications and contra-indications for lithotrity cannot be laid down on paper; so that in doubtful cases it is only the practical tact of the surgeon that can decide whether any and what operation, or whether mere palliative treatment should be resorted to. It is often the issue of the operation that can alone decide whether the indication has been skilfully seized.

Case of Poisoning by Chloral.

Dr. Chouppe, in the *Gazette Hebdomadaire* for February 5, publishes a case of poisoning by chloral which he had read before the Society of Biology. He observes that chloral was scarcely introduced, when large doses came to be administered with apparent innocuity. Thus, M. Martineau related a case of cancer of the ear, in which, for the relief of intolerable pain, he administered the enormous quantity of sixteen grammes in two hours; while M. Bourdon stated that in puerperal convulsions he often gave ten to twelve grammes; and M. Mialhe declared that he considered it almost impossible to kill an animal by chloral given by the mouth.

The following case, however, shows that large doses may be attended with great danger. Dr. Chouppe was called at midnight of January 12 to a gentleman, whom he found quite insensible, with stertorous breathing, a punctiform contracted pupil, irregular respiration, and a small, irregular pulse. The nature of the case was obscure until a bottle containing some remains of chloral was found. The patient's state became rapidly worse: the respiration became very slow, the pulse imperceptible at the wrist, and the movements of the heart scarcely audible, the trunk and limbs being covered with a cold and viscous sweat. By one o'clock all spontaneous respiration had ceased, and the heart could no longer be heard. Inductive electricity and artificial respiration had been resorted to, with little or no effect, when the reporter called to mind a case of poisoning by morphia, at New York, in which artificial respiration had been kept up for several hours by faradisation of the diaphragm. One of the poles was passed over the track of the phrenic nerve, and the other over the insertions of the diaphragm, a thermometer placed in the rectum indicating a temperature of 30·2° C., being the lowest observed during the progress of the case. The application was continued for thirty-five or forty minutes, at the end of which time the patient respired spontaneously, although slowly and irregularly, while the radial pulse could be faintly felt, and the movements of the heart were rapid. The first sign of returning sensibility was a dilatation of the pupils during the passage of the current, this ceasing when the current was interrupted. Next followed some cries, and lastly a complete return of consciousness during the passage of the current, the patient then recognising those around him. At three o'clock he fell into a calm sleep. His pulse was 80, strong, and regular; the respiration was regular and 20; and the rectal temperature rose to 37·4°. The sleep lasted until nine, the patient awaking reposed and unaware of what had occurred.

It seems the patient took the chloral for the first time because he slept badly; and the bottle whence he drauk the solution was supposed to have contained from thirteen to fifteen grammes, of which he probably took a third. Very soon after he commenced feeling heavy, and undressed himself, after which time he recollected nothiug.

The Combined Administration (chiefly Hypodermically) of Chloral, Morphia, and Atropia.

Under the above title, Prof. Bartholow, of Cincinnati, recently read a paper at the New York Neurological Society (noticed in the *New York Medical Journal*, January), in which he gives a summary of his experience of the combination in question. After describing the effects of some experiments on animals, it is stated—

"In man the excitant action of atropia hinders the occurrence of chloral narcosis, but rather deepens the sopor when it at last supervenes. The effects of atropia last much longer, and are apparently in no way prevented by chloral. Morphia deepens in every way the effects of chloral. The author found, in the course of some experiments on himself, that many of the

unpleasant effects of morphia are modified, as regards the wakefulness caused by the latter, but are not modified as regards the subsequent nausea, vomiting, headache, vertigo, and constipation. When the two agents are administered conjointly, a much less quantity of chloral is necessary in order to produce sleep. These agents act much more favourably when administered simultaneously. Chloral causes sleep; morphia relieves pain; atropia prevents or lessens the depression in the respiration and cardiac movements caused by the other two, while it contributes to their cerebral effects.

"These physiological studies are confirmed by the therapeutical results. The combination of chloral, morphia, and atropia is adapted to those cases of insomnia caused by pain, or in which chloral or morphia alone merely increases the cerebral excitement—as in hypochondria, puerperal mania, etc. This combination is also indicated in cases of fatty and irritable heart. When pain is to be relieved, chloral is not so serviceable as the combination with morphia and atropia. The local administration—that is, the insertion of the medicament at the site of pain—is more effective than the mere systemic impression. This is especially the case in tic douloureux, sciatica, and coccyodinia. The combination of a local irritant and benumbing agent with a systemic anodyne is more curative than either used singly. In cases of muscular spasm, the author of the paper has obtained excellent results from the combined use of chloral, morphia, and atropia, and he especially called attention to the efficacy of these agents in the cramps of cholera. Many cases of spasmodic asthma, hay-fever, etc., have been benefited by their conjoint administration."

REVIEWS.

The Last Journals of David Livingstone, in Central Africa, from 1865 to his Death: continued by a Narrative of his Last Moments and Sufferings, obtained from his Faithful Servants Chuma and Susi. By Horace Waller, F.R.G.S., Rector of Twywell, Northampton. In Two Volumes, with Portrait, Maps, and Illustrations. London: John Murray, Albemarle-street. 1874.

(*Concluded from page* 128.)

As soon as Livingstone had somewhat rested at Ujiji, he set out in July, with Arab traders, to explore the country of Manyuema, a region lying to the west of Lake Tanganyika, and hitherto scarcely visited even by the Arabs. In this country he stayed for about two years, baffled and disappointed in every way in his attempts to explore and to cross the mighty river, the Lualaba. He suffered terribly, also, from attacks of illness, and especially from irritable eating ulcers in the feet, by which he was at one time confined to his hut at Bambarré for eighty days. The ulcer seems, he says, "to be a spreading fungus, for the matter, settling on any part near, becomes a fresh centre of propagation. The vicinity of the ulcer is very tender, and it eats in frightfully if not allowed rest. . . . . The ulcers are excessively intractable; there is no healing them before they eat into the bone, especially on the shins." The Arabs use a plaster of wax and a little finely ground sulphate of copper as a remedy, and Livingstone was at last advised to try "malachite, rubbed down with water on a stone, and applied with a feather; this is the only thing that has any beneficial effect." Hidden away in the pocket of the note-book used during this long and most painful illness was a small scrap of printed paper, on one side of which Livingstone had written, "Turn over and see a drop of comfort found when suffering from irritable eating ulcers on the feet in Manyuema, August, 1870." Turning the paper over, it was found to be a cutting from a list of advertisements which had, with some tea and other things, reached him before leaving Ujiji; and the slip kept was the advertisement of the fifth thousand of Livingstone's "Narrative of an Expedition to Zambesi and its Tributaries," with an extract from a warmly appreciative and laudatory notice, in the *British Quarterly Review*, of the character and achievements of the great traveller. Who would not be glad to be the reviewer from whose pen had flowed this "drop of comfort"? At times, in this country, Livingstone also suffered much from nausea and vomiting on taking food, and from choleraic purging. His descriptions of the country and the people are extremely interesting. The women are pretty, light-coloured, and graceful, and he says of the men—"I would back a company of them, in shape of head and physical form, against the whole Anthropological Society"; they have settled ideas of right and wrong, have laws and government, and value courage in men and chastity in women. The accounts of their villages, dwellings, food, and clothing also show that they are very well provided with the means of bodily health and comfort; and they were generally extremely kind to Livingstone. But some of their customs and practices are cruel and abominable to the last degree; murder, as we should call it, and at any rate the violent taking of human life, is incredibly common among them, and it seems almost certain that they are cannibals. The most frightful atrocities were enacted among them by the Arab slave-traders, who burned villages, and at times slaughtered men, women, and children, simply to inspire terror; and one most horrible piece of villany at Nyangwe finally decided Livingstone to return to Ujiji. He had been staying in the village for four months, trying to get a caravan and men to enable him to cross the river and proceed on his travels, and had offered Dugumbé, a slave-trader, a large sum for ten men to take him to Lake Lincolu, the Fountains of Herodotus, and the great cave of Katanga, in which it is said 10,000 men can find refuge. The negotiations were still going on, when Dugumbé's men suddenly one day fired on the crowd in the full market-place, and drove the men, women, and children into the river; and Livingstone was helpless to succour or avenge them. "My first impulse," he says, "was to pistol the murderers, but Dugumbé was against my getting into a blood feud, and I was glad afterwards that I took his advice." But the scenes enacted made it impossible for him to travel with such miscreants. He says—"After the terrible affair in the water, the party of Tagamoio, who was the chief perpetrator, continued to fire on the people there and fire their villages. As I write I hear the loud wails on the left bank over those who are there slain, ignorant of their many friends now in the depths of Lualaba. Oh, let Thy kingdom come! No one will ever know the exact loss on this bright sultry summer morning; it gave me the impression of being in hell. All the slaves in the camp rushed at the fugitives on land and plundered them; women were for hours collecting and carrying loads of what had been thrown down in terror." And two days later he writes—"The terrible scenes of man's inhumanity to man brought on severe headache, which might have been serious had it not been relieved by a copious discharge of blood; I was laid up all yesterday afternoon with the depression the bloodshed made—it filled me with unspeakable horror. 'Don't go away,' say the Manyuema chiefs to me: but I cannot stay here in agony." He resolved, though it was a grievous disappointment, to retrace his steps for 600 miles, after feeding and clothing the worthless slaves he had had with him for twenty-one months; and at the end of July he started back for Ujiji. But he had to pass through a country laid waste by the slave traders, and the enraged people having mistaken him for one of these traders, he had some narrow escapes from attempts on his life. It was the only time during these seven years' wandering that he had been hostilely attacked. The marches on the journey were very trying; he suffered severely from weakness and pain, and when he reached Ujiji on October 23, 1871, he was "reduced to a skeleton." But all his property there had been sold off in his absence at nominal prices; and "I felt," he says, "in my destitution as if I were the man who went down from Jerusalem to Jericho, and fell among thieves; but I could not hope for priest, Levite, or good Samaritan to come by on either side." Four days later, however, when his "spirits were at their lowest ebb," Mr. Stanley arrived. Livingstone was deeply touched by this succour. "I am not of a demonstrative turn," he says, "as cold, indeed, as we islanders are usually reputed to be, but this disinterested kindness of Mr. Bennett, so nobly carried into effect by Mr. Stanley, was simply overwhelming. I really do feel extremely grateful, and at the same time I am not a little ashamed at not being more worthy of the generosity. Mr. Stanley has done his part with untiring energy; good judgment in the midst of very serious obstacles." He soon recovered strength enough to start with Mr. Stanley to explore the north end of Lake Tanganyika; and on March 14, 1872, Mr. Stanley left him, in Unyanyembé, determined to continue his travels. Stanley, as we knew before, tried hard to persuade Livingstone to return with him; and, as the latter records in his diary, "used some very strong arguments in favour of my going home, recruiting my strength, getting artificial teeth, and then returning to finish my task; but," he adds, "my judg-

ment said, 'All your friends will wish you to make a complete work of the exploration of the sources of the Nile before you retire.'" Incentives such as this, with the fact that Stanley supplied him fully with stores of all kinds, and promised to send him "men, not slaves," from the coast for his work, outweighed all arguments in favour of a return home first. His scheme of work was to march from Unyanyembé round the south end of Tanganyika, to cross the Chambezé, turn round south of Lake Bangweolo, and then go west to visit the "four full-grown gushing fountains" that "it is all but certain" rise on the watershed eight days south of Katanga, "each of which at no great distance off becomes a large river." This route would, he believed, serve to certify that no other sources of the Nile could come from the south without being seen by him; and this he greatly desired to achieve. "No one," he says, "will cut me out after this exploration is accomplished; and may the good Lord of all help me to show myself one of His stout-hearted servants, an honour to my children, and, perhaps, to my country and race." He had already amply proved himself an honour to his country and race; but, alas! it was not given to him to accomplish the task he had set himself.

After Stanley left, on March 14, till August 15, Livingstone lived in the Unyanyembé district, making observations, writing, and reading; but it was trying work, and towards the end he frequently speaks of the "wearisome waiting." When at last the longed-for men came, he records his fervent thanks "to the Giver of all good" for their arrival, and after giving them a few days' rest he started, August 25, 1872, on his last journey. The season was, unfortunately, bad, and very trying, and so early as the middle of September we find him suffering from his old enemy, dysentery; on September 19 he writes, "ill with bowels, having eaten nothing for eight days," and his men speak of few periods of even comparative health from this date. In the first days of January, 1873, the party got into the apparently interminable spongy jungle along the shores of Lake Bangweolo; and we learn from Mr. Waller that Livingstone's men describe the march from this point as one continual plunge in and out of morass, and through rivers which were distinguishable from the surrounding waters only by their deep currents and the necessity for using canoes. Livingstone himself, in one entry, speaks of the country as "this world of water and ant-hills"; and while almost every day's march was a "tramp through stiff, grassy prairies from three feet to four feet deep in water" hour after hour, with wading now and then through deeper streams, they had also almost constant rain. And besides all this, Livingstone was suffering greatly from losses of blood. At the end of January we find the note, "I lose much blood"; on February 14, again he writes, "I remain because of an excessive hæmorrhagic discharge"; and at this date he did, we think, begin to doubt if his health and strength would hold out, for he says, "If the good Lord gives me favour, and permits me to finish my work, I shall thank and bless Him, though it has cost me untold toil, pain, and travel; this trip has made my hair all grey." But he worked on through constant exposure, severe labour, and extreme anxieties and annoyances, till, on April 10, he says, "I am pale, bloodless, and weak from bleeding profusely ever since the 31st of March last; an artery gives off a copious stream, and takes away my strength. Oh, how I long to be permitted by the Over Power to finish my work." Ten days later he is "excessively weak," can "scarcely hold the pencil"; his stick is a burden to him, and he can take no observations. Two days more, and he had to be carried, very short stages and with frequent stoppages, on account of the alarming exhaustion caused by paroxysms of dysenteric pain; and on April 27 he pencilled with great difficulty the last words he wrote—"Knocked up quite, and remain—recover—sent to buy milch goats. We are on the banks of the Molilamo." His servants still lovingly and obediently bore him on as far as Chitambo's village, and there, on the night of April 30, he sank to his rest. He was found, "kneeling by the side of his bed, his body stretched forward, his head buried in his hands upon the pillow," dead.

Chitambo, the chief of the village, behaved generously and well; and Livingstone's men, guided and ruled by Chuma, Susi, and Jacob Wainwright, acted with remarkable intelligence and discretion in the extremely difficult position in which they were placed. The temptation is great to describe how, through many difficulties and dangers, they persisted in taking Livingstone's body to the coast, not reached till February, 1874, whence it could be sent home. The whole story is a grand instance of loving fidelity and devotion to one who could no longer praise or blame, punish or reward; but the history of all this is already well known, and does not, indeed, form part of "Livingstone's Journals," and we therefore forbear.

The volumes we have thus reviewed are deeply interesting, and cannot but increase one's admiration for the grandly simple, faithful, loving, patient and forbearing character of David Livingstone; but they also excite, we think, a feeling of profound melancholy. Page after page, and chapter after chapter of the record is full of the miseries and horrible atrocities caused by the "great open sore" which is the curse of Central Africa; and while reading Livingstone's journals we share in some measure in the feeling of helplessness and depression which at times affected him; and we wish, at least, to share also in the restful faith and trust which enabled him to say, "I know not how the great loving Father will bring it all out right at last, but He knows, and will do it."

FOREIGN AND COLONIAL CORRESPONDENCE.

AMERICA.

PHILADELPHIA, Nov. 20, 1874.

MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION AT PHILADELPHIA.—ABSTRACTS OF SEVERAL IMPORTANT PAPERS —NEXT YEAR'S MEETING AND PRESIDENT-ELECT.

AT the opening of the third day's session of the meeting, Dr. Stephen Smith, President, read a paper "On the Reciprocal Relations of the Public Health Service and the Highest Educational Qualifications of the Medical Profession," from which we freely quote. How can medical education, medical qualification, and medical practice, he said, be so elevated and protected as to secure to medicine, as a profession, that rank in community and in the State which its importance demands? History teaches us that the only power which can give rank and character to medicine is the State. And by this we mean that the State shall recognise in medicine a science and an art having such relations to the public interests that it must be placed under the surveillance of Government. If any state should be so enlightened as to recognise the fact that the medical art or practice directly affected the sickness and death-rate of the people favourably when practitioners were highly educated in medicine, and unfavourably when they were uneducated, and should thereby be led to forbid under stringent laws uneducated men to practise, a great step would be taken towards giving character to the practice of medicine. If the State should, by competent medical authority, fix a high standard of educational qualification for all who engage in the practice of medicine, this calling would become still more honourable, respectable, and dignified. If it should take cognisance of the schools of medical education, prescribe the course of studies to be pursued, and examine the candidates for graduation, and confer the diploma on the truly worthy and competent, can there be any doubt that medicine would be exalted to the highest rank of respectability both in society and in the State? The great difficulty in this country is that legislation in the interests of any single business or profession meets at once with opposition of the most violent and unreasoning kind. The inalienable right of the individual to do or be what he pleases asserts itself in the most imperious manner. Every man his own lawyer or his own doctor is an axiom which American education and custom ingrains in the citizen; the result is that no legal distinctions are tolerated between classes of the people. Co-operation of the State is, therefore, not to be secured in this country by the same means as under a Government where the will of a single intelligent sovereign is alone to be consulted. Mere direct appeals to the people or to legislatures will effect nothing, nor can legislation of an adequate or permanent character be obtained by petition or remonstrance. There must be established in the public mind a fixed belief that their welfare requires the incorporation into the civil administration of certain new powers and functions. In every state in the Union the agitation has begun, which can only terminate in the incorporation of a public health service as a new element of administration into state and municipal governments. Already in no less than seven states has State Medicine found an abiding place in the central government, and there can be

little doubt that within a decade of years every state in the Union will inaugurate its sanitary branch of the general government, and sooner or later every municipality and township throughout the country will have its local sanitary authority.

Dr. George M. Beard read a paper "On Hay Fever, or Summer Catarrh," in which he argued in favour of the theory that the nervous system plays the most important part in its causation, it occurring most frequently in nervous or nervo-sanguine or nervo-bilious temperaments, and being most frequent in those climates and countries where other functional nervous diseases are most frequent. The chosen home of hay fever is the northern portion of the United States. Next to this come England, Germany, France, Switzerland, and Russia. The United States in the northern section is also the chosen home of hysteria, neurasthenia or nervous exhaustion, nervous dyspepsia, and the immense variety of functional nervous affections allied to these. Nervous dyspepsia has been rightly called the "American disease," and it is much more frequent in the northern than the southern section. It is a disease peculiar to modern civilisation, and probably did not exist to any great extent prior to the present century. The important element in its production is heat following cold, and this same condition causes other nervous diseases. Where heat is steady, as in the South and the subtropical regions, nervous diseases, as well as hay fever, are much less frequent. It is a common boast of hay fever patients that this disease is peculiar to the intellectual classes. There is, perhaps, in this country an army, 25,000 strong, of thoughtful, more or less cultured, and unusually finely organised hay fever patients. The majority of patients are of American birth. Dr. Jacobi, of New York, says he has never known a case among Germans in this country; nervous diseases of all kinds are also comparatively rare among them. It is an interesting and significant fact that farmers working in hay are probably less liable to hay fever than almost any other class. The disease is very rare among the lower classes; scarcely any cases are reported in the New York dispensaries.

Dr. John C. Peters, of New York, next took up for consideration the Stealthy Introduction and Spread of Infectious Diseases in Large Cities, including influenza and its epizootic variety, hay fever, yellow fever, cholera, etc.

Dr. Allan McLane Hamilton, of New York, read an interesting paper "On Suicide in Large Cities," from observations made for the most part in New York, and compared with facts gleaned from the statistics of London and Paris, in which, however, heredity, cerebral injuries, or neuroses are not mentioned definitely as causes. In the year 1810 the number of suicides in London amounted to 188; comparison with French statistics of the same year proved that five times as many Parisians as Londoners took this means for ending their days. In the year 1806, sixty suicides were reported in Rouen, an extremely small city. In 1793, 1300 in Versailles. Paris, from 1827 to 1830, furnished 6900 suicides, an average of nearly 1800 per year. In the year 1858 the population of London was 2,720,607, and the number of suicides 283. In Paris, in 1853, the population was 1,053,262. There were 463 suicides, an immense number in excess of London, several years later. In Rome, in 1871, there were only 15 suicides, showing that self-murder is very uncommon among the Italians. In the City of New York, between the years 1865 and 1872, there were 678 suicides, being an increase of 100 in the last year over the first—511 males and 167 females. For the three years 1870, 1871, and 1872, there were 359 suicides, 132 being Germans—a very large percentage. As regards conjugal condition, there were 171 married persons, 118 single, 43 widows and widowers, and 27 whose condition was not stated. Two hundred and seventy-five were males and 84 females; the oldest aged eighty-six, the youngest ten. The months in which suicide was most most prevalent were those of summer. In August, 1870, there were 15 suicides, while in December only 7. In regard to occupation, clerks commit suicide the most frequently—about 34 in 1870, 1871, and 1872, and but 10 labourers. The percentage of labourers abroad is greater than any other. The mode of suicide most often employed in the city of New York is that of poisoning—212 out of nearly 600. The preference seems to be for arsenic; usually Paris green. In 1872, of 50 poisoning cases, 22 took Paris green; the others either opium, carbolic acid, or other irritants. In 1871, 14 took Paris green. Nearly all of the suicides chose violent and painful poisons. One individual ended his days by hydrate of chloral; another, a druggist, by prussic acid; three took chloroform; shooting ended the lives of 147 people; 135 hung themselves. When we take into consideration the looseness of our present laws regarding the sale of poisonous drugs, and the comparative ease with which suicides can procure the agents for their destruction, we have very little cause for wonderment. In London, hanging seems to have been the method most in vogue, for in the year 1858 56 persons perished in this way. A. Brierre de Boismont, in his "Recherches Medico-Legale sur Suicide" (Paris, 1859), collected 4595 cases, carbonic acid gas and drowning being the favourite modes of self-murder with men, and strangulation with women. Of 463 suicides occurring in the year 1853, 92 men perished by carbonic acid gas, 93 by drowning, and 131 women died by strangulation. The more ancient statistics show that voluntary starvation was a common form of suicide in the beginning of this century. Of the 463 suicides just mentioned, insanity caused the largest number, and then drunkenness and disease. Parisian statistics prove that of 3518 cases, 2094 occurred in the day time, 760 in the evening, and 658 at night, proving that daylight is most agreeable for this kind of work. The ages at which suicide seems to be most often resorted to are between forty and fifty among the men, and forty-five and fifty-five among the women. A form of suicide which figures largely in American statistics is jumping from an elevation. In France this form of suicide is a very common one, 45 individuals in the year 1820 having precipitated themselves from heights. So prevalent were these suicides that the authorities refused admission to the Column Vendôme. In New York between the years 1866 and 1872 there were 21 victims. A most important study in connexion with this subject is the influence of the mode of life of the poorer classes, the tenement-house system, the colonisation of many thousands of people in a limited space much too small for them. Families of several nationalities are closely packed together in front and rear houses. Diseases of the nervous system, principally of the trophic character, exist to a great extent, as results of imperfect lighting and ventilating. In the five years preceding 1872 the deaths from nervous diseases in New York averaged 3155·8, and for the years 1871 and 1872 were over 6000—an unusually large proportion, the number of deaths from all causes being 59,623. The vices attending the colonisation of the working class spread; the moral contact of the vicious with the pure is certain to occur; the ruin of young girls, and the depression of tone, are powerful inducers of suicide. The American people partake of the characteristics of their Transatlantic brethren; they have all the different bloods of Europe in their veins, but they live too fast; they acquire professional education in a few years which it takes ordinary individuals as many more to get the rudiments of in Europe. The seeds of every national soil are sown, and take root before we can employ measures to suppress them. Speculations and stupendous schemes, which in older countries take several heads instead of one to mature, too often here crush down the nervous system of men who work themselves to death, hardly taking time to eat, meanwhile living upon stimulants to enable them to stand the strain.

Dr. B. E. Fryer, Surgeon U.S. Army, read a paper "On the Influence of the High Altitudes and Climate of the Table-land Country of the Rocky Mountain Region upon Health and Disease," in which he expressed the conclusions—That to the healthy individual, with ordinary care, the region of elevation, even including the greater altitudes, will not cause injury, but will rather add vigour. That there are in the higher regions some few causes only for disease, which may be avoided by ordinary hygienic care. That at altitudes not to be greater than 3000 feet, or at most 4000 feet, we have a climate very well adapted to the residence of phthisical patients; though even then the cases should be selected, and to receive benefit must be sent to it in the earlier stages of the disease. That certain forms of debility and indigestion without organic lesion do well there. That in organic heart affections the disease would be added to, and such cases should never be sent there. Of a congerous nature was the paper next read, by Assistant-Surgeon J. S. Billings, U. S. Army, embracing abstracts of Special Reports by Army Medical Officers on the Effects of Mountain Climates upon Health, especially upon diseases of the lungs, but no general conclusions were given from these isolated reports.

Dr. A. N. Bell, of Brooklyn, editor of the *Sanitarian*, then read a paper "On the Perils of the School-room," in which, among other interesting facts, is given a lengthy abstract from a report on the public schools of Brooklyn, by the Sanitary

Inspector of the Board of Health. The atmosphere in the several schools varied from 27 to rarely more than 100 cubic feet for each child. He was surprised to learn the number of children unable to attend school on account of contagious diseases. From one class of sixty, ten children were absent, either from measles or scarlatina. No physician's certificate was necessary for the readmission of pupils after absence caused by contagious diseases; the decision of the proper time for the child's return was left to the discretion of the parent. Dr. Bell then stated that nearly allied to this condition was the nursery, a department of the almshouse for the care of pauper children. The space for each child, without allowance for furniture, was 380 cubic feet. There were attached to it two school-rooms which measured respectively 117 and 153 cubic feet to each pupil, or four times as much as some of the rooms of the public schools, and were scarcely exceeded by any, either in space or appointments, in regard to light and warmth. In an examination of sixteen public school-rooms and seven private schools in 1869, the average proportion of carbonic acid present was 1·64 volume per 1000, or 3·3 times its normal amount. One of the public school-rooms had eight times the normal proportion of carbonic acid present, and more than half of them four times the normal proportion. Brooklyn school-rooms were not more perilous than those of other cities.

As a fitting sequel to this statement, Dr. D. F. Lincoln, of Boston, Secretary of the Department of Health, American Social Science Association, presented the plan now adopted for examining into the state of the health of schools. School hygienics had been subdivided into fourteen topics, and upon each a special report is to be presented next spring. These are—heating and ventilation; light, and condition of scholars' eyes; seats, and deformities traceable to their faulty construction; architectural plans; apparatus employed in instruction; gymnastics; diseased conditions of the nervous system; diseased conditions of the organ of hearing; diseased conditions of the organs of the pelvic cavity; drinking-water; sewerage and water-closets; commissions for hygienic inspection of school areas; project of a law establishing the office of Medical Inspector of Schools; biological statistics in general; anthropometry. Efforts will be made to give to the general meeting, at which the above reports will be discussed, as much as possible of a national character.

The evening session included important addresses on "Health-laws and the Interests and Obligations of the State and National Governments pertaining to them," and on "Health a Prerequisite to National Success in Peace and in War," by Hon. Dorman B. Eaton, of Washington, and Hon. Lewis H. Steiner, of Maryland.

At the fourth, and last, day of the session it was resolved —"That a committee of four be, and is hereby, appointed for the purpose of investigating and reporting on the extent to which poisons are used in an unsafe manner for agricultural and other purposes, and to recommend suitable regulations and restrictions with regard to the same." S. Weir Mitchell, Philadelphia; J. H. Rauch, Illinois; J. Le Conte, Philadelphia; and K. C. Kedzie, Michigan, were appointed. It was also resolved—"That a committee be, and hereby is, appointed to prepare schedules for the purpose of collecting information with regard to the present condition of public hygiene in the principal towns and cities of the United States, and the law and regulations, State and municipal, relating to the same, and to report to the next annual meeting. The committee to consist of Dr. J. S. Billings, United States Army, chairman; Drs. Elisha Harris, of New York; A. N. Bell, of Brooklyn; J. M. Toner, Washington; H. B. Baker, Michigan; E. M. Hunt, New Jersey; S. C. Busey, Washington; B. E. Fryer, United States Army; F. Reilly, Marine Hospital Service; J. Le Conte, Philadelphia; E. Shippen, United States Navy; C. B. White, New Orleans, and such other persons as the committee may from time to time deem expedient to associate with them."

The next annual meeting will be held in November, 1875, in the city of Baltimore. It was resolved that a special committee be appointed by the Board to devise a project of laws to meet the wants in establishing State Boards of Health, and that this committee be instructed to report to the Executive Committee by January 1, 1875. Drs. Steiner, Maryland; Snow, Rhode Island; and Curtis, Washington, D.C., with the President, were appointed.

Professor J. M. Maisch, Secretary of the American Pharmaceutical Association, then read a paper "On the Sanitary Relations of Pharmacy and the Materia Medica," in which, after referring to the various steps which had been taken in America to regulate the practice of pharmacy, he concludes that from whatever standpoint we may look upon American pharmacy in its relations to public health, we shall find that the speediest, most effectual, and, to the public, least expensive method of securing all the advantages that may reasonably be expected from it in health and in sickness will be to insure the proper qualification of the pharmacists. This is one of the main purposes of the local pharmaceutical associations, and also of the national representative body of pharmacists. To accomplish this, among kindred objects, these societies have earnestly laboured for years, and in their efforts deserve the support of all having the welfare and safety of the public at heart.

Dr. Joseph M. Toner was then elected President of the Association for the ensuing year; after which Professor Gross introduced a resolution calling for the appointment of a committee to petition Congress to establish a National Board of Health, with branches at the seat of each State and the National Government. The feeling of the members was decidedly in favour of such a measure, but they did not see any chance, in the present state of political affairs, of having such a law adopted by Congress. It was also resolved that for a city one properly arranged and conducted *abattoir*, subject to municipal regulation, is always preferable to a number of private slaughter-houses; that the best practicable management of a large *abattoir*, with cattle and hog yards, cannot be depended upon at all times to prevent its drainage from contaminating water and the atmosphere in its vicinity, and, therefore, such establishments should be located as far as practicable at a distance from the centres of population, and, if possible, upon tide-water. It was also resolved that this Association should urge upon the governors and legislatures of each and every State in the Union the importance of laws creating State Boards of Health. The President appointed Professor Hartshorne, of Philadelphia, chairman of a committee, to be selected by himself, for the purpose of examining and reporting upon the sanitary condition of the watering-places in the United States at the next annual meeting of the Association. The Executive Committee were empowered to call a spring meeting of the Association if such should be needed.

PROVINCIAL CORRESPONDENCE.

LIVERPOOL.

February 1.

The Medical Institution—Alteration of the Rules of the Royal Infirmary—The Contagious Diseases Acts—The Royal Southern Hospital.

At the meeting of the Medical Institution on January 21, a very interesting paper was read by Dr. Caton, Lecturer on Physiology at the Royal Infirmary School of Medicine, "On the Electrical Relations of Muscle and Nerve," the value of the communication being greatly enhanced by a series of admirably conceived and most successfully executed demonstrations. The paper was prefaced by a short historical sketch, after which the various instruments to be employed in the demonstrations were explained—viz., Sir William Thomson's reflecting galvanometer, Du Bois Reymond's non-polarisable electrodes, the commutator, induction apparatus, etc. The demonstrations were effected in the following manner:—A graduated scale, some eight or nine feet in length, being placed on one of the walls of the theatre, a beam of light from an oxyhydrogen lamp was thrown on to the mirror of the galvanometer, and thence reflected to this scale. Thus, every deflection of the needle of the galvanometer was rendered distinctly visible to all present. The electric current of the triceps muscle of the frog was first demonstrated. Next, a nerve-muscle preparation was placed on the electrodes, the nerve being laid across a pair of platinum points, so as to allow of its stimulation by the interrupted current, in order to demonstrate negative variation. The electrical current of the muscle was seen to diminish whenever contraction occurred from stimulation of its nerve. Next, a frog's heart, contracting actively, was placed on the electrodes, and the ray of light from the galvanometer indicated a strong current during diastole, the ray swinging back to zero at every contraction of the ventricle. After a brief statement of the theories of Du Bois Reymond and Radcliffe respectively, in explanation of the muscular

current, a demonstration was given of the electrical current existing in nerves, and of the diminution of this current which is effected when a sensory or motor current traverses the nerve. The effect of the constant current in increasing or diminishing the excitability of nerve, also its influence on the natural electrical current, were next explained; and the paper was then concluded by some practical remarks on the application of these principles to electro-therapeutics.

A few years ago a very important change was made in the rules of the Royal Infirmary, whereby the term of service of some of its honorary medical officers was greatly extended. The alteration consisted in doing away with the definite period of service that up to that time had been fulfilled, and substituting for it a retention of office by the holder up to the end of his sixty-fifth year. This was felt to be a practical injustice to many young and rising men in the profession, and it was not long before an agitation was commenced against it. With a view of rendering the meetings of the trustees more accessible, both as to time and place, a resolution was moved last year to the effect that they should henceforth be convened at a place much nearer to the centre of commerce than the Royal Infirmary itself, and at a more convenient hour than ten in the morning. The first part of the motion was carried, so that this year the meeting was held in a suitable room near the Exchange, though still at the earlier hour. However, sufficient pressure was brought to bear upon the committee to induce one of their number to propose, as an amendment to the motion, that the original rule as to term of service should be reverted to—that it should henceforth be terminated on the incumbent's completing his sixtieth year. Thus, therefore, it stands at present. It is not likely, however, that Mr. Alderman Livingston, who has taken this question up, and persistently agitated it year after year, will be content to allow it to remain there.

The Contagious Diseases Acts have again been the subject of discussion here. On January 25 a large public meeting was held in St. George's Hall (a conference having been held in the same building at an earlier part of the day), which was addressed by the Right Hon. J. Stansfeld, M.P., A. H. Brown, Esq., M.P., Dr. Nevins, several local magistrates, and other gentlemen. In the afternoon a medical conference was held, at which was inaugurated a National Medical Association for promoting the repeal of those Acts, forty resident medical men having sent in their names as members, besides many others from various parts of the country. At the same conference it was resolved to establish forthwith a monthly medical journal to be devoted mainly to the discussion of the Acts from a medical point of view (presumably to be a journal in which those medical men who are opposed to the Acts can fully state their views). It was announced that ample funds had been already provided for carrying on the journal and distributing it very widely. Those medical men who take a favourable view of the Acts in question have also been busy; for a short time ago a memorial was drawn up expressive of a wish that the Acts should be kept in force in the garrison towns and forts where they are now in operation; and on a copy of this, with a stamped envelope for reply, being sent to every medical man resident in Liverpool and the neighbourhood, who could not otherwise be reached, about 170 signatures were obtained, or those of one-half of the profession of Liverpool and Birkenhead. Those who did not sign may be presumed to be either neutral or opposed to the Acts. Certainly not a few influential resident members of the profession have manifested their active opposition, over and above those who at once enrolled themselves in the newly formed association, while there can be no question that among the general public the opposition has gained greatly in strength of late, many influential men in this town taking a prominent and determined part in it.

The Royal Southern Hospital has lately had its usefulness increased by the erection of a series of Turkish baths within it. So great has been the pressure on its space of late that the committee have decided to open some of the wards that have not yet been occupied.

Lectures on School Punishments.—The next issue of the *Schoolmaster*—the weekly organ of the scholastic profession—will contain the first of a series of articles "On School Discipline by Punishments," from the pen of Dr. Laycock, Physician-in-Ordinary to the Queen, and Professor of Medical Psychology and Mental Diseases in the University of Edinburgh.

GENERAL CORRESPONDENCE.

DR. GEORGE HOGGAN AND THE PATHOLOGICAL SOCIETY.

Letter from Dr. G. Hoggan.

[To the Editor of the Medical Times and Gazette.]

Sir,—On all former occasions you have given me honourable treatment as an adversary. May I ask for a continuance of the same, by your giving the same prominence to this letter that you gave to the exceedingly distorted account of the proceedings of the Pathological Society in your last issue?

In that vicious attack upon me, the only thread of truth lay in the fact that, in the first place, I refused to enter into the details of a subject which the President ruled not to be before the Society. (Verbatim: "It is not before us.") Secondly, that I was true to professional honour, inasmuch as I refused to communicate facts made known to me in confidence. Thirdly, that I defended the absent inventor, though she was only a woman, by saying I supposed that she, having a medical degree, would be ready to communicate her valuable invention to the Society when allowed to do so in a proper manner before it. In all that, sir, I fail to see anything unscientific, unprofessional, or dishonourable.

With a soul above unmanly personalities,

I am, &c., George Hoggan.

13, Granville-place, W., Feb. 8.

[We are really exceedingly sorry to find ourselves in the awkward position of adversary to Dr. George Hoggan;—the fact is that until very recently we had never heard his name. But as regards the Pathological Society, that is another matter. Did we or did we not accurately represent the impression made on the minds of those present, as far as is possible to do on such occasions? Certain specimens, prepared by a new method, were advertised as about to be exhibited,—the only source of interest about them being, as it turned out, this mode of preparation. On describing the specimens, the pertinent question was put—"What, then, is this new method?" This question Dr. Hoggan refused to answer, saying the method had been invented and communicated to him by a lady,—we believe, his wife. Now, there is a distinct professional rule that anything involving such a secret shall not be exhibited before a society, or other such body of men, without a clear understanding that such secret shall also at the same time be made public. This Dr. Hoggan refused to do. Instead of this, he insisted on its value as a scientific method; that the lady its inventor—Mrs. Hoggan, we believe—was possessed of a medical degree, and would doubtless be prepared to divulge it to the Society when duly received there. In the eyes of many this was considered neither more nor less than offering a paltry bribe to revolutionise the Society; in any way it was a proceeding utterly to be condemned, and quite justifying even stronger epithets than those applied to it. It is not worth while to say more with regard to Dr. Hoggan; his letter condemns him most effectually.—Ed. *Med. Times and Gaz.*]

"A CORNISH MEDICAL SCANDAL."

Letter from Mr. J. Crossman.

[To the Editor of the Medical Times and Gazette.]

Sir,—My attention has just been directed to certain remarks contained in a recent number of your journal regarding the "Cornish Medical Scandal" case. In reply, I beg to state that I knew nothing whatever respecting the circumstances of the case previous to seeing the patient on December 24; that I was wholly unaware that any professional man had attended the case; that I did not regard my visit as of a professional character, and consequently did not interfere with the treatment of, nor assume any responsibility in connexion with, the case at any time.

My evidence at the inquest, at which I was subpœnaed, was

intended to describe accurately the state of the patient on the particular day on which I saw him, and this evidence happened to be of no inconsiderable importance in arriving at a true history of the case. My opinion was very definitely expressed regarding the treatment I deemed judicious in such a case.

The object of this communication is to state facts, and to avoid the *animus* which has been largely imported into this discussion.

I am, &c.,

John Crossman, M.R.C.S.E., L.S.A.L.

REPORTS OF SOCIETIES.

HARVEIAN SOCIETY OF LONDON.

Thursday, February 4.

Dr. Broadbent, President, in the Chair.

The Cerebral Complications of Typhoid Fever in Children.

Dr. W. H. Day read a paper on the above subject. He said that the frequency of diseases of the nervous system in early life, and the dangers which attend their course when they occur as the sequel of disturbance in the vascular system, give them an importance which cannot be over-estimated, and invite our attention to the grave consequences that might follow a false or imperfect diagnosis. The nervous system derives its strength and vigour from a due supply of healthy blood, and if this is in any way changed or disorganised by the fever-process it becomes excited, depressed, or in some way unstrung. Thus it is that, independent of the febrile condition, morbid sensations, nervous prostration, and those mental phenomena of which we daily see the effect rather than the cause, are of such common occurrence. The author cited two cases of cerebral complication occurring in the course of typhoid in which the post-mortem appearances gave a perfectly healthy state of the brain and its membranes. He related two other cases in which he believed the inflammatory process played some part in the changes that were observed in the brain—changes independent of the tubercular cachexia, and where no such deposit could be found in any organ of the body. It was impossible to enumerate any symptoms as diagnostic of the degree of cerebral congestion that might be present in any given case. The state of the brain and its membranes bore no approximate relation to the symptoms. The author considered that meningitis uncomplicated with the tubercular cachexia occurred now and then in typhoid fever in rare and exceptional cases. Setting aside the injurious effect which the circulation of poisoned blood at an elevated temperature must have on the nervous centres, there seems no satisfactory reason why the cerebral changes should be restricted to congestion of the vessels or simple vascularity of the membranes. The author endorsed the statement of other observers, that we cannot, in certain obscure cases, separate a form of typhoid in young children, characterised by a distinctly remittent type, from cerebral meningitis. If the symptoms are mixed up together in various degrees, the diagnosis between the two affections is often impossible. There were few greater or more perplexing difficulties in the practice of medicine. The author commented on the dangers of hasty induction and rash conclusions, and pointed out the risk of setting down the vomiting and cerebral symptoms to the typhoid state, whilst the brain might have been slowly and imperceptibly going wrong, and was perhaps the primary source of trouble.

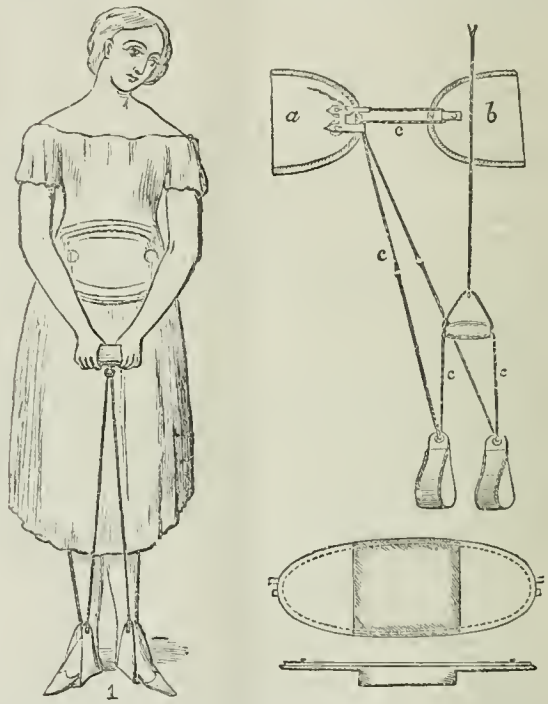
A discussion followed, in which the President, Dr. Symes Thompson, Dr. Griffith, Mr. Cripps Laurence, Dr. Farquharson, Dr. Easten, and Dr. Cleveland took part.

NEW INVENTIONS.

DR. E. DIVER'S TOCOPHELIA.

If any Lady Bountiful desires to benefit the poor women of her district, she may give to the parish surgeon one of Dr. Diver's obstetric instruments called *Tocophelia*, which, being interpreted, signifies "childbirth helper." It consists of means for helping a lying-in woman to help herself, to increase the expulsive efforts, compress the womb, and redress its anterior obliquity if any, and hinder relaxation of the womb, retention of the placenta, and hæmorrhage.

The apparatus consists first of all of a simple mechanism for rendering effective that habit which women have of pulling by the arms at a towel or rope, and pressing with their feet against a bedpost. Woodcut No. 1 will show the patient



standing (she may adopt any attitude she pleases), and pulling by the handle against ropes attached to stirrups in which she places her feet. The second cut shows the cushioned pads, one of which is applied to the sacrum, the other to the abdomen. The force is carried by the cords which run through holes in

the upper part of the stirrups to these pads, which are drawn together. Thus the back is supported and the womb compressed. This apparatus seems suited to the case of a *multipara* whose womb is sluggish during the second stage of labour, and who for any reason is not delivered under chloro-

form. It would also be useful in the first stage of labour when the uterus is large and flaccid and the belly pendulous. It may be had of Messrs. Maw, Aldersgate-street, price one guinea and a half.

OBITUARY.

GEORGE MORISON, M.D., C.M. Aber.,

Died at Kair House, Fordoun, N.B., on January 23, from the effects of a gunshot-wound of the calf which he had sustained ten days before. The accident happened during a day's rabbit-shooting: the charge passed through the gastrocnemius at the junction of the upper and middle thirds of the leg; but as the bones and nerves were apparently uninjured, and the tibial vessels were found beating at the ankle, it was determined to spare the limb. On the fourth day, however, violent delirium set in; on the eighth day signs of gangrene made their appearance near the upper end of the tendo Achillis; and amputation was speedily performed through the lower third of the thigh. The effort to save life was unfortunately unsuccessful, for death occurred from shock within twelve hours. George Morison was but young in his profession, having graduated as M.B. and C.M. in the University of Aberdeen in 1870, and as M.D. in 1872. He spent the first years of his professional life as assistant to Dr. Johnston, of Montrose, and afterwards to Dr. Wilson, of Huntly; and for the last three years was first assistant, and afterwards partner, to Dr. Key, of the former town. Beyond the peculiar circumstances of his untimely death, there was much in the character of Dr. Morison that deserves to be recorded in a public obituary. As a student, while he did not strive to excel in competitive trials with his fellows, he was ever earnest and industrious, and in the wards of the Aberdeen Infirmary was a recognised authority among his compeers in questions of surgery. But, above all, Morison was known as a man of genial and generous heart, and as a full partaker of that *esprit de corps* which ever pervades the best class of students in Scotch universities. He is said to have been a very popular practitioner, devoted and untiring in his professional duties, and highly esteemed in his social relations. The story of his death will sadden the hearts of many of his former fellow-students.

MEDICAL NEWS.

University of Dublin.—School of Physic, Trinity College.—At the Hilary Term examinntion for the degree of Bachelor of Medicine, held on Tuesday and Wednesday, February 2 and 3, the following candidates were successful:—

MacDowel, Effingham Carroll.
Doyle, Bernard.
Moran, James J.
Robinson, Leland.
Flemyng, Hans B.
Banks, Alfred.
White, Patrick Henry.
Erskine, John.
Blood, Joseph.
Carleton, Arthur W.
Irwin, John A.
Hughes, George A.
Stanley, William H. R.

At the examination for the degree of Master in Surgery, held on Friday and Saturday, February 5 and 6, the following passed:—

MacDowel, E. C.
Carleton, Arthur.
Doyle, Bernard.
Farrell, Peter J.
Blood, Joseph.
Blood, Matthews.
Taaffe, Robert.
Pollen, Henry.

The names, as given above, are arranged in the order of merit. Owing to Mr. MacDowel having obtained double first place, he was recommended to have the Degree of M.Ch. conferred upon him *Stipendiis Condonatis*.

University of Dublin.—At the Spring Commencements, held in the Examination Hall of Trinity College, according to custom, on Shrove Tuesday, February 9, the following degrees and licence in Medicine and Surgery were conferred:—

Baccalaurei in Medicina.—Banks, Alfredus; Bleakley, Alexander Slorach; Blood, Josephus; Carleton, Arturus W.; Doyle, Bernardus; Erskine, Johannes; Farrell, Petrus Josephus; Hughes, Georgius Arturus; Irwin, Johannes A.; M'Dowel, Effingham Carroll; Moran, Jacobus Josephus; Robinson, Leland; Taaffe, Robertus; White, Patricius Henricus.

Magistri in Chirurgia.—Blood, Josephus; Blood, Matthæus Smyth; Carleton, Arturus W.; Doyle, Bernardus; Eaton, Jacobus Bird; Farrell, Petrus Josephus; M'Dowel, Effingham Carroll (*Stipendiis Condonatis*); Pollen, Henricus; Taaffe, Robertus.

Doctores in Medicina.—Ball, Carolus Bent; Elliott, Gulielmus Hamilton; Floyd, Thomas Sargent; M'Dowel, Effingham Carroll; Nesbitt, Dawson; O'Farrell, Georgius Plunkett.

Licentiatus in Medicina.—Flemyng, Johannes Beresford.

Royal College of Surgeons of England.—The following Members of the College having undergone the necessary examinations, were admitted Licentiates in Midwifery at a meeting of the Board on the 4th inst., viz.:—

Hamerton, George Albert, L.S.A., the Infirmary, Lambeth, diploma of Membership dated July 23, 1874, of St. Thomas's Hospital.
Hardman, William, M.B. and C.M. Edin. and L.S.A., Blackpool, Lancashire, July 23, 1870, of the Middlesex and University College Hospitals.
Jones, Charles Morgan, Aberdare, South Wales, July 29, 1874, of St. Thomas's Hospital.
Lilley, George Herbert, Ware, Herts, May 20, 1874, of University College.

Two candidates having failed to acquit themselves to the satisfaction of the Board, were referred to their obstetric studies for three months.

APPOINTMENT.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

Moore, John William, M.D. Dub., F.K.&Q.C.P.I.—Assistant-Lecturer on the Theory and Practice of Medicine in the Carmichael School of Medicine and Surgery, Dublin.

MILITARY APPOINTMENT.

War Office—Medical Department.—Surgeon W. G. Routtledge, Army Medical Department, has been appointed to do duty with the 2nd Battalion 21st Fusiliers, at Aldershot, until further orders.

BIRTHS.

Brewer.—On February 7, at 261, Queen's-road, Dalston, the wife of Alexander Hampton Brewer, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., of a son.

Ducat.—On February 8, at 164, St. Paul's-road, Highbury, N., the wife of Andrew Ducat, M.D., of a son.

Foster.—On January 31, at Grosvenor House, Edgbaston, the wife of Balthazar Foster, M.D., F.R.C.P., of a daughter.

Jackson.—On December 16, 1874, the wife of F. E. Jackson, M.B., M.R.C.S., L.S.A., Surgeon to the Hospital, Wellesley, Penang, of a son.

Smith.—On February 5, at 45, Euston-square, W.C., the wife of Abbotts Smith, M.D., M.R.C.P. Lond., of a son.

MARRIAGES.

Cotton—Stokes.—On February 6, at St. Andrew's, Totteridge, Thomas Cotton, M.D., F.G.S., of Seven Sisters'-road, London, to Matilda Brewer, eldest daughter of Thomas Newton Stokes, Esq., of The Priory, Totteridge, Herts.

Hossack—Marchant.—On February 4, at the parish church, Pontefract, James Hossack, Esq., of Hull, to Gertrude Elizabeth Price, fourth daughter of the late Francis Marchant, M.D., of Hemsworth, Yorkshire.

Kingcombe—Caplen.—On February 3, at the parish church, Carisbrooke, Isle of Wight, Alfred Partridge Kingcombe, M.R.C.S. Eng., of Towcester, to Gertrude Grace, only child of the late John Caplen, Esq., of Ryde, and only grandchild of Robert Caplen, Esq., of Carisbrooke.

Lankester—Ries.—On January 20, at Sourabaya, Java, Samuel Rushton, second son of the late Edwin Lankester, M.D., Coroner, to Catherina Rica, only daughter of C. H. F. Ries, Esq., of Sourabaya.

DEATHS.

Archer, Ethel Lee, youngest daughter of H. Ray Archer, M.B. Lond., at Royston, Herts, on February 7, aged six weeks.

Billings, Sarah, widow of William Billings, surgeon, late of the Royal Navy and Royal Marines, at 40, Gloucester-road, Regent's-park, N.W., on February 4, in her 81st year.

Clark, James, M.D., at Elist-park, Blackheath, after a long illness, on January 31, aged 54.

Cuddiford, Thomas, M.R.C.S. Eng., L.S.A., of Plymouth, at St. Helena, on board the Union Steamship Company's steamer *American*, on January 2.

Day, Mary Anne, wife of W. E. Day, L.R.C.P. Edin., M.R.C.S. Eng., at Barton Hill House, Bristol, on February 5.

Duncombe, Cordelia D., widow of the late Alexander Duncombe, M.D., of The Grange, Island of Antigua, West Indies, at her residence, 47, Royal York-crescent, Clifton, on February 4.

Jobson, John, M.D. Edin., L.R.C.S. Edin., Assistant-Surgeon in H.M. 45th Regiment during the Peninsular War, at his residence, Brooksden, Cranbrook, Kent, on February 4, in his 86th year.

Kennedy, Angus, M.R.C.S. Eng., L.S.A., at his residence, Stratford Hall, Essex, on February 7, aged 70.

Miller, Amy, wife of Julius A. Miller, F.R.C.S., beloved child of C. M. Clara and the late Charles C. Burgett, of Calcutta, at Matteawan, New York, U.S.A., of puerperal fever, on January 23, aged 21.

Reggio, Annia Maria Stanton, beloved wife of Cavalier Eduardo Giannini e Reggio, and only daughter of R. Stanton Wise, M.D., of Beech Lawn, Banbury, at Lausanne, Switzerland, of gastric fever, on January 22.

Temple, Georgiana, eldest daughter of the late George Temple, M.D., H.E.I.C.S., Bengal, at 21, Powis-square, Brighton, on February 5, aged 39.

White, Frederick B., M.D., at Tetbury, on February 4, aged 82.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

Hailsham Union.—Medical Officer for the Parish of Heathfield. Candidates must be duly qualified. Applications, with testimonials, to the Chairman of the Board of Guardians, Board Room, Union Workhouse, Hellingly, before March 8.

North Wales Counties Lunatic Asylum, Denbigh.—Assistant Medical Officer. Candidates must be unmarried, and possess a knowledge of the Welsh language. Applications, with testimonials, to the Chairman of the Committee of Visitors, on or before February 17.

Royal Hospital for Diseases of the Chest, City-road, E.C.—Physician. Candidates must be F. or M.R.C.P. Applications, with testimonials, to the Secretary, on or before February 15.

Royal Infirmary for Children and Women, Waterloo-bridge-road, S.E.—Physician. Candidates must be M.D. and M.R.C.P. Applications, with testimonials, to the Secretary.

Salop Infirmary.—Assistant House-Surgeon. Applications, with testimonials, to Secretary.

Seamen's Hospital, Greenwich.—House-Physician. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before February 22.

University College Hospital.—Resident Medical Officer. Applications, with testimonials, to John Robson, B.A., on or before February 13.

University College, London.—Curator for the Museums of Anatomy and Comparative Anatomy. Applications, with testimonials and full particulars of qualifications, to John Robson, B.A., Secretary to the Council, on or before March 6.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Dover Union.—Mr. John Walter has resigned the St. Mary's District; population 9546; salary £70 per annum; also the Workhouse, salary £110 per annum.

Llanelly Union.—Dr. Humphreys has resigned the Kidwelly District; area 5169; population 2073; salary £20 per annum.

Mansfield Union.—Mr. N. Cooper has resigned the First District; area 13,535; population 12,928; salary £50 per annum; also the Workhouse, salary £40 per annum.

APPOINTMENTS.

Brentford Union.—Barrington S. White, M.R.C.S. Eng., L.S.A., to the Ninth District.

Horsham Union.—Henry J. Ashburner, M.R.C.S. Eng., L.S.A., to the Second District. Thomas Gravely, M.R.C.S. Eng., L.S.A., to the Eighth District. Edward J. Bostock, M.R.C.S. Eng., L.S.A., to the Thirteenth District.

Lichfield Union.—Graham A. Carter, M.D. Aber., L.R.C.S. Edin., to the Alrewas District.

Wisbech Union.—Edward Welchman, M.R.C.S. Eng., L.S.A., L.R.C.P. Lond., to Second B. and Third Districts.

Dr. Pyle has been placed on the Commission of the Peace for the Borough of Sunderland.

It has been decided by the Bristol Town Council to erect two extra wings to the City Lunatic Asylum at a cost of £13,000.

An offer by the Native Guano Company to treat the Sewage of the town of Kingston-on-Thames at their own expense and risk, and undertaking that no nuisance shall arise from the process, has been accepted by the Corporation.

Cysticerci in the Brain of a Subject of Progressive Paralysis of the Insane.—In the *Gazzetta Med. Lombardia*, January 16, Dr. Gonzales relates an interesting case in which twenty-four cysticerci were found in a case of paralytic dementia. Ten of these were found on the surface of the hemispheres, seven in the left and one in the right ventricle; five others were found in the left fissure of Sylvius; while one was deposited on the surface of the medulla oblongata. The particulars of thirty-three other recorded cases are given in a tabular form.

Case of Strangulated Umbilical Hernia.—M. Oliver, of Rouen, related to the Société de Chirurgie a case of considerable interest. It occurred in a woman sixty-one years of age, to whom, on account of disease of the heart, it was not safe to administer chloroform. The hernia, about the size of a small orange, had been strangulated thirty-four hours, constipation and constant vomiting being present. The taxis could not be immediately employed on account of the excessive distension and superficial ulceration of the skin covering the tumour. As the tumour was found to contain a notable quantity of liquid, it was determined, before proceeding to an operation, to discharge this by means of an exploratory trocar. About a wineglassful of sanguinolent serosity was discharged, with the effect of so reducing the tension of the tumour as to admit of the taxis being employed. This was applied during twenty-five minutes, very gently at first, and afterwards with considerable force. The hernia was completely returned, and the patient did very well.—*Gaz. des Hôp.*, January 16.

Examination by the Anus.—Lecturing on a case of stricture of the rectum, Prof. Gross observes that in order to ascertain the existence of this the finger is the best instrument. "Oil the finger well, and when introducing it give it a rotating, boring movement, and you will give your patient no pain; whereas, if you push the finger directly up through the sphincter, the patient will complain of intense pain. This is an item well worth your recollection."—*Medical Record*, November 16.

College of Surgeons' Lectures.—Professor Wilson, F.R.S., will bring his course of lectures on Dermatology to a close this day (Friday): and on Monday next Professor W. K. Parker, F.R.S., will commence a course of eighteen lectures on the Structure and Development of the Skull, in continuation of his course of last year. The following is the programme of the learned gentleman, viz.:—Introductory. Skull of Lancelet. Skull of Menobranchus. Skull of frogs and toads. Skull of snakes and lizards. Skull of turtles and crocodiles. Skull of birds (*Ratitiæ*). Skull of birds (*Carinatæ*: 1, Schizognathæ; 2, Desmognathæ; 3, Ægithognathæ; 4, Saurognathæ). Skull of pig. Skull of other mammalia placentalia. Skull of mammalia non-placentalia. Summary and conclusion.

Passage of Scissors through the Wall of the Abdomen.—At the New York Pathological Society, Dr. Sands produced a seissors which had been swallowed by a lunatic woman suffering from suicidal mania. Some time after, a tumour appeared above the right side of the umbilicus, which suppurated, allowing the points of the scissors to be visible. From the opening, intestinal and biliary matters issued. The scissors were removed by unfastening the rivet and extracting each blade separately. The blades were five inches long and three-quarters of an inch broad. Twelve hours after the removal of the last blade there were no traces of intestinal or biliary discharges, and in two days the wound had healed, the patient doing very well.—*New York Medical Journal*, December.

A Word for the Women.—The following is an extract from a letter in the *Boston Medical and Surgical Journal*, from Ann Arbor (Michigan) State University:—"One of the most interesting points about the University is the trial, on an extensive scale, of the experiment of co-education. Women are admitted to all the departments on a perfect equality with men, and both sexes attend all exercises together, except in the medical school. In this, the lectures are given separately to the male and female students, save only on chemistry, a subject which nobody thinks it improper or unadvisable on any account for men and women to study together. The results on every hand have thus far been eminently satisfactory. The women take high rank, and have given no evidence of impairment of bodily vigour in consequence of the rigorous course of study, nor of loss of the peculiarly feminine traits which so many have feared would be imperilled in acquiring an education with their brothers. These statements are particularly applicable to the women in the medical department. No one is at all surprised now to have them carry off a large share of the honours, and all the professors are agreed that, as a class, they stand higher in the quizzes than the men. This is attributable, to a great extent, to their superior preliminary education—a most striking circumstance in favour of the enforcement of entrance examinations. Many of them have had a large experience in teaching, a number are wives of physicians, and almost all are of an age which usually brings with it seriousness of purpose and strength of mind, if these qualities are ever to be possessed. The matriculation-book shows some interesting facts on this last point. The oldest man in the medical class is forty-six; the oldest woman, fifty. The youngest man is eighteen; the youngest woman, nineteen. The men average twenty-four and a half years; the women, thirty years. The average age of the entire class is twenty-five. Dividing them according to age into semi-decades, it is found that the majority of the men are between twenty and twenty-five; while the period of five years which includes the greatest number of women is that between thirty and thirty-five."

The Free Man and would-be Physician of the West.—We hear much of the advantages of free education in America, but it would certainly seem that they are not invariably taken advantage of. Here is the history (culled from the *Boston Medical and Surgical Journal*) of an examination of a would-be physician at the University of Michigan. Our preliminary standard is far too low, but still a step in advance of

America:—"As to the entrance examination at Ann Arbor, it is believed that this is the only medical school in the country where anything of the kind is required. Strange as it seems to one who considers the physician's need of a sound education, the greatest dullard may enter almost any medical school in the United States without a question as to his ability to understand what he will see and hear. Let me tell you of the examination of one of the candidates this year. He was nineteen years old, had been to school four years, and had studied medicine one year with his father, a physician in active practice. In answer to questions he said that Germany was in South America; Europe, Asia, and Africa were also there; Russia was in North America, about 500 miles from New York city; England was in Russian North America; New Orleans was north-east from Indiana; water freezes at 33° below zero, and boils at 102° above; the torrid zone is hotter than the frigid on account of climate; summer is warmer than winter because of temperature; all animals are called quadrupeds; mosquito is spelled m-o-c-q-t-o; and if two apples cost three cents., twelve will cost thirty-six cents. He could not give the boundaries of his native State. Indeed, the only questions which he answered correctly were as to the capital of his State, and the location of the Amazon—with which, it is fair to remark, he associated the Nile and the Niger. Of course it is unnecessary to say that he was rejected; but it is pertinent to add that he departed in high dudgeon at the action of the faculty, evidently thinking that he had passed a very creditable examination, and declaring his intention to immediately favour a certain other school with his presence and patronage, which he is probably doing at this moment."

AVERAGE COMPOSITION AND QUALITY OF THE METROPOLITAN WATERS IN JANUARY, 1875.—The following are the returns (by Dr. Letheby) of the Society of Medical Officers of Health:—

Names of Water Companies.	Total Solid Matter per Gallon.	Oxygen required by Organic Matter, &c	Nitrogen.		Hardness.	
			As Nitrates &c.	As Ammonia.	Before Boiling.	After Boiling.
Thames Water Companies.	Grains.	Grains.	Grains.	Grains.	Degs.	Degs.
Grand Junction	20·02	0·091	0·142	0·003	14·8	4·2
West Middlesex	20·67	0·052	0·147	0·001	14·3	4·4
Southwark & Vauxhall	21·30	0·086	0·140	0·003	14·9	4·2
Chelsea	20·07	0·084	0·131	0·003	14·1	4·2
Lambeth	20·87	0·131	0·167	0·002	14·4	4·2
Other Companies.						
Kent	27·90	0·004	0·258	0·001	20·6	5·8
New River	21·87	0·018	0·147	0·001	14·9	4·2
East London	23·73	0·066	0·181	0·002	15·7	4·6

Note.—The amount of oxygen required to oxidise the organic matter, nitrites, etc., is determined by a standard solution of permanganate of potash acting for three hours; and in the case of the metropolitan waters the quantity of organic matter is about eight times the amount of oxygen required by it.

The water was found to be clear and nearly colourless in all cases but the following, when it was more or less turbid—namely, in those of the Grand Junction, the Southwark and Vauxhall, the Chelsea, and the Lambeth Companies.

The average quantity of water supplied daily to the metropolis during the preceding month was, according to the returns of the Water Companies to the Society of Medical Officers of Health, 106,947,278 gallons; and the number of houses supplied was 514,118. This is at the rate of 31·4 gallons per head of the population daily. The last official return from Paris stated that the average daily supply per head of the population was 28·8 gallons; but this includes the water used for the public fountains, and for the ornamental waters in the Bois de Vincennes and the Bois de Boulogne.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

Dr. Drake, Montreal.—Letter, with enclosure, received.

A. Lutaud.—We shall be glad to see the abstract in question.

Erratum.—In our last issue, at page 163, in the paragraph relating to the lectures at the Royal College of Surgeons, *for* "Professor Flower, F.R.S.," *read* "Professor Wilson, F.R.S."

Veritas.—Dr. Heberden's work, entitled "Commentari de Morborum Historia et Curatione," was completed in 1782; but as he always intended it to be a posthumous publication, it did not appear until about twelve months after his death, which took place on May 17, 1801, at the age of ninety-one years.

E. S., Islington.—The process may be a very valuable one, but as it is the subject of a patent we cannot push it beyond legitimate limits.

Beverage.—It was Liebig who observed—"We shall certainly never be able to discover how men were led to the use of the hot infusion of the leaves of a certain shrub (tea), or of a decoction of certain roasted seeds (coffee). Some cause there must be which would explain how the practice has become a necessary of life to whole nations."

Gideon B.—Dr. William Harvey died June 3, 1658, and was buried in the chapel of Hampstead belonging to the church of Great Stamford, in Essex.

F.R.C.S., Brompton.—The card sent should be forwarded to the Secretary of the Royal College of Surgeons. Our readers will judge whether such a document is calculated to uphold the honour, dignity, and welfare of the profession:—"35, Colcherne-road, Redcliffe-square.—Medical advice by a physician every morning before nine o'clock (Saturdays excepted). *Fee One Shilling, including Medicine.*—35, Colcherne-road, Redcliffe-square, West Brompton."

E.R. and M.R.C.S.—We cannot find the name of Dr. Forsyth Brown, described as a physician and a "J.P.," in either the "London and Provincial Medical Directories of England, Ireland, and Scotland," or of those practising abroad; neither is it to be found in the Medical Register or the Calendar of the College of Surgeons. He is now undergoing his punishment, having been convicted of an indecent assault on a servant girl at his lodgings in Gower-street.

C. H.—The Christian name of Wharton and Willis was Thomas. The former flourished in the latter half of the seventeenth century, and was the discoverer of the duct of the submaxillary gland. The name of the latter is associated with the arterial anastomosis situate at the base of the brain between the carotids and vertebrals, and with the spinal accessory nerves—nervus accessorius Willisii. It is not generally known that Willis derived considerable aid from the pencil of the celebrated architect Sir Christopher Wren.

An Old Member.—The Hunterian Oration was first delivered by Sir Everard Home, Bart., brother-in-law of John Hunter, in 1811, and was annually delivered down to 1834, when interrupted by the rebuilding of the College, on the completion of which, in 1837, Sir Benjamin Brodie, Bart., was the Orator. From the time when Bransby Cooper gave it in 1853 it has been biennially delivered. The President of the College, Mr. F. Le Gros Clark, F.R.S., will deliver it this day (Saturday) at three o'clock. In the evening the President, Vice-Presidents, and Council will entertain a large and distinguished party at dinner at Willis's Rooms.

Dr. Johnston.—We believe the Council of the London College of Surgeons will soon have the power, as unquestionably it has the inclination, to punish such delinquents by removal from the list of members, and consequently from the Medical Register. In his "Table Talk," vol. ii., page 97, Coleridge says, "There unquestionably ought to be a declaratory act withdrawing expressly from the St. John Longs and other quacks the protection which the law is inclined to throw around the mistakes and miscarriages of the regularly educated physician."

Prosector.—Some years ago, M. Louis exhibited at the Académie de Médecine a preparation of a complete obliteration of the aorta a little above its bifurcation; as also of both primitive iliacs. These changes had occurred in a woman forty-five years of age.

One of the Oldest Members.—Surgeons' Hall was originally in the Old Bailey. In his life of Lord Chief Justice Kenyon, his biographer gives the following extract from a letter of Lord Chancellor Thurlow—viz., "Baldwin has sold his house (in Lincoln's-inn-fields) to the Surgeons' Company, who (their lease of Surgeons' Hall being out) are converting that into Surgeons' Hall, and there they mean to dissect malefactors; it is next door to him, and he laments over the money he has laid out upon his house, from which by these means he expects to be driven, and seems quite oppressed with that disaster."

A MAHOMMEDAN RIDDLE.

"A well that won't admit a hair,
And yet all animals drink there;
Not those, indeed, that fly in air,
But elephant, camel, man, and mare."

(Answer: The Nipple.)

B.—A "double monster," consisting of the united bodies of two girls, named Judith and Helen, was born at Szony, in Hungary, in 1701. Both sisters died within a few minutes of each other in 1723. Both had measles and small-pox together. Judith seems to have been subject to disease of the nervous system, and died of convulsions after a fortnight's illness. Her sister was very feeble during this illness, and died at the same moment. See *Philosophical Transactions*, abridged, 1752 to 1763.

Q.—Professor Tyndall's researches on fog-signals seem to show that no amount of solid matter suspended in homogeneous air has any effect on the transmission of sound; hence that guns, sirens, whistles, etc., may be used effectively whenever the weather is foggy. But he also shows that there are other conditions of atmosphere which may or may not accompany fog, and which render the air opaque to waves of sound; and especially currents of wind and differences in temperature which disturb the homogeneity of the air. This is what we gather from the Professor's papers on fog-signals; but he intimates that the conditions of transmission of sound are not yet fully worked out.

COMMUNICATIONS have been received from—

Dr. T. H. Green, London; Mr. H. Morris, London; Dr. Fothergill, London; Dr. A. D. Davidson, Aberdeen; Mr. J. Chatto, London; Dr. T. Green, Bristol; Dr. Eustace Smith, London; Mr. E. Stevens, London; Dr. Paget, Cambridge; Dr Harrison, Baltimore; Dr. O'Reilly, Hamilton; Mr. T. Evans, Dyffryn Ceri; Dr. R. Farquharson, London; Dr. Bayes, London; Dr. R. Southey, London; The Secretary of the Statistical Society; Mr. G. Brown, London; M. J. W. Groves, London; Mr. W. Whitehead, Manchester; Mr. G. Hogan, London; The Registrar-General, Edinburgh; Mr. A. Clarence Foster, Leeds; Mr. J. Crossman, Redruth; E. B. R.; The Directors-General of the Army and Naval Medical Departments.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Pharmaceutical Journal—Allgemeine Wiener Medizinische Zeitung—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—La Tribune Médicale—Le Mouvement Médical—La France Médicale—Le Progrès Médical—Bulletin de l'Académie de Médecine—National Food and Fuel Reformer—Philadelphia Medical Times—Liverpool Daily Post—Redruth Times—Ulster General Advertiser—Royal Cornwall Gazette—Daily Bristol Times and Mirror—Centralblatt für die Medicinischen Wissenschaften—Richmond and Louisville Medical Journal—Archives of Dermatology—Boston Medical and Surgical Journal—Chicago Medical Journal—Irish Hospital Gazette—Wolverhampton Chronicle.

BOOKS AND PAMPHLETS RECEIVED—

Leçons sur les Maladies du Système Nerveux faites à la Salpétrière, par M. le Dr. G. M. Charcot.

APPOINTMENTS FOR THE WEEK.

February 13. *Saturday (this day).*

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 9 a.m. and 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

Royal Institution, 3 p.m. Mr. J. T. Wood, "On the Discovery of the Temple of Diana, and other Results of the Government Excavations at Ephesus."

15. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

Medical Society of London, 8 p.m. Dr. S. O. Habershon, "On some Obscure Cases of Abdominal Disease." Dr. Drysdale, "On the Antecedents and Treatment of Tertiary Syphilis." Mr. Spencer Watson, "On the Obstructions of Lachrymal Sac and Nasal Duct."

Royal College of Surgeons of England, 4 p.m. Professor W. K. Parker, "On the Structure and Development of the Skull."

16. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Pathological Society, 8½ p.m. Mr. Cripps—Fatty Degeneration of Muscles of Thigh. Dr. Greenfield—1. Contraction of Coronary Arteries; 2. Obstruction of Renal Artery; 3. Fibroid Disease of the Heart. Mr. Butlin—Fatty Tumours Removed in course of Herniotomy. Dr. Barlow—Aneurism of the Heart. Mr. Hulke—Specimens of Epithelioma. Mr. Marsh—Malignant Disease of Testis. Dr. D. Powell—Aneurism of Aorta. Mr. Barwell—Myeloid Sarcoma of Humerus. Mr. Godlee—Blood-Cyst in Sarcoma. Dr. Dowse—Congenital Deformity of Clavicles (living specimen).

Royal Institution, 3 p.m. Mr. E. Ray Lankester, "On the Pedigree of the Animal Kingdom."

Statistical Society, 7¾ p.m. Mr. Charles Gatliff, "On Improved Dwellings—their Beneficial Effect on Health and Morals, with Suggestions for their Extension."

17. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Royal College of Surgeons of England, 4 p.m. Professor W. K. Parker, "On the Structure and Development of the Skull."

18. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.

Royal Institution, 3 p.m. Prof. Tyndall, "On Electricity."

19. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

Medical Microscopical Society, 8 p.m. Dr. W. B. Woodman, "On a Natural Method of Mounting certain Microscopic Specimens."

Royal College of Physicians, 5 p.m. Goulstonian Lectures—Dr. R. J. Lee—"On Puerperal Fever."

Royal College of Surgeons of England, 4 p.m. Professor W. K. Parker, "On the Structure and Development of the Skull."

Royal Institution (Weekly Evening Meeting, 8 p.m.), 9 p.m. Prof. Frankland, "On River Pollution."

VITAL STATISTICS OF LONDON.

Week ending Saturday, February 6.

BIRTHS.

Births of Boys, 1307; Girls, 1278; Total, 2585.
Average of 10 corresponding years 1865-74, 2352·2.

DEATHS.

	Males	Females.	Total.
Deaths during the week	729	823	1552
Average of the ten years 1865-74	754·0	768·4	1552·4
Average corrected to increased population	...	...	1661
Deaths of people aged 80 and upwards	...	...	67

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric or Typhoid Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	2	2	2	10	1	4	1	...
North	751729	...	1	9	3	5	1	3	2	5
Central ...	334369	...	1	4	...	2	...	2	...	...
East	639111	...	...	10	1	15	...	2	...	...
South	967692	2	5	18	1	15	...	7	4	4
Total	3254260	2	9	43	7	47	2	18	7	9

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	30·065 in.
Mean temperature	36·0°
Highest point of thermometer	48·2°
Lowest point of thermometer	26·0°
Mean dew-point temperature	32·29
General direction of wind	S.W.
Whole amount of rain in the week	0·54 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, February 6, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1875.)	Births Registered during the week ending Feb. 6.	Deaths Registered during the week ending Feb. 6.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3445160	45·7	2585	1552	48·2	26·0	36·0	2·22	0·94	0·10
Portsmouth ...	122632	27·3	94	55	...	23·8	...	...	0·09	0·23
Norwich	82842	11·1	65	36	46·8	25·5	36·2	2·33	0·12	0·30
Bristol	196186	44·1	151	74	47·2	27·2	36·8	2·67	0·01	0·03
Wolverhampton ...	71718	21·1	58	42	48·5	26·4	37·6	3·12	0·15	0·38
Birmingham ...	366325	43·6	289	238	48·2	29·0	38·9	3·83	0·03	0·08
Leicester	109830	34·3	84	51	48·5	26·5	37·4	3·00	0·16	0·41
Nottingham ...	92251	46·2	66	62	41·8	21·8	33·8	1·01	0·11	0·28
Liverpool	516063	99·1	424	283	50·1	28·7	39·1	3·95	0·36	0·91
Manchester ...	356626	83·1	285	223	50·0	23·0	37·7	3·17	0·35	0·89
Salford	135720	26·3	133	79	49·8	23·3	38·3	3·50	0·34	0·86
Oldham	87437	18·7	75	53	...	...	...	...	...	...
Bradford	168305	23·3	129	93	48·0	28·0	38·7	3·72	0·04	0·10
Leeds	285118	13·2	244	142	49·0	26·0	39·4	4·11	0·00	0·00
Sheffield	267881	13·6	213	137	51·1	26·0	40·3	4·61	0·25	0·63
Hull	133932	36·8	103	59	50·0	23·0	37·6	3·12	0·04	0·10
Sunderland ...	106342	32·2	94	47	55·0	28·0	41·2	5·11	0·04	0·10
Newcastle-on-Tyne	137065	25·5	104	69	...	...	...	...	...	...
Edinburgh	211626	30·5	109	87	...	...	...	...	...	...
Glasgow	531765	88·1	386	325	50·5	22·4	39·4	4·11	0·15	0·38
Dublin	314666	31·3	217	189	54·5	23·4	41·9	5·50	0·32	0·81
Total of 21 Towns in United Kingdm	7739490	37·0	5589	3896	65·0	21·8	38·3	3 50	0·14	0·37

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 30·07 in. The highest was 30·49 in. at the beginning of the week, and the lowest 29·74 in. on Wednesday afternoon.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ADDRESS TO THE CLINICAL SOCIETY.

By Sir WILLIAM JENNER, Bart., K.C.B., M.D., F.R.S., etc.,

Physician in Ordinary to her Majesty the Queen and H.R.H. the Prince of Wales; Physician to University College Hospital; President of the Clinical Society, etc.

On taking the chair for the first time, the eminent gentleman proceeded to say—

Gentlemen,—Nothing but a most imperative duty could have prevented me presiding at the last meeting of the Society. Now that I have the pleasure of taking this chair I desire first to thank you for the honour you did me when you elected me President of the Clinical Society—one of the highest honours, in my estimation, that can be conferred on a physician. It was not until after I had accepted the nomination that I realised the fact that former presidents had inaugurated the session with an address; and when I realised this—conscious of my own inability to properly discharge that duty—I felt misgivings as to the wisdom of having accepted the honour. I trust to your kindness to overlook my deficiencies.

The Clinical Society was founded for "the cultivation and promotion of the study of practical medicine and surgery, by the collection of reports of cases, especially of such as bear upon *undetermined* questions in pathology or therapeutics." A very wide field for study! For, so far as my knowledge extends, there is no disease, even the most common, respecting which there are not undetermined questions in regard of its pathology and its treatment. There is no single disease, however common, respecting which it can be said that its etiology is quite determined (and no report of a case can, clinically, be complete the etiology of which is not given). There is no disease respecting which it can be said that the symptoms which mark its very outset, its course, the symptoms which mark its decline, the symptoms which enable us to tell at its outset what will be its course, the effects which follow after the disease has apparently ended, and the influence which pre-existing conditions of health and disease, as well as that which drugs and other therapeutic agents exert on its progress, termination, and sequelæ, are perfectly known. Respecting all these points, in regard of every disease, even the most common, there are undetermined questions. Many of these questions admit of answer, many of them ought to be answered, and that many of them are not answered is, I think, discreditable to us as a profession. Medicine has made very great progress, and if it were my aim to-night to illustrate that progress, I could find ample material for so doing. Medicine has made great progress; few sciences more. But still, in regard of every disease, in reference to every one of the points I have mentioned, we are wanting facts—facts which could and ought to be supplied. And it is in the hope that my words may stimulate the Fellows of the Society to assist in the collection of these facts that I would to-night illustrate our present deficiencies rather than dwell on our past performances.

Let me illustrate my meaning, and first by reference to one or two points in regard of the etiology of a class of the commonest and best studied of acute diseases—I mean the acute specific diseases. In reference to these one may say that they are all contagious—*i.e.*, from some part of the sick something is given off which can, when properly applied, excite the same disease in another, and which can excite no other disease. How little is known of what this something is. And yet it is most important for the prevention, and even for the treatment, of these diseases that we should know. How little is known of those conditions of system which render this something sufficient for the production of the disease in one person, while in another it is inert. For example, at a certain time one of these diseases is, as it is called, epidemic,—scarcely a person who has not had it, and is exposed to the emanations from the sick, escapes taking it. On another occasion the disease is not epidemic, and then how many, with equal degrees of exposure, escape. Measles was not epidemic in a certain town at the time to which I am about to refer. A child came home from school, having just recovered from measles: the family consisted of sixteen persons, eight of whom were children; one only took the disease. Another family at the same period contained nine children; one contracted measles at school, and on his return home only two of the eight suffered, all of them being freely exposed to the poison.

Among the questions which ask for and ought to be answered are—What are the conditions which favour outbreaks of epidemics? Are they atmospheric, and, if so, are they conditions existing at the time of the outbreak, or dependent upon pre-existing atmospheric conditions? Or are the conditions that favour the outbreak of an epidemic *states of health of the population*, the consequence of co-existing or preceding atmospheric or *other* conditions? Although some of these questions it may be thought refer to subjects outside the scope of clinical research, some certainly are within that scope.

As a good illustration of the influence of pre-existing individual conditions in regard of susceptibility to contagious poisons, I may refer to the well-known fact of the intimate relation between the state of system left after measles and the susceptibility to the poison of whooping-cough. The individual who has just suffered from one of these diseases is, as is well known, prone to take in a remarkable degree the other. That is to say, after the occurrence in an individual of one or other of these diseases, a very small dose of the poison of the other disease is sufficient to produce the development of that other disease. As bearing on this subject, I may refer to Dr. Aitken's paper on the influence of previous residence in Bulgaria on the health of the troops in the Crimea.

One point respecting the etiology of these diseases has recently been brought before the profession and the public in rather strong language—the question, namely, whether these diseases can arise spontaneously. A controversy has lately—I was going to say raged about the mode of origin of typhoid fever, and it well illustrates at the same time our ignorance, the difficulty of ascertaining facts, and the danger of reasoning upon insufficient facts, on an insufficient number of facts, on insufficiently proved facts, and the unwisdom of drawing general conclusions from facts which bear only on one side of a question.

It is said by some that typhoid fever is undoubtedly contagious; it is said that, being contagious, it can never originate *de novo*—that is to say, as it can be proved in some cases to have its origin in the entrance of the emanations from the sick into the previously supposed healthy, it can never arise in any other way. On the other side, while admitting that the disease may be spread by the emanations from those suffering from the disease, it is said that the admixture of sewage and decomposing animal excreta with fluids used for drinking purposes, although no typhoid excreta are present, will produce typhoid fever *de novo* in those who drink it; and it is said that the inhalation of sewer-gas is itself sufficient to produce, in a previously healthy person, typhoid fever *de novo*.

Before considering briefly some of the arguments that may be adduced in support of any of these statements, I may say that to my mind, from the known facts, the question should be held to be still *sub judice*, and that it is only to be solved by the combined efforts of those who can investigate the origin of typhoid fever when it occurs as an epidemic or in the form of severe local outbreaks, *and* of those practitioners who, being engaged in private practice in country districts, can examine into and report on the single solitary cases occurring under circumstances favourable for excluding fallacies. It is rarely that solitary cases can be satisfactorily investigated in towns, and it is because this important question can only thus be solved that I desire to impress upon the members of this Society the importance of reporting every solitary case which can throw light on the question. We have already, and no doubt shall have many more, ably described epidemics, small local outbreaks, and local outbreaks on a larger scale. We shall have these traced to their origin by men of the highest order of intellect, of the largest possible experience. We have had such reported now in numerous cases, and as the points that still require elucidating in these local outbreaks become better known, these men will be sure to discover the missing links. But no investigation of such local outbreaks can answer completely the question which I say is still *sub judice*, and therefore it is that those who see the solitary cases must report their personal experiences if we are to have the question definitely and indisputably answered. I know how difficult it is for men engaged in large private practice to hunt out all the facts

bearing on the origin of a single case, but when they consider the immense importance it is to the public and to the scientific advancement of our profession, I trust that some of them will be willing to sacrifice a little time for the general good.

One general assumption made by those who advocate the sole orgin of typhoid fever by contagion requires special consideration. The general assumption is this—viz., that *no* admittedly contagious disease ever originates in any other way than by contact with the emanations from the sick, and therefore that typhoid fever, spreading by contagion (a mode of its spread which I think is now pretty generally admitted by those who have studied the subject), can be spread in no other way. This general assumption is, as yet, wanting in such proof as conveys conviction to my mind; and I cannot help thinking that it is wanting in such proof as should convey conviction to any unprejudiced mind accustomed to consider questions of this nature. My own prejudices are greatly in favour of the specific origin of this, in common with all contagious diseases. I have long advocated their specific differences, and that each has its specific cause—*i.e.*, a cause which is unable to produce any other acute specific disease. If each could in every case be referred to emanations from those previously sick of the same disease, it would tend greatly to strengthen the general views I have long held and advocated. I am prejudiced, therefore, in favour of this opinion. I hope it is true; but then I must say that at this moment the weight of evidence and argument is rather on the other side.

When an admittedly contagious disease is epidemic, it is evident that facts to elucidate the question of its spontaneous origin cannot be collected. There is so much of the special poison in the locality that no one can be sure that he had not in some way exposed himself to its influence. But when the disease is no longer epidemic, when isolated cases occur, then it is that, if a disease never originates *de novo*, we ought—I will not say in every case, but in a majority of cases, if we inquire carefully—to be able to trace back the apparently spontaneous case to its source.

Of small-pox—the most contagious of diseases—I do not hesitate to say, notwithstanding Dr. Budd's assertion to the contrary, that the large majority of solitary cases can be traced, with due care, each to its probable source; and when a case has thus been imported into a locality previously free from the disease, new cases almost invariably spring up in its vicinity. So that the contagious origin is proved, first by tracing the case to its source; and, secondly, by the new cases which spring up from the, at first, isolated case. Small-pox is eminently contagious; and not only so, but, from the vast proportion of instances in which we can trace isolated cases to their source, from the rarity of the cases in which it is impossible to trace the probable origin to contagion, we may fairly conclude that small-pox never originates *de novo*.

But now let us pass to the other end of the scale of undoubtedly contagious disease—namely, diphtheria and erysipelas. I mean erysipelas of the head and face—the acute specific disease of which erysipelatous inflammation of the throat and of the face, beginning on the bridge of the nose, is the anatomical character—a disease which is attended with definite symptoms, symptoms before the eruption and symptoms accompanying the eruption, as are the other acute specific diseases. Of the contagious nature of diphtheria and erysipelas I think there can be no more doubt than there is of the contagious nature of small-pox. They are not *as* contagious, but they are both contagious. They are not as contagious, for it is more common for the healthy exposed to the emanations from the sick to escape from these diseases than for them to escape the effects of exposure to small-pox.

Now, while in regard of small-pox it is the exception not to be able to trace the source in contagion, in diphtheria it is comparatively rarely that the first case, even of several, can be traced back to contagion.

In regard of erysipelas of the head and face, also undoubtedly, as I say, contagious, it is the exception to be able to trace the case to contagion. Now, it is evident that the more contagious a disease—*i.e.*, the less the quantity of the poison needed, the shorter the time of exposure necessary, and the less preparation required in the system of the individual receiving the poison—the less frequently *à priori* should we expect that the disease could be traced back to its primary source. While the diseases of this class which are the least contagious, which require for their spread a longer exposure or more decided dose of the poison or the administration of the poison in a particular way by a special channel, the more frequently should we expect, if every new case were due to exposure to the emanations from the sick of the same disease, to be able to trace them to their original source, the more easily should the parent case be discoverable. But, in fact, it is not so, for those which are the most contagious are the most commonly traceable to their origin, and those which are the least contagious can the least frequently be proved to have origin in contagion. And we are driven then, it seems to me, towards the opinion that erysipelas frequently, and diphtheria not uncommonly, originate *de novo*.

Typhoid fever, like diphtheria and erysipelas, holds a low position in regard of its contagious quality. It rarely spreads, excepting when the excreta from the sick are administered by a particular channel. I have never known a case removed from its place of origin give the disease to the inmates of a house into which it was removed, unless there was a communication between the source of drinking-fluids and bowel-excreta of the patient; and then many suffer. Last autumn ten young men, students at Oxford, went to stay in the same house in Cornwall. After a short residence each returned to his own house, and seven sickened with typhoid fever. These young men evidently contracted the disease at the house in Cornwall.

A highly contagious disease, in the ordinary sense of the word, ought to have been the focus from which other cases should have sprung. Had eight young men suffering from small-pox or scarlet fever been distributed into eight houses, I do not hesitate to say that some of the inhabitants of these houses would have suffered from small-pox or scarlet fever. I have never known a case of small-pox admitted by accident into the hospital to which I have the honour of being physician without some one or more persons contracting the disease. When formerly I was physician to the Fever Hospital I took my clinical class to that hospital for the purpose of showing them fever in its various stages on a large scale. Now, while I never knew a student contract typhoid fever there, it so happened that on one occasion there was a case of small-pox in an outer ward of the hospital—a ward of very large dimensions. While no student took on any occasion either typhoid fever or typhus fever, one on that occasion took small-pox; and on another occasion, there being several cases of scarlet fever in the wards, one took scarlet fever. But in the case of these seven young men from Oxford, who were distributed into seven houses, not one conveyed the disease to any inmate of the house to which he was removed.

That typhoid fever can spread from one person to another without the swallowing of the excreta, if the person be exposed to the concentrated emanations from the sick frequently, and for a considerable time, there can be little doubt, as I have twice known students contract the disease who were diligently taking the temperatures of patients suffering from typhoid fever, before the registering thermometer was in use, and therefore were obliged on each occasion to put the head many times daily almost into the bed of the patient; and I doubt not most of you could add to the list of these young martyrs to science.

Still, typhoid fever has such limited power of propagating itself that the poison must be in large dose, or long breathed, or taken into the stomach to produce the disease; and therefore I say that the disease ought in the majority of cases, especially in country places and isolated houses, to be able to be traced to its source, if that source be in every case the excreta or emanations of those suffering from the disease. But, in fact, its origin has not hitherto been able to be traced to pre-existing cases in a large number of instances. But not only do numerous cases occur in which typhoid fever is not traceable to exposure to emanations or excreta from the sick with typhoid fever—*i.e.*, to contagion,—but there are a sufficient number of cases on record to render it probable—*probable* only, I say—that the admixture of sewage not typhoid with drinking-water may produce typhoid fever *de novo*. And most of us must have met with cases in which the breathing of greatly diluted sewer-gas continuously for some time, and especially at night, has seemed to be able to produce typhoid fever *de novo*. But new cases, sceptically scrutinised and carefully recorded, are required to settle this question. It is only in exceptional instances that cases free from all possible—at least, all probable—sources of error come under notice, and such cases can only be seen in private practice, especially country practice; and it is for this reason that I especially dwell on this subject to-night, my desire being to urge the careful observation and reporting of these isolated cases.

The following case serves to illustrate the difficulties which beset inquiries such as this:—

A young lady was under my care with typhoid fever. She had been for some months an invalid, and was so placed that all probable sources of communication of the disease from the outside could be excluded. She resided in a completely detached villa; she was confined to her own room; there were few inmates of the house, and these were entirely devoted to her service. She had lived in the house for about two years, and during that time no one had suffered from typhoid fever. On the floor on which she slept was a water-closet, well ventilated, and used only by two or three persons in perfect health.

Now, this young lady was the only person who never left the floor—that is to say, was day and night breathing the air on this floor of the house. A sewer-gas odour was detected, and on taking up the flooring it was found that there was a crack in the soil pipe of the water-closet, just below the seat—that is, in such a position that the gas escaping from the soil-pipe at this part would find its way between the joists, under the boards of the floor, and thus pass to the rooms on this floor.

It is true that this young lady had received a few visitors in her bedroom, and it is possible, it may be said, that some of these were the subject of typhoid fever. But the persons who visited her were all well known, and there are no grounds for thinking that any one of them suffered before or after from typhoid fever. Again, the drain of the house opened into the town drain, on the outskirts of which the villa is situated; but then the drains were trapped, and the traps new and efficient.

It is only by the multiplication of solitary cases that proof on one side or the other can be obtained. With reference to those contagious diseases which are unable to be traced in so many cases to a pre-existing case of the same disease—viz., typhoid fever, diphtheria, and erysipelas,—there are three points worthy of remark—

1. That they are more liable than the most contagious—*e.g.*, small-pox, measles, scarlet fever—to recur in the same individual.

2. That when not referable to contagion, each is pretty constantly referred to a particular and the same cause—*e.g.*, diphtheria to exposure to cold; erysipelas to exposure to cold when the exposed person was depressed from fatigue, mental or moral causes, etc.; typhoid fever to foul gaseous emanations or impure water.

3. That certain primary constitutions seem more prone than others to suffer from these less contagious diseases. We must all be acquainted with families that exhibit these proclivities.

I have known diphtheria, for example, occur in four members of a family at long intervals of time, and at localities widely separated. One suffered in London, one at Brighton, one at Scarborough, and one at some other place in the country, and these several cases occurred at altogether different times. Now, when we consider the infrequency, comparatively speaking, of diphtheria, such a fact as this shows, on the part of the members of this family, a great primary constitutional proclivity to this disease.

I have known six out of seven males of a family suffer from typhoid fever, no two of the cases occurring within less than two years' interval, and no two at localities within less than fifty miles of each other; while in the same family one only of the same number of females suffered from typhoid fever. Here, again, there must have been a great proclivity to typhoid fever on the part of the males of that family.

I do not say, nor do I think, that the arguments and facts able to be adduced in favour of the origin *de novo* of the contagious diseases are conclusive; but I do say they are strong enough to make us pause before we accept the theory advocated by Dr. William Budd, and to which Professor Tyndall has lent the weight of his great name—a weight which would, however, be greater on the point in question if he had himself studied the subject on which he has, I am sorry to say, addressed the public in a strain calculated to check unprejudiced individual inquiry.

What I have said on the etiology of the acute specific diseases shows how much has yet to be proved, how hard is the work to be performed, ere the opinions entertained on the subject can be converted into knowledge.

I will not dwell longer on the etiology of the acute specific diseases; but I must allude briefly to that condition of the individual which precedes the establishment in so many cases of chronic organic diseases. We are apt to pay too little attention, to attribute too little importance, to that general (to use a barbarous expression) "out-of-healthedness" which is so common in the previously healthy from over-work, from anxiety, from over-feeding, from over-stimulation short of so-called intemperance, from want of food, or from deficiency of stimulants—that out-of-healthedness in which the patient often refuses to admit that he is ill, although a little out of sorts, and only seeks advice because his friends notice that he does not look well and urge him to consult some medical friend. This condition cannot be studied in hospital. Those only who are engaged in family practice can trace the origin, can watch the course, can estimate the effects of this condition in all its bearings. For myself, I have been long satisfied that a very large proportion of the subjects of organic diseases—tubercular, malignant, and degenerative, using those words in their widest sense—are mistaken when they attribute the symptoms of imperfect health from which they long suffered to undetected incipient local disease, and for not detecting which they too often blame their first medical attendant. The deteriorated general nutrition, to which I have referred as mere out-of-healthedness, was the cause of their sense of want of perfect health; and ultimately this imperfect general nutrition of every part of the body culminated in the extreme malnutrition of that part or organs which natural constitution or accidental circumstances had rendered less able to resist organic changes.

As to the symptoms which mark the very outset of a disease—in illustration of my position that there is not a disease respecting the symptoms of the outset of which we are not wanting recorded facts,—I may refer again to that much-studied disease, typhoid fever. In Wunderlich's excellent work occurs the following statement:—"We may exclude typhoid fever when, between the fourth and sixth day, in a child or adult under the middle age, the temperature never reaches 103·1°, and, indeed, if it fails to do so two or three times." It is impossible not to see that this conclusion is based, as are other of his statements, on cases admitted into hospital; and everyone who has enjoyed large experience in private practice would, I think, be disposed to temper this law with so many exceptions that, as a law, it would hardly exist. And yet, in proof of the existence of these numerous exceptions, recorded facts are wanting.

With reference to our lack of recorded facts as to the course of common diseases, I shall only mention one disease, concerning which I thought two facts quite certain; but on talking to others I heard doubts expressed as to the truth of these facts, and I soon found that the observations on record were not detailed with sufficient precision to justify me in drawing the conclusions which, if the supposed facts be real facts, flows from them.

Does emaciation make rapid or steady advance when an external organ unneeded for life or health (as the breast) is the seat of scirrhus cancer, when the appetite is good, and there is neither ulceration nor discharge? If it be that this steady loss of flesh occurs when the breast is the subject of scirrhus cancer, does it take place without any elevation of temperature? Had there been recorded facts to answer these two questions in the affirmative, then it seems to me that this important conclusion would follow. In the process of nutrition there are three factors—viz., the cells of the body generally, the nerves that regulate their functions, and the material out of which new tissue has to be formed.

It is clear that atrophy of the body generally, like atrophy of a part, may be due either to excessive waste or to deficient supply of new material: but if there be no elevation of temperature there can be no rapid waste of the whole body. And as we know that in cancer there is no disturbance of the nerve function of the body generally, and as the cells of the body generally are healthy in structure, then we should have to hold the emaciation to be due to the third factor in nutrition, the blood.

I mention all this, not as affording any clue to the pathology of cancer, but as illustrating the want of facts—of accurately observed and of carefully recorded facts—in relation to the course of one of the commonest of diseases.

Time will not permit me even briefly to illustrate our lack of knowledge in regard to the other headings to which I have referred; but, before concluding, I must direct your attention to two or three points bearing on our knowledge of the treatment of disease. It does seem to me to be discreditable to us as a profession that so common diseases as rheumatism and whooping-cough—each, so far as we know, uniform in its

pathology—should have for their cure so many drugs. For the good service able to be rendered by each of these drugs, men of high position, of great powers of observation, of unquestionable honesty of purpose, have vouched in the most emphatic manner; and yet no one of these drugs is found by the profession, speaking generally, to yield unequivocally favourable results. While the precisely recorded observations of one of the distinguished men who have filled this chair, and his colleague Dr. Sutton, have thrown so much doubt on the value of some of the remedies which have enjoyed the best reputation for the cure of rheumatism, that a re-examination of all these so-called curative remedies is imperatively called for. The difficulties in the way of advances in true therapeutic knowledge are very great; but are the difficulties insuperable which stop the way to our ascertaining the real value of the cures for acute rheumatism or for whooping-cough? Could not an unprejudiced examination of the effects of all the remedies hitherto propounded by men of repute, and purporting to have tangible evidence in their favour for acute rheumatism and for whooping-cough, be undertaken on a large and decisive scale?

There are two kinds of evidence to be adduced in favour of the influence of any drug on the course and termination of a disease. One is the evidence afforded by individual cases observed separately, all the special points of which cases can be weighed at the bedside by the practitioner—weighed, it is true, rapidly, and perhaps some points roughly, but still weighed: for example, the age, the sex, the habits, the constitution, the presence or absence of complications, of concurrent or pre-existing ailments, of the surroundings.

Every remedy must be, as a final court of appeal, put through this trial; and, if time be given to dispel the illusions of fashion, and to allow the weight of great names to be reduced to their true standard, it is pretty certain that the verdict is correct.

In testing remedies we must ever bear in mind that all acute diseases run a more or less definite course, and that the tendency of all internal acute disease occurring in the previously sound, and not of traumatic origin, is, if left to itself, to terminate in health. What may be called incomplete diagnosis has often led individuals to erroneous generalisation in reference to treatment, identity of symptoms having been confounded with identity of pathological conditions. The late Sir Benjamin Brodie had great confidence in the bichloride of mercury in the treatment of paraplegia, and he, and others following his example, prescribed it indiscriminately in all cases of that disease. He saw it cure syphilitic paraplegia, and, not knowing that the particular case he was treating was syphilitic in its nature, regarded bichloride of mercury as the remedy for every case of loss of power in the lower extremities. And then other members of the profession tried the effects of bichloride of mercury in paraplegia; and if it happened that they gave it in two or three cases of syphilitic paraplegia, they, too, expressed the greatest confidence in bichloride of mercury as a cure for paraplegia. But others, happening to give it in succession in two or three cases not syphilitic in nature, declared it to be useless, or worse than useless, as a cure for paraplegia.

One mode, then, of estimating the value of therapeutic agents may be called the individual; and in thus testing the value of particular modes of treatment every member of this Society may assist. The other method of estimating the value of therapeutic agents may be called the analytical—that is to say, we test the worth of the drugs by the analysis of a large number of carefully observed and recorded cases. For cases thus collected to be compared they must be numerous enough to afford a sufficient number more or less identical in regard to age, etc.

Researches of this kind can only be conducted in hospitals, and I think for the purpose of collecting such cases in sufficient number, for the purpose of directing attention to special comparable facts, committees might be formed from members of this Society; and were this done with due care, every member of the Society might aid in obtaining valuable, because real, therapeutic knowledge. And the testing clinically the value of the several remedies proposed by great authorities for the cure of acute rheumatism and of whooping-cough seems to me to be an object worthy of such a committee, and the questions involved seem to me to be those that such a committee might in time definitely answer.

Excuse me yet a little while to speak of the treatment of a special class of diseases. When any acute specific disease is epidemic, the public—the educated public—call loudly for a cure; and too often, I think, members of our profession call out as loudly "Eureka!" Now, to me it seems that there are no grounds for expecting that a cure will ever be found for diseases of this class—*i.e.*, for expecting that a drug or medicinal agent will be discovered capable of arresting the progress of the organic changes which, set in motion by a special cause, and following each other in definite and ascertained order, constitute what we call an acute specific disease.

For, in place of being diseased actions, these several organic changes, the evidences of which we call symptoms, are, so far as our present knowledge extends, processes, the first of which being called into action by some external cause—*e.g.*, the poison of the disease—are essential for the restoration of the intimate organic changes to the order and intensity which constitute health.

I may illustrate my meaning thus:—Each of these diseases may be likened to a single fit of ague. We administer drugs to prevent the recurrence of the fit, but we do not cure the fit itself; the cold stage having commenced, and attained a certain intensity, the hot and sweating stages are essential for the restoration of the balance of health. So with small-pox. By vaccination we prevent its occurrence; but when the first of the phenomena, which, following each other in certain and definite order, constitute an attack of small-pox, occurs we know that there is no road to health but by the sequence of changes the symptoms of which mark the several stages of the disease; and to my mind it is very questionable whether, if it were possible by the administration of a drug to arrest the essential changes which constitute any one of these stages, health would be the result. And what is true of small-pox in this particular seems to me to be equally true of all the acute specific diseases; and when I read the lists of cures for cholera which swarm into the columns of the press at the first inroad of an epidemic of that disease I should smile did I not know that a column of cures for cholera in a leading newspaper may be the death-warrants of numbers.

Although the science of medicine can never hope for a cure for any one of these diseases, it can prevent death from all, and it is time that the public, and not the profession only, had correctly appreciated what medicine can and what it cannot be expected to do in this class of diseases. Nor would medicine as a practical science fall in public estimation, or physicians be less highly esteemed, were the public instructed in this matter.

At one time the chemist was valued especially because it was supposed that by his aid the baser metals, as they were foolishly called, could be transmuted into gold; and day and night he sought for that powder of projection (as it was called) by which the transmutation should be at once effected. Faith in this transmutation—faith in the discovery of this powder of projection—is exploded; but is the chemist less highly valued, his aid less earnestly sought? No. The work he can do is of more worth than the work it was fancied he could do.

To the physician: He cannot transmute by a special drug the sequences of processes which we call an attack of cholera, say, into the sequence of processes which we call health, any more than the chemist can transmute iron into gold. The certain cure for cholera and the powder of projection of the alchemist are alike apocryphal—the dream of a pre-scientific age, or the bare attempts of charlatans and quacks to prey on those whose minds are yet in the pre-scientific stage of development—that is, the ignorant and the credulous. The public must learn that the true, the real in regard of the relations of medicine to these diseases, is as different from and as superior to the fancied as is chemistry to alchemy, or natural science to the black arts. Medicine teaches us how to prevent in many of the acute specific diseases the first of those processes the sum and sequence of which constitute the disease; and, when the first of that sequence has commenced, the physician, though he must reprobate the folly of those who cry out for a drug which shall stay the sequence of processes which are in reality the steps to health, does not stand helplessly by and leave the patient to his fate, but by the judicious application of the rules of art so moderates the necessary disturbances of functions that they shall eventuate, when the last of the series of restorative processes is over, in health in place of death. The physician in such cases may be likened to the physicist, who, although he cannot prevent the discharge of the electric-laden cloud, can yet save the threatened tower by conducting the lightning's flash harmlessly to the earth.

ORIGINAL COMMUNICATIONS.

VERY LARGE HYDATID CYST IN THE LEFT CEREBRAL HEMISPHERE,

PRODUCING GRADUAL COMPRESSION OF THE ORGANS FORMING THE LEFT HALF OF THE BRAIN.

By JAMES RUSSELL, M.D., F.R.C.P., etc.

I REPORT the following case because it affords a typical instance of one class of symptoms which may occur in cases of intracranial tumours, and when present afford ground for forming a diagnosis with considerable probability as to the nature of that tumour, or, more correctly, for referring the supposed tumour to one particular class of morbid growths characterised by progressive increase and by tendency to attain considerable magnitude.

It must, however, be conceded that in this patient the belief in the presence of a tumour within the cranium could not be based upon anything more than a strong suspicion; but, supposing such suspicion to be correct, the gradual implication of one function after another, the particular mode in which each affected function was assailed—viz., by extinction, and not by instability,—and the steadily progressive course of the disabling process, all alike pointed to compression of important parts of the intracranial organs. The squeezing operated first towards the surface of the brain, and impairment of speech predominated; then, as the pressure reacted towards the central parts of the same organ, motor paralysis steadily increased; at a later period, deglutition was involved; and finally, the mental functions were occluded in a state of continual torpor.

This series of symptoms stands in contrast with those which are most characteristic of foreign formations having a limited growth and of much smaller dimension, and which are generally met with in connexion with the surface of the brain. In the latter case instability and not destruction of function predominates; and, moreover, as the growth affects directly the more irritable grey substance of the convolutions, and is not seated, as in the present instance, in the white matter, symptoms of "irritation" are the more readily produced. The opinion I had formed (at the termination of the case) of a malignant tumour, came as near to the reality as could be well attained.

I am indebted to my friend Dr. Quirke for the principal part of the following history. I only saw the patient three or four times, at long intervals, and except on one occasion preserved no notes of his symptoms:—

The patient's age was twenty-seven. Dr. Quirke was first called to him on January 6 of the present year. Death took place on November 4. The cause of Dr. Quirke having been summoned was that the patient on the previous morning had awakened with a confused feeling in his head, and with considerable difficulty in getting out his words. He was under the impression that he had had a fit during the night. Dr. Quirke states that the patient spoke in a hesitating manner, as if he had to consider which was the proper word to use, as a foreigner does. He noticed the right side of the face to be slightly paralysed, and there was complaint of imperfect vision,—in trying to read the words seemed to run into each other.

No amendment took place in speaking, and the facial paralysis became more distinct. In the course of the following month the patient had some weakness in the right arm and leg. On March 24 he had two severe epileptic fits, and the paralytic symptoms were more decided. At that time, being the occasion of my second visit, I could hardly understand any word he spoke, but I cannot venture to record any other particulars of his state. He was then put on bromide of potassium, which medicine he continued to take for the following four months, and during that time he remained free from fits, excepting (as I afterwards learned) some convulsive movements in the right side of the face, and in the right arm and leg in the early part of that period. Dr. Quirke states that at that time there was evidence of considerable mental excitement; but this excitement the patient explained by family troubles. However, on one occasion within three months of his death, Dr. Quirke was sent for in consequence of his having threatened his wife's life, and found him in charge of the police.

The patient called on me on August 12, and I then noted that he was almost absolutely speechless; he simply could not articulate his words. There was also partial paralysis of the right arm and leg; no deviation of the tongue; the palate was symmetrical, and there was no distortion of the face; but he had felt some stiffness in the opposite (the left) cheek, and on one occasion had felt something wrong with the left arm and leg, but only for a short time. I had no means of obtaining an ophthalmoscopic examination, but he read No. 1 of Jager. The immediate cause of his calling upon me was his having had another fit on the preceding evening. (I could not obtain a distinct description of any of these fits.) Moreover, he had suffered from violent pain over the entire upper part of the head and over the eyes during the previous week or ten days, at times with such intensity that it nearly drove him mad. This was an entirely new symptom; he had been free from pain in the head previously. On the 20th of the same month Dr. Quirke was summoned, and again found his patient suffering from severe pain in the left temple. The right hemiplegia was now complete; he was speechless, and had also some difficulty in swallowing, so that he disliked making the needful effort, and often refused his medicine.

The pain did not recur, but during the month of September he had several fits; bedsores formed on his back; and he slept almost constantly, and when awake was in a stupid state. He emaciated very much, but lingered till November 4, when he died in a fit.

On post-mortem examination the only abnormal appearances met with were the following:—The veins and sinuses of the membranes of the brain, and doubtless of the cord (judging by the issue of blood through the foramen magnum), were loaded with blood, consequent, no doubt, on the mode of dying. The cerebral convolutions were pressed closely together, and the surface of the brain was dry. The only evidence of pressure having affected the organs at the base of the brain was afforded by those in the middle line being somewhat awry; but the pons had a remarkable appearance, as though stretched to each side. The tissue of the pons, however, and of the medulla oblongata was healthy. The chief part of the left hemisphere was occupied by a semi-transparent hydatid cyst the size of an ordinary orange; it lay in the white matter of the hemisphere, outside the lateral ventricle. It was united with brain-substance sufficiently to cause flakes of that substance to adhere to its surface after removal, but without any increase of density in the tissue of the brain. Internally it had evidently compressed the corpus striatum and thalamus; in the outward direction it had exerted protracted pressure upon the convolutions, coming actually to the surface at about the middle of the hemisphere. The cyst was single, not containing any daughter vesicle. There was no hydatid in any other organ of the body, nor any morbid condition.

HEALTH OF LONDON.—In the metropolis last week 1726 deaths were registered, showing an excess of 91 on the average numbers. The annual death-rate from all causes was 26 per 1000. The deaths from scarlet fever were 46, and from small-pox 1. To the seven principal diseases of the zymotic class, 166 deaths were referred, against 199 declining to 144 in the four preceding weeks. From diseases of the respiratory organs the deaths have in the past two weeks increased to 429 and 510 respectively, the latter number exceeding the average by 141.

CHLOROFORM IN THE SURGERY OF CHILDREN.—M. A. Bergeron terminates his thesis on this subject with the following conclusions:—1. Chloroform, which in moderate doses, administered with prudence and intelligence, is not a poisonous agent, may yet cause death in the adult. 2. In children it is endowed with an almost absolute innocuity. 3. This innocuity is due to the functional condition of the child, and principally to the fact that it has not yet attained the age of reason, is sensible of no moral emotion, entertains no apprehension of dangers to which it may be exposed, and thus is shielded from the apnœa which great terror and deep emotion induce, and which is the most important cause of the deaths which suddenly occur during the administration of chloroform. 4. Chloroform may be administered to infants from the earliest days after their birth. 5. It should be given in order to prevent the pain consequent on surgical intervention and wherever there is reason to fear sudden movements or muscular contractions which might prevent the surgeon from properly conducting an operation or from making a complete diagnosis. —*Gaz. des Hôp.*, February 13.

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Medical Times and Gazette.

SATURDAY, FEBRUARY 20, 1875.

THE NATURE OF CONSUMPTION.

No. I.

The pathology of consumption has two aspects—a clinical and an anatomical one,—in both of which it must be scrutinised if we would wish to master the many difficulties in the way of its right comprehension. Perhaps now, two years after the great discussion at the Pathological Society, and while some recent papers upon the "Pathology of Phthisis," written by an able contributor to this journal—we mean Dr. Green,—are yet fresh in the memory of our readers, we may very appropriately take the opportunity of reviewing the whole subject. We will, in the first place, restrict ourselves, however, to a consideration of the anatomical and histological views that have prevailed, and are now held, concerning the nature of those destructive lung affections which are included under the general term Phthisis; and we may then endeavour to ascertain how far the gathered wisdom of the past, and the amended pathology of the present, aid us now in our ever-present struggle against this insidious and fatal malady.

The history of our knowledge of phthisical diseases before the introduction of the microscope is interesting and instructive, inasmuch as it curiously foreshadows much of the progress we have made since that time, and it furnishes us with a more expanded, although a less profound view of the disease,—like the preliminary survey of a landscape from an eminence before we descend to the more minute examination of its roads and streams and soils. We can only profess our brief sketch to include the salient points in the wide expanse of our subject.

Hippocrates regarded phthisis as a suppurative or ulcerative disease of the lungs, which might be acute or chronic, and arose secondarily to unresolved pneumonia, to hæmoptysis, or purulent pleuritis, or, lastly, which might originate in scattered abscesses through the lungs. This view of the pathology of consumption, or rather this statement of facts respecting it, so accurately within the limits of observation, remained unrivalled for two thousand years. It was not until during the middle two-thirds of the seventeenth century that any real step was gained in advance of it by the labours of Sylvius, Willis, Bonnet, and Morton, and especially by the first and last of these observers, who definitely and for the first time recognised tubercle as the anatomical basis of the disease, and who further detected the genetic relationship of tubercle to gland-structure. Morton defined consumption as a fever associated with wasting of the whole body, which arises from the defective constitution and the consequent ulceration of the lungs; and he regarded lung induration and tubercle as anatomically the sources of this ulceration. Although, in speaking of tubercle, Morton in the first place used the term in its natural meaning of nodule, he soon came to regard these pulmonary nodules—which set up secondary irritation, inflammation, or suppuration in the organ—as themselves originating, not invariably, but most generally, in pre-existing gland-structures, of which he found the lungs to contain an infinite quantity, principally collected about the bronchi and their branches. Accumulation of lymph seems to have been regarded by Morton as the cause of these hard swellings of the disseminated glands, and in his view scrofulous phthisis was the most typical form of the disease; but all the other varieties—the scorbutic, the asthmatic, the hæmoptoic, the venereal, etc. (a classification rather clinical than pathological)—depended essentially upon the same anatomical lesion. We thus find at this early period the term tubercle employed in describing pulmonary lesions, not as signifying a mere lump, but a lymphatic tumour, the source of those destructive changes in the lungs which gave rise to the fever and wasting of the body in phthisis.

That tubercle was not the sole cause of these changes, Morton is careful to state. After the lapse of a century, during which our knowledge of the pathology of consumption advanced nothing if it did not actually recede, the observations of Thomas Reid, and subsequently of Baillie and Portal, showed how large tubercular masses were formed by the aggregation of smaller ones; and these pathologists also pointed out that other organs—the liver, spleen, kidneys—might become disseminated with minute tubercular nodules, or occupied by diffused scrofulous masses. Portal, too, again referred to the normal presence throughout the lungs, and mainly in the neighbourhood of the bronchi and their subdivisions, of minute glands whence originated in part tubercle; but tubercle might also arise in the cellular tissue of the parenchyma of the lung from the effusion into it of lymph. To Portal is commonly ascribed the credit of tracing the glandular origin of pulmonary tubercle.

The accuracy of these early observers in anticipating what has become the most advanced of modern teaching respecting the true nature of tubercle is very remarkable. This view, although revived by Abercrombie in 1824, remained practically in abeyance, overshadowed by the adverse teachings of Bayle and Laennec and others, until resuscitated by the positive demonstrations of the microscope.

In 1810 Bayle first described the grey granulation of tubercle as a definite lesion not to be confounded with any other, and he relates at length its now familiar characters; but his greater merit lies in his recognising the relation between tubercle in the lung and in other organs as being the expression of a "tubercular diathesis," a constitutional state or dyscrasia of a degenerative kind. Bayle's division of phthisis into six varieties possesses the only merit of being the first classification of the disease based upon anatomical considerations.

Closely following upon Bayle, but differing widely from him in his use of the term "tubercle," Laennec traced the origin of all the pulmonary lesions of phthisis to a foreign matter tubercle, whether deposited in the miliary form or infiltrated,

which underwent a caseous transformation—a peculiar change pathognomenic, in Laennec's opinion, of this particular deposit. The subsequent softening down or liquefaction of of these depositions involved the local destruction of the lung, and its subsequent further ulceration was mainly due to extension by further deposit of tuberculous matter around the margins of the ulcers, and the coalescence of adjacent softened tubercles. With Laennec, then, phthisis and tuberculosis were synonymous terms signifying one disease arising in the lungs from the deposition in them of a heterologous matter tubercle, which subsequently underwent characteristic changes. These views were, however, by no means generally accepted by his contemporaries. Broussais four years later published his conclusion—in accordance with more general views he had previously held—that "tubercle," instead of being a strange deposit, was but the local result of chronic inflammation affecting the lymphatics of the lung, and always preceded or accompanied by pneumonia, bronchitis, laryngitis, or pleurisy. These opinions respecting the inflammatory nature of tubercle and consumption were also maintained later by Andral and Cruveilhier in 1826, and the latter pathologist gave vital interest to his views by his clinical application of them, "Prevenez la phlegmasie, et vous guérirez vos malades," to which may be traced some important modifications in the treatment of phthisis.

At no period has the morbid anatomy of consumption been more keenly investigated than during the quarter of a century preceding and including the first introduction of the microscope in its study. We may mention Louis as the most important advocate of the views of Laennec. He pointed out that tubercle (in the sense of Laennec) always appeared first in the upper parts of the lungs, and extended downwards, and that this morbid deposit was never found in other organs without having first attacked the lungs. This important and, indeed, in the main clinically accurate statement gave great weight to the opinions he advocated, and certainly helped much to perpetuate them; for Paris was at that time the chief school of clinical medicine. And one cannot but perceive, on taking note of the great clinical teachers of any time, how they, and not the professors of pathological anatomy, are the great exponents of the pathology of the affections they describe; and thus may be explained perhaps the fact that, as a rule, pathological knowledge lags somewhat behind in the general progress of medical science. The truth of this statement could scarcely, we think, be better illustrated than by the effect of Laennec's and Louis' teaching in keeping back for more than a quarter of a century the general knowledge of the profession as to the truer pathology of phthisis; and this notwithstanding the strenuous efforts of some of the most accomplished pathologists to make head against their views.

SUCCESS.

In a late number of the *Pall-mall Gazette* is an article entitled "Bubble Reputations." It describes the meeting of six individuals at a sumptuous dinner. These consisted of a Bourse man, an author, the vicar-general, a brigade-general, a fashionable doctor, and a prefect. After dinner, each proceeded to detail the means by which he had risen to eminence —or, at least, to be talked about. The doctor says:—

"'My own story can be briefly related, for it is as uneventful as it is mysterious,' he began, with an involuntary lowering of the voice. 'I was a struggling practitioner, living on a patient a week, when one night I was startled up to attend a great lady in a case highly delicate and demanding the utmost discretion. "Keep my secret," said she, "and you will not repent it." I did keep her secret, and I suppose it was owing to her agency persistently and privately exerted on my behalf in society, that I came to have the reputation for silence and trustworthiness which I enjoy to this day. All I know is that from that lucky night in question patients streamed to my house at all hours, and——' 'What was the secret?' interrupted the author. 'Ah! I have forgotten it,' replied the doctor demurely."

The reader will probably be reminded by this anecdote of one related of Radcliffe, who was called to see a tipsy duchess, and who was sworn to secrecy. However this may be, the "fashionable doctor" may have owed a certain bubble reputation to the occurrence of the accident in question. It is no uncommon thing for an accident or adventitious circumstance for a time to raise a practitioner of medicine into fame; but this, as a rule, is neither permanent nor satisfactory. It may then be asked, What was the secret of success of most of our eminent medical practitioners of the last generation?—for we will not venture on the delicate ground of the present. Take men in their physical, mental, or moral character, and nothing can afford a greater diversity than these of successful doctors. Take the physique of two of the leading physicians. What could be in greater contrast than the fine face and form of the lordly Chambers and the more plebeian and commonplace appearance of Matthew Baillie? Take the two leading surgeons of the same time—the "prince" of surgeons, Sir Astley, and the common-looking Bredie, a "Methodist parson" in appearance and dress. Of these four men contrast the mental and moral capacities. What could be more striking than the strong common sense, the clear-headedness, and the *bonhommie* of Cooper?—than the careful, painstaking, cold, and unemotional manner of Brodie?—the lordly Chambers, with his classical acquirements and his perfection of manner, with his rival Baillie, methodical, unlearned, but possessed of a huge amount of common sense? We have selected these four leading practitioners of the period as showing the striking contrasts which prevailed between them. But the list might be almost indefinitely extended. The rough Abernethy had a counterfoil in the courtly Pott; and the plain unvarnished Roots in the courteous Halford. The men we have mentioned all rose to a just degree of eminence, but by means entirely dissimilar.

But men who rose to another kind of eminence, equal to, if not greater than, either of those we have referred to, were not fortunate in having obtained that "reputation" which gave them practice and emolument. Notably amongst these was Sir Charles Bell, without exception the greatest physiologist of the time. Yet he complained that he never could obtain practice. Late in life he was offered, and accepted, the chair of Military Surgery in the University of Edinburgh, by which his declining years were made brighter and smoother than they otherwise would have been. The great discoveries of Marshall Hall were of little or no service in obtaining him practice; on the contrary, he himself considered that they had the opposite effect.

It then may be asked how men so different in every respect —in physique and in mental powers and attributes—rose to the eminence they attained, and to the reputation which led them on to fortune. First of all must be mentioned their indefatigable industry, their earnestness of purpose, and above all that "tact" which inspires confidence and respect. Cooper and Brodie could spend a portion of the day in dissections and experiments, and these they would not allow to interfere with their professional duties at other parts of the day. Indeed, they were as earnest in one pursuit as in the other. Not so Bell and Marshall Hall. They were really absorbed in their experiments, and seemed unable to, or at least they did not, isolate themselves from them when in the sick-room or the operating-theatre. They were always experimenters and physiologists rather than physicians and pathologists. Of course this remark does not hold good with all the men who reached to eminence in the first half of this century; but with all the industry and earnestness of their lives contributed to their success. Their manner, though it may go a great way, does not explain

why some succeed and some do not. "I owe my rise in life," said Radcliffe, "from having treated all men ill." He might have imagined this to be the case; but his successor, Mead, "treated all men well," and was as successful as his master. With respect to those "reputations which are got without merit," we have little to say; but it is clear, in whatever branch or class of the profession a man may be, he can, with good conduct and earnestness of purpose, get a good name and become a "success." Forty years since, the chief road to fame was the connexion, as physician or surgeon, with some hospital or dispensary, and the contest for these offices was often fierce and expensive. But the result often justified the means. The physician or surgeon to this or that hospital or dispensary, the general public could only regard as superior to the "common run." The eyes of the public were after a time opened to the delusion; the place-hunters shrunk from expensive contests, and the whole system was knocked on the head. But as Johnson says—"A physician in a large city is the sport of fortune; those who know his value are not those who employ him, whilst his real virtues are unknown to the multitude."

When the system of obtaining practice by official appointments was done away with, it became necessary for the aspirants for fame to take another tack. Accordingly the vicious systems of specialism and of publishing books came into vogue. But these have had their day. Symptoms are not wanting to show that such adventitious modes of getting into practice are on the wane, and ere long will be of the past. What the next "dodge" will be, remains to be seen. In the meantime the honourable and well-informed practitioner, whether he be a consultant or in general practice, may rest assured that he is in the right way so long as he steers clear of the shoals and quicksands of "legitimate quackery." He has more chances of success, in the long run, than if he become author writing for practice, or a specialist and the proprietor of a hospital or dispensary. The prizes in the latter category are few and far between. When successful, success is only obtainable by immense labour, constant puffing, and appeals to the "public." You may count the successful "authors" and "proprietors" on your fingers; but those who have failed are "thick as leaves in Vallambrosa," and have to lament over much time and money misspent, and to seek in vain for "success" when it is too late to obtain it in the legitimate paths of the profession.

THE WEEK.

TOPICS OF THE DAY.

Our readers will be so well pleased to be provided this week with the whole of Mr. Le Gros Clark's elegant and eloquent Hunterian Oration, that they will overlook, or, noticing, will forgive, our not having any editorial comment on it. The simple fact is that the Oration came into our hands too late to make it possible for us to do it full justice, and we therefore have preferred to say nothing of its excellencies and beauties, and the marked applause with which it was so deservedly greeted, until next week.

Elizabeth Ingram, a midwife, was committed for trial on Monday last by the Coventry magistrates for the manslaughter of the wife of John Johnson. It will be recollected that the charge against her was that during the prevalence of puerperal fever in her practice she attended several women, four of whom had died from the fever, which it was assumed she had communicated to them. However this may be, she had been cautioned by the coroner to cease from practice for some time. This she disregarded, and will have to answer for the consequences.

Whatever difference of opinion may exist on some points between ourselves and our brethren on the other side of the Channel, it is gratifying to notice the following, which is highly creditable to the medical students of both nations:—M. Rose St. Hillaire, member of the Paris Institute, at a meeting of the students on the 12th inst., which was very fully attended, communicated a complimentary address from the students of the Edinburgh University. The address was highly appreciated by the Parisian students, and a reply is shortly to be forwarded to their brother students in Scotland.

A conference of medical officers of health, under the auspices of the Manchester and Salford Sanitary Association, was held at Manchester last week, for the purpose of organising an association of officers of health for the North-West of England, by which united action may be taken in sanitary matters and legislation as to public health. Dr. Noble, the chairman of the Association, presided. The object of the conference was adopted, and an association, under the name of the "North-West Association of Officers of Health," was formed.

The imperfection of the Sanitary Acts has been evidenced on many occasions. There has been a failure of justice in many instances dependent upon the loose language employed. But the main evil of sanitary legislation would appear to be the difficulty of determining who are the legal prosecutors in certain cases. The Acts when consolidated will no doubt meet this difficulty. As an instance of their gross imperfection, it may be stated that the Medical Officer for the Port of London, in his last half-yearly report to the Corporation, draws attention to the fact that the stenches emitted from factories on the banks of the river cannot be dealt with, as the existing law is powerless to stop them.

The States of Jersey appear to be so obtuse as to render them incapable of arriving at a just conclusion with respect to vaccination. They have at length, however, found it necessary to do "something," and this is the proposition the wiseacres are about considering:—They will not pass a measure to make vaccination compulsory, but they propose at their next sitting to introduce a measure for the preservation of voluntary vaccination; and this is to be carried out, forsooth, by the appointment of public vaccinators! The wise men of Gotham could not have suggested a more absurd and useless measure.

Dr. Hardwicke, as we anticipated, has found the retention of the position of Medical Officer of Health for Paddington incompatible with the duties of the office of Coroner. On Tuesday last he tendered his resignation of the former office to the Vestry of that parish.

Dr. William Strange, Medical Officer of Health for Worcester, in his first annual report, presented to the Urban Sanitary Authority on the 2nd inst., states that during the first half of the year the Inspector of Nuisances was engaged in a house-to-house inspection and survey—sanctioned by the Health Committee,—to serve as a basis for future operations. This inspection discovered, along with hundreds of minor nuisances which were summarily dealt with, not less than 815 dwellings in a more or less insanitary condition requiring the intervention of the law. On the completion of this survey Dr. Strange reinspected all these 815 dwellings. The necessary notices for the improvements required having been actively carried out, Dr. Strange remarks—"That the city is to be congratulated on the public spirit displayed by its rulers in ordering this survey to be made, regardless of what might be the outcome of it, I feel certain, as already large portions of several parishes, whose sanitary affairs were in the worst condition, have been transformed, or are in process of transformation, from a state of disgusting filth to one of comparative cleanliness and comfort. This is especially the case in those parishes in which the inspection was taken first in order—viz., St. John's, St. Clement's, All Saints, St. Andrew's,

St. Alban's, and St. Helen's." Whatever objections may be urged in certain quarters to the system of house-to-house visitation, the result in Worcester, as shown above, has been most satisfactory, and is a sufficient answer to all cavillers on the question.

The third half-yearly report of the Medical Officer of Health for the Port of London, Mr. Harry Leach, to the Port Sanitary Committee, has lately been published. The report will be found to contain much valuable information upon the extent and divisions of the port, the arrangements adopted for carrying on the sanitary work over such a long and busy stretch of river, the condition of the water and of the docks, as well as certain particulars concerning the measures adopted on the importation or outbreak of epidemic diseases. Certain appendices, chiefly statistical, complete the report, which is replete with evidence of the great importance and responsibility that is attached to the appointment of Medical Officer of Health to one of the largest ports in the world; and of the remarkably able manner in which its duties are performed by a hard-worked and, we fear, much underpaid officer.

We understand that Mr. Gladstone has declined to allow himself to be nominated for the Lord Rectorship of Aberdeen University.

SIR W. JENNER'S ADDRESS TO THE CLINICAL SOCIETY.

It is the custom with the Clinical Society that each new President of the Society should introduce himself to the body of members by giving an address. Many of these addresses have been given since first the Society was opened by the classical speech of Sir Thomas Watson, but we make bold to say that no more valuable and interesting contribution has ever been made to the Society's *Transactions* than the address given by Sir W. Jenner. With little preliminary matter, the President speedily passed on to the consideration of certain features of the acute specific diseases which he is well known to have most carefully and profoundly studied. Chief among these, he thought, was the origin of typhoid; and it undoubtedly gave us great satisfaction when Sir W. Jenner stated as his opinion substantially the same views as those laid down by us in the recent articles on typhoid fever. In the great majority of cases he held that germs of the disease generated in some other individual, and conveyed by the agency of drinking-water into the body of the new patient, constituted the mode of propagation: but in a certain number of cases the germs made their way into the system while suspended in air. Did typhoid fever ever originate *de novo* from filth only, and without the agency of germs? This Sir William was inclined to believe was not the case, but he held that we were not in a position to come to an absolute decision as to the one mode of propagation to the exclusion of all others. This was exactly the view we expressed; the only point of difference being, as far as we could make out, that the distinguished physician seemed to think less of the transmission of typhoid germs by sewer-gas than we were inclined to do.

The speaker next proceeded to point out some interesting facts relating to others of the acute specific diseases, especially as regards their relative tendency to spread; pointing out how much more intensely scarlet fever and small-pox acted on subjects liable to such attacks than did typhoid, diphtheria, or erysipelas; how, also, some families seemed more prone than others to the inroads of these specific diseases.

Taking up another branch of inquiry, he proceeded to point out how difficult it was to make out definitely and exactly the action of certain remedies; and he cited certain maladies as having been for a very long period under study, and yet that we were as little in advance as at the first, both in our knowledge of the disease and of its proper treatment. For instance, with regard to whooping-cough, hundreds of remedies had been used for that malady, yet no one knew what should really be done for it.

Nor did Sir William's suggestions end here. He pointed out that, for the most part, the acute specific diseases followed the course or order of a single fit of ague, and so that each patient had to go through a certain series of diseased processes; and that until these were accomplished there could be no health. Cutting short a fit in the middle was not enough to insure health.

Briefly we have indicated the chief heads of Sir William Jenner's address—not, however, in any way endeavouring to give a *résumé* of what we earnestly request our readers to study in full; for it is an address such as we do not often hear, and contains a mint of wisdom for those who care to seek it out.

THE SANITARY REPORT FOR 1873 OF THE TROOPS IN INDIA.

We have recently received the Annual Sanitary Report of the Troops in India for the year 1873. The volume is most carefully compiled, and contains information of much importance to the medical inquirer into statistics. It would appear that the sanitary history of the year 1873 presents a very marked contrast to that of 1872. In some parts of the country small-pox was epidemic, and caused much mortality among the people during several months. Generally, there was a remarkable absence of cholera, and a considerable diminution of other diseases compared with other years. It is only over a small area that cholera can be said to have been epidemic; whilst its dormancy over certain large tracts of country, and its almost complete absence from others, have been most striking features. The year, as a whole, is returned as having been an unusually healthy one. In proof of this assertion, taking first the European force employed in India, the cases of sickness equalled 1328, the daily sick 55, and the mortality only 15·30 per 1000; the mortality in 1872 was 24·21, and in 1871 was 17·53 per 1000. The statistics of sickness and mortality in the native army during the year 1873 do not exhibit results so singularly favourable as those of the European army; but we are reminded that in comparing the two bodies of men it must be remembered that the stations occupied by them are by no means the same, and that the causes of disease, therefore, both general and local, to which they are subjected are totally different. Thus, for example, in Bengal proper, where the European garrison numbered only 1900 in 1873, the native garrison was over 7000, and it was here that the death-rate in the native army was highest; also, on the North-Western frontier, where the native force is 10,000 men, the European army is represented by 100 men only, and in this part of the country sickness was most prevalent, and the mortality ranked next to that reported from Bengal proper. No strict comparison can thus be made between the European and native armies; and it does not follow as a matter of course that because the statistics of the one show a singularly high standard of health the same fact should also appear in the statistics of the other. But the results in the native army for the year 1873 are by no means unfavourable. An admission-rate of 1289, a daily sick-rate of 41, and a death-rate of 13·92 will bear comparison with the ratios of former years.

Of the total of 1328 admissions per 1000 which took place throughout the year in the whole European army of India, malarial fevers account for 455, and venereal diseases for 166. Of a total of 78,054 cases of sickness, 26,800 were due to the one and 9795 to the other. The two stand out prominently as the great forms of sickness, though they by no means appear as chief causes of mortality. The death-rate directly ascribed to the first is only 1·11 per 1000, and that directly due to the other is so small that it is not separately noted.

The chief cause of mortality in each of the three Presidencies was hepatitis, though the death-rate was different, showing

4·0 per 1000 for Madras, 2·35 per 1000 for Bombay, and 1·80 per 1000 for Bengal. Dysentery, which has an intimate relation to hepatitis, follows a similar order as regards the comparative extent in which it affected the mortality in the three Presidencies; for while it stands second in Madras, it comes seventh in Bombay, and tenth in Bengal. The returns of cholera were 1·22 per 1000 in Madras, 0·90 per 1000 in Bengal, and it was not included amongst the ten chief causes of mortality in Bombay. These results are in marked contrast to those of the year 1872, in which, both in Bengal and Bombay, cholera was in the first rank, occasioning a mortality of no less than 10·66 in the one and 3·33 per 1000 in the other.

The meteorology of 1873 was remarkable. In May the temperature of Calcutta was such as has been reached but once before during the last nineteen years; the rainfall of the year was the lowest on record with the single exception of the great famine year 1837; and within a few days of the close of the year the cold was unexampled in severity. Snow fell on the plains of the Punjaub at Lahore and Jullundur, and hoar-frost whitened the low grounds of the Gangetic delta, within a hundred miles of Calcutta.

LIFE AT HIGH PRESSURE.

The subject of Mr. W. R. Greg's paper at the Royal Institution on Friday evening, February 12, was one which is, or ought to be, of great interest to the practitioner of medicine both personally and professionally. In these days, the lecturer said, life is chiefly remarkable for its speed, and it is questionable how far the pace is a good, and how far it is worth the price paid for it. We have got into a habit of valuing speed simply as speed. The physical consequences of such needless hurry are grave enough, but the moral consequences are possibly graver still. The rapidity of railway travelling, said Mr. Greg, produces a chronic disturbance in the nervous system, and the pace causes a daily wear and tear as well as accelerated action of the heart, which kills or injures thousands. The constitutions thus enfeebled we transmit damaged to our children, who add to and pass on the sad inheritance. Heart disease, too common already, may be expected to be more common still. We are, perhaps, most of us conscious at some time of the need to be quiet and alone, but few of us have estimated adequately the degree in which an atmosphere of excitement, especially when we enter it young and continue in it habitually, is fatal to the higher and deeper life: the subtle poison which it disseminates throughout the whole character; how it saps solidity and strength of mind; how it daily becomes more necessary and in increasing measure; how it enfeebles and renders abnormally sensitive the subtle organisation of the brain; and how far, by slow and sure gradations, it carries us towards a mental and moral condition which may justly be pronounced unsound. But "high pressure" is shown, according to Mr. Greg, even more in our style of work than in our rate of movement. Success in professional, public, and commercial work demands more strenuous and exhausting toil, sterner concentration, and a more harsh and rigid sacrifice of the amenities which time offers the easy-going than was formerly the case. The eminent lawyer, the physician in full practice, and the politician—even the literary workman and eager man of science—are now condemned to an amount and severity of exertion which forces one after another to break off (or to break down) in mid-career—shattered, paralysed, reduced to premature inaction or senility. The barrister must make hay while the sun shines, for it shines so late; the physician cannot, in middle life, select among the patients whom he has longed for through the years of youth; while the statesman has to undergo a prolonged pressure to attain what Macaulay calls "that closely-watched slavery which is dignified with the name of power." This ceaselessness and severity of toil gives the prizes of life to men of exceptional physique. Physical and cerebral toughness are the prime requisite. Passing on to consider how difficult it is in these days for the unaspiring man of moderate faculties and moderate health to live on a small income among his more ambitious and successful neighbours, Mr. Greg suggested as a remedy for this condition of things a regeneration in the tastes and sentiments of the opulent and noble, which would cause simplicity to become "good style," and luxury beyond a certain point, and ostentation at any point, to be voted vulgar. The seeds of this moral revulsion are happily already in existence.

OPERATIONS AT GUY'S HOSPITAL.

On Tuesday last Mr. Durham excised the knee-joint of a little boy, seven years of age, for disease of six months' standing. In July last he accidentally fell off the table, and struck his left knee on the floor. It did not pain him much at the time, but the next morning the joint was very painful and swollen. He was taken to the London Hospital, where it was strapped. He continued to play about, although with a bent, swollen, and painful knee, up to a week before his admission on February 8. On admission the knee was found to be much enlarged, the joint painful, the tibia partially dislocated backwards and outwards, and the leg flexed at a right angle to the thigh. Before operating, Mr. Durham remarked that at present it was a disputed point whether excision was the most satisfactory mode of treating disease of the knee-joint in children. No doubt many of the cases of excision of the knee in children were very disappointing in their results. This was especially the case when the entire epiphysal end of the femur was removed, for then the leg increased in length very slowly, and remained permanently much shorter than the sound leg. In patients from eighteen to twenty-five years of age he had had excellent results, and he had had some good cases in younger patients. The operation was performed antiseptically. Mr. Durham also operated in a case of ununited fracture of the forearm in a man about fifty-six years of age. In June last the patient sustained a compound fracture of both bones of the forearm at the lower part of the middle third. He was attended by a country surgeon, who put the arm in splints in the conventional manner. Although this treatment was persevered with for eleven weeks, union did not take place. Starch bandages were afterwards applied, but with no better result. Mr. Durham first made a longitudinal incision over the posterior border of the ulna, nearly four inches in length, and exposing the broken ends of the bone. These, it was then seen, were overriding and separated by a small piece of dead bone and some fibrous tissue. These were removed, together with the broken ends of the bone, and the arm placed in splints. Nothing was done to the radius, as Mr. Durham preferred waiting to see whether the ulna is disposed to unite. The patient on whom Mr. Birkett tied the femoral artery in Scarpa's triangle for popliteal aneurism (as reported in the *Medical Times and Gazette* of January 30), died on the 10th inst., the twentieth day after the operation. Collateral circulation was never established, and the leg became gangrenous from the toes to the knee. The ligature came away the day before the patient died, but, although no hæmorrhage took place, it was found that the artery was not occluded.

WATER SUPPLY OF WESTMINSTER.

Mr. Barnard Holt, Medical Officer of Health for the Westminster District, in his report, on the 12th inst., to the Board of Works, describes the water supplied by the Chelsea Water Company as being "loaded with impurities, and unfit for drinking without its organic products having been previously destroyed by boiling." A copy of Mr. Holt's report was ordered to be forwarded to the Water Company, the Board of Trade, and to Major Bolton, the water examiner.

A HEALTHY PARISH.

Dr. Frank Richardson, of Harbottle, Medical Officer to the Alwinton District, Rothbury Union, has recorded in the columns of the *Times* some interesting statistics of the remarkable health enjoyed by the inhabitants of Alwinton-with-Holystone, a parish situated on the southern slopes of the Cheviots. It extends about twenty miles in length, and several in breadth; includes the upper vale of the Coquet, and comprises about 44,472 acres of land. Though in this respect a large parish, it is not very populous, and its population does not increase. At the Census of 1861 there were 1306 inhabitants, but only 1272 at the Census of 1871: its death-rate is, however, marvellously low. Dr. F. Richardson says:—"The occupations of its inhabitants are almost equally divided between the tending of sheep and the cultivation of cereals upon lands which rest in nearly similar proportions upon free-stone and porphyry. During the year 1874 six deaths occurred in this parish, being at the rate of 4·7 per 1000, one of those deaths being that of an unfortunate young shepherd who perished in the recent snowstorm. This mortality was lower than usual; during the previous ten years the number was 106, an annual average of 7·9 per 1000. Of these 106 deaths there were 16 between seventy and eighty years of age, and, curiously, 29 above eighty years—considerably more than one-quarter of the total deaths thus occurring in people above eighty years old, or 273·6 per 1000. Now, is there anything exceptional in the ages of the inhabitants to account for this low death-rate? The aged and very young, among whom proportionally the mortality is highest, exist in large numbers. Within two miles of my house I know nine octogenarians, and a tenth, our parish clerk, died last week at the age of eighty-three. In this village of Harbottle, with 120 inhabitants, there are thirty-seven children under fourteen years of age, and during the last twenty years no child has died, and for nearly four years no one until the case just mentioned. I may add another instance of the large proportion of children existing and their immunity from death. A farmer in this parish and his three shepherds, who have occupied their present situations nearly thirty years, have among them forty-seven children, and not a single death has occurred in these families. The inhabitants have abundance of plain substantial food, excellent water, good residences as a rule, and regular but not severe work in a pure bracing atmosphere, and are highly intelligent and generally abstemious." Dr. F. Richardson adds that these remarkable statistics are corroborated by the Rev. A. Procter, who has been "for upwards of forty years" the vicar of the parish.

PRESENTATION OF PORTRAIT TO MR. HANCOCK.

The public presentation to Mr. Hancock of the testimonial portrait which has been painted for a large number of subscribers by Mr. Richmond, R.A., took place in the board-room of Charing-cross Hospital on the afternoon of Wednesday last. Mr. H. A. Bosanquet, treasurer, occupied the chair, and the meeting was a large and fashionable one. In making the presentation, Mr. Bosanquet alluded especially to Mr. Hancock's connexion with Charing-cross Hospital, and to the remarkable improvements in the building arrangements and government of the institution, as well as in the medical school, which had been effected since his appointment as assistant-surgeon, six-and-thirty years ago. A high tribute was paid to Mr. Hancock's reputation as a teacher, and there could be no doubt that many of the subscribers to this testimonial owed their success in a great measure to their good fortune in having been his pupils. The chairman concluded by wishing that Mr. Hancock might enjoy his well-earned laurels for many years to come, and that the portrait might be handed down in his family as that of one of their house who had raised himself to the very highest position in his profession, and who had ever been esteemed as an upright and honourable man. Mr. Hancock, in reply, said that he received the portrait with all the greater pleasure that it was to him associated with the history of Charing-cross Hospital for thirty-six years. In the laborious and anxious duties of a hospital surgeon and teacher he had ever received and been sustained by the generous co-operation and sympathy of his colleagues, and by the regard and attachment of his students. His work at the hospital had to him been always a labour of love. Whether his remaining days might be few or many, he prayed for health and strength that he might prove his sense of the kindness and honour which had been shown to him, by devoting himself to the interests of Charing-cross Hospital. Formal votes of thanks brought the proceedings to a close.

VIRCHOW ON MEDICAL TERMINOLOGY.

Professor Virchow has just published an appeal to the profession in Germany in behalf of State medicine and State statistics. He complains that those who are most impatiently looking for improvements in medical statistics, inquests, etc., are often forgetful that they do anything, themselves, but contribute to the desired end. He gives, as an example, the difficulties which beset the attempt of the Berlin Statistical Bureau to obtain an accurate return of the decennial mortality of the city. "How," he asks, "can reliable statistics be derived from such material as the following?" As the cause of death in separate instances he has found certified "abdominal fever," "mammary catarrh," "induration of the veins," "adhesion of the stomach," "cramp of the gullet," and "cramp of the heart." One physician returns "pulmonary infiltration" as the cause of death, another "pulmonary induration"; one returns "inflammation of the mucous membrane of the nose," and another "ulceration of the brain"; and others do not commit themselves beyond "neck-trouble," "head-mischief," "intestinal disease." Virchow adds that in all these instances a few details would make available for statistics the returns which are otherwise of no value. In these days, he adds, many dangers are threatening the medical profession, and it is therefore only just to remind it that those who are true physicians must endeavour with all their might to evidence their scientific position even in little things. And is it not, Virchow asks, the first sign of a scientific man that he knows how to use the language of science?

THE HUNTERIAN ORATION.

The biennial Hunterian Oration was delivered on Saturday last, the 13th inst., by Mr. F. Le Gros Clark, F.R.S., the President of the College, before a large and distinguished audience. At its conclusion Mr. Clark was loudly cheered for his eloquent discourse. In the evening the President and Council entertained a great number of visitors at dinner at Willis's Rooms, amongst whom were observed the Lord Chief Justice of the Common Pleas, Lord Coleridge; the Lord Chief Justice of England, Sir Alexander Cockburn; the Dean of Westminster, the Reverend Canons Barry and Miller, the President of the General Medical Council (Dr. Acland), the Masters of the Merchant Taylors Company and the Society of Apothecaries, the Revs. J. E. Kempe, J. M. B. Murdoch, and A. Trimmer, Sir G. Burrows, Sir W. Fergusson, Sir J. Paget, Sir Thomas Henry, Professors Owen, Wilson, Flower, Parker, and Huxley, the members of the Dental and Midwifery Boards of the College, Dr. Macnamara (late President of the Irish College of Surgeons), and most of the members of the Council of the London College.

ST. MARYLEBONE GENERAL DISPENSARY.

In consequence of the trial of the partial provident system at this institution during the past six months having proved a success, it was decided at a general meeting of the governors on the 10th inst. to make this principle permanent.

BEQUESTS TO MEDICAL CHARITIES.

THE late Mr. George Mullin, of 304, Kennington-park-road, whose will was proved on the 13th ult., has bequeathed £1000 to Charing-cross Hospital; a similar sum to the British Home for Incurables; and £500 to the London Truss Society. By the will of the late Mrs. Chantrey, of Lower Brooke-street, which was proved on the 20th ult., the sum of £300 becomes due to each of the following hospitals—the Westminster, Royal Free, St. George's, and the Cancer Hospital. The same lady has also bequeathed £200 to the Consumption Hospital, Brompton. The late Mr. Robert Marshall, of North Bridge, has bequeathed £500 to the University of Edinburgh, for the purpose of founding a Marshall Bursary; £500 to the Royal Infirmary; £150 to the Royal Dispensary; £100 to the Sick Children's Hospital; £50 to the Maternity Hospital; in addition to other large sums to the various Edinburgh charities.

HUNTERIAN SOCIETY.

THE following is a list of officers for the session 1875-76, elected February 10, 1875:—*President:* W. Sedgwick Saunders, M.D. *Vice-Presidents:* R. U. Wallace, M.B.; E. Clapton, M.D.; H. Gervis, M.D.: H. G. Sutton, M.B. *Treasurers and Trustees:* Thomas Mee Daldy, M.D.; H. I. Fotherby, M.D. *Librarian:* P. L. Burchell, M.D. *Secretaries:* F. Gordon Brown, Esq.; Waren Tay, Esq. *Council:* J. E. Adams, Esq.; Robert Barnes, M.D.; F. M. Corner, Esq.; Frederick Daldy, Esq.; Robert Fowler, M.D.; James Greenwood, M.D.; D. De Berdt Hovell, Esq.; J. McCarthy, M.B.; P. H. Pye-Smith, M.D.; W. Rivington, M.B., M.S.; A. H. Smee, Esq.; W. Toulmin, Esq.

HOSPITAL SATURDAY FUND.

ACCORDING to the report of the Audit Committee of the Hospital Saturday Fund, the receipts were £6300 and the expenses £1400. Of the balance it was decided to distribute £4500, and to carry forward the remainder. Two-thirds of the amount to be distributed was apportioned to hospitals, and the other third to dispensaries. This is very satisfactory, no doubt, as far as it goes; but we hope to learn something definite as to the hospitals which have been favoured by the Hospital Saturday Fund Council, and the sums which such hospitals respectively received.

DUBLIN HOSPITAL SUNDAY, 1875.

AT a meeting of the Executive Council of the Dublin Hospital Sunday Fund, held at the Shelbourne Hotel, Stephen's-green, on Monday, February 15, the Right Hon. the Earl of Meath, President, took the chair. It was resolved on the motion of his Grace the Archbishop of Dublin, seconded by the President of the King and Queen's College of Physicians, that the collection for 1875 be made on Sunday, November 14. It was also resolved that the secretaries be directed to communicate with the Bishop of Meath and the heads of other religious bodies in the county of Meath, with a view of extending the movement to the north of Dublin.

PARLIAMENTARY. — IRISH APOTHECARIES — ADULTERATION OF FOOD — CATTLE DISEASE IN IRELAND — PUBLIC HEALTH — BLEACH AND DYE WORKS—SANITARY CONDITION OF MINING VILLAGES.

IN the House of Commons, on Thursday, February 11,

Sir M. H. Beach, in reply to Mr. Errington, said that he hoped to be able to deal with the proposal for the establishment of a Pharmaceutical Society in Ireland, in accordance with the recommendations of the Select Committee on the Apothecaries' Licences Bill, if time permitted.

Mr. Sclater-Booth, with a few preliminary observations by way of explanation, obtained leave to introduce his Bill to repeal the Adulteration of Food and Drugs Acts.

Sir M. H. Beach, replying to Mr. Barclay, said that he pointed out last session the reasons of the Government for not extending to Ireland compulsory slaughter for pleuro-pneumonia of cattle, and they were not disposed to alter the decision then arrived at.

Mr. Sclater-Booth obtained leave to introduce a Bill for consolidating and amending the Acts relating to Public Health in England. Both before and since 1848 innumerable private and public Acts had been passed, some of them permissive, others compulsory. One great object of the present Bill was to amend and reconcile provisions in previous Acts which were apparently in conflict. The Sanitary Commission had reported that, in consequence of this confusion, the law was frequently unknown and difficult to be understood. Since the Act of 1872 the country had been divided into urban and rural sanitary districts. Two years' experience of that Act had shown the necessity of making further amendments, in order to secure the due operation of the law. He proposed to add a provision as to the construction of sewers, and to enable local authorities to obtain provisional orders under the Gas and Water Facilities Act. There would also be a power to compel the use of mortuaries under certain circumstances. Clauses would be introduced to define that part of the Nuisances Act relating to the overcrowding of dwelling-houses, whether by members of one or different families. Power could be given to the Local Government Board to group together districts in the same county for the joint appointment of medical officers of health. There would be some alteration of the law with regard to nuisances arising from smoke, offensive smells, etc., in order that the law might be made more effectual with special reference to the injurious fumes arising from alkali; and the local authority could take proceedings to remove a nuisance, although it might be outside their district. At present the law was that no local authority might proceed against a nuisance unless the cause of it arose within their district. These were the main provisions of the Bill.

On Monday, February 15, nearly the whole of the sitting was occupied by the debate upon the Artisans' Dwellings Bill, which was read a second time. A warm reception was accorded to the principles of the Bill. Mr. Stansfeld, in opening the debate from the Opposition benches, stated that the enacting clauses were not quite so explicit and well defined as those in the preamble, and he hoped that there would be no ambiguity in carrying out the details. With a few alterations, he thought "the Bill would be a piece of legislative sanitary work creditable to the Government and satisfactory to the House." Sir Sydney Waterlow was of opinion that the Board of Works should be free to act independently of the district medical officers. Sir James Hogg reserved his opinion. Mr. Waddy and other speakers spoke very strongly upon the difficulties of carrying out such a gigantic scheme upon principles of economy. He stated that the Waterlow and Peabody Buildings were altogether out of the reach of many of those people who were evicted; so that in some respects the remedy might be worse than the disease. In buildings condemned as unfit for human habitation the classes who occupied them could not pay higher rents than they were now paying. He hoped the Government would take care to deal with the lowest stratum of society. Dr. Lyon Playfair and others were of opinion that the Bill should not be restricted to England, but that Scotland should reap the benefit of it. Dr. Playfair was also of opinion that the Home Secretary should endeavour to work more upon public opinion for the removal of nuisances, especially in those cases where the local authority is unwilling to take the initiative. Mr. Cross, in reply, expressed his willingness to extend the operations of the Bill to Scotland if he found it practicable. Other members desired to see it also extended to towns with a population under 25,000. The Committee was fixed for March 4.

On Tuesday, Mr. Cross, replying to Mr. Macdonald, said that it is at the present moment under the consideration of the Government in what way they will best make an inquiry with respect to children and young persons employed in factories and workshops other than textile manufactories, as far as regards health and education.

Mr. Macdonald gave notice that on an early day after Easter he would call attention to the sanitary condition of the mining villages in England, Scotland, and Wales, and the tenure by which the houses were held by the workmen, and would move a resolution on the subject.

DR. GERVIS has been appointed Obstetric Physician and Lecturer upon Midwifery at St. Thomas's Hospital in succession to Dr. Barnes.

THE HUNTERIAN ORATION.

DELIVERED AT THE

ROYAL COLLEGE OF SURGEONS,

ON SATURDAY, FEBRUARY 13,

By FREDERICK LE GROS CLARK, F.R.C.S., F.R.S.,
President of the College; Consulting Surgeon to St. Thomas's Hospital.

MR. VICE-PRESIDENT AND GENTLEMEN,—It has been my lot, in common with many whom I have now the privilege of addressing, to be present on several occasions when this Oration has been delivered in honour of the great founder of our Museum. Yet, even on this the forty-seventh commemoration, I feel it would be unbecoming to deprecate criticism by pleading lack of novelty, or exhaustion of materials for the task: for the achievements of such men as John Hunter have no defined limit. His master-mind has communicated in various ways a new direction and impulse to investigation, thus influencing, immediately or imperceptibly, the development of the sciences he cultivated; and that influence is still felt and acknowledged, and it will yet endure long after the direct association between the originator of the work and its ever-expanding results shall have been obscured or forgotten in the lapse of time.

Many of these addresses possess a peculiar interest of their own, apart from the subject of them, which I cannot hope to impart to mine: for they have been composed and spoken by men on whom the mantle of Hunter has fallen not unworthily; and in them we recognise the reflection of many of his special characteristics in refined and accomplished minds, and an epitome, as it were, of the views and purposes of their authors in the cultivation of our profession.

More than one generation has passed away since Hunter lived, and there are but few, I suppose, who are my juniors, who can recall the aged face, beaming with intelligence and kindness, of our first Conservator. It is difficult to dissociate Mr. Clift from this theatre, and especially from this occasion, which was one of peculiar interest to him, who was, at the time to which I refer, the only remaining representative of the master whom he had served in his youth with single-hearted devotion—a veritable link with the great man whose memory and everything pertaining to him he regarded with the fondest reverence. And in his track follows a succession of illustrious names, identified with the progressive moulding and fashioning of the rude chirurgery of former time into the present relative perfection of modern scientific surgery.

This contemplation of the past, which seems so naturally to present itself on this occasion, is one which evokes very mingled feelings; for so many are already gone, passing away, one by one, from this busy scene. The familiar face is no longer present save to the eye of memory; the voice which gave utterance to words of fervent eloquence is hushed; the tutored intellect and skilled hand are both at rest; but their example, their teaching, remains as an heir-loom to future generations.

Blending, perhaps unbidden, with this retrospect comes the consciousness that our turn must soon arrive to quit the stage on which we now move and perform our allotted task, and be numbered with those whose memory is cherished and revered by few or many, as the responsibilities of that task and the sacred trust of influencing others for good have been appreciated and realised.

In harmony with these reflections, I proceed to comply with a condition—I may designate it a painful privilege, associated with the present occasion—that some mention should be made of the loss sustained by this College, in the death of such of its members since the last Oration was delivered as shall, in the words of its founders, "have contributed by their labours to the improvement or extension of chirurgical science." In this review I will observe a chronological order in briefly commenting on each eventful life; and I regret that the length of the list will compel me to curtail the sketches I had prepared, lest in speaking I should weary my audience, and leave but scant and insufficient time for the special theme of this address.

Richard Partridge, who was long and intimately associated with our College, was born in 1805, and died on March 25, 1873. He commenced his education at Birmingham, and completed his studies at St. Bartholomew's Hospital, receiving his surgical diploma in 1827. The first public appointment he held was that of Surgeon to the Charing-cross Hospital. When King's College was founded, Mr. Partridge was elected Demonstrator of Anatomy; and his ability as a teacher subsequently procured for him the Professorship of Anatomy, vacated by Mr. Mayo. When King's College Hospital was opened, he became one of the surgeons attached to it, in virtue of his office in the College. In 1852 he was elected a member of the Council of this College, and afterwards a member of the Court of Examiners; and in succeeding years held office as Vice-President and President, delivering the Hunterian Oration in 1865. He also held for many years the Professorship of Anatomy at the Royal Academy, in succession to Joseph Henry Green. Richard Partridge's reputation was especially associated with his ability as a teacher of anatomy. In his prime he had few equals as a lively and engaging lecturer, and enjoyed much popularity with his pupils. Beyond this he has left no record of his professional work to posterity. In social intercourse he was always cheerful; and all who enjoyed that intercourse are familiar with the dry humour with which he delighted to tell a racy story or to retail a *bon mot*; indeed he seemed to have an inexhaustible store of these good things, which, in his hands, rarely degenerated into anything which savoured of vulgarity or personal unkindness. He had a cultivated taste, and was endowed with a large share of tact and many sterling qualities. When we missed him from our meetings we all felt we had lost a genial companion, a staunch supporter of the College, and a valued friend.

The name of Joseph Jordan is associated with that of his contemporary and fellow-townsman, Mr. Turner, as an energetic surgeon who introduced professional teaching in the provinces, when the oldest amongst us were learning the rudiments of general education, before we reached the dignity of our teens; and he was long associated with the Manchester School of Medicine. Mr. Jordan was surgeon in the Infirmary of that town for thirty-three years, and died at the advanced age of eighty-six in March, 1873.

John Bishop did not enter the medical profession until he had attained his twenty-fifth year. He was a pupil of St. George's Hospital, and obtained his diploma in 1824. He was elected as a member of Council in 1849, and Hunterian Orator in 1859. Mr. Bishop's name is especially associated with his work on the Human and Comparative Anatomy and Physiology of Voice, on which he wrote several valuable papers; and he acquired considerable practice in the special department of treating impediments of speech. He possessed much energy of will and soundness of judgment, as well as literary and scientific tastes, and was remarkable for the accuracy of his observations and his power of applying his mathematical attainments in all investigations in which he was engaged, and which admitted of precise demonstration. He died in September, 1873, in his seventy-sixth year.

The many physical obstacles which impede the progress of medical science in our Eastern Empire, where, nevertheless, its diffusion by teaching is so much needed, enhance the merit of self-sacrificing toil in its behoof. All honour, then, to such as Henry Charles Cutcliffe, whose martyrdom to science in India evokes our sympathy and claims our admiration. The late acting Professor of Anatomy at the Medical School of Calcutta died, after four days' illness, in October, 1873, at the early age of forty-one.

Thomas Turner was, in one sense, the father of our Council; for he was the senior of all his colleagues in years, though not in service. He became a Member of this College in 1816, and as early as 1824 he took an active part in founding the Manchester School of Medicine, which is the first provincial school that had a recognised curriculum. For twenty-five years he acted as Surgeon to the Manchester Infirmary, and was associated with almost every good work in any way allied with his profession in that great city. Mr. Turner is the author of several works of professional value and interest. Although for many years a provincial member of our Council, Mr. Turner did not take a very active part in the management of its affairs; but he was sincerely esteemed by us for his personal qualities, as well as for the traditional interest associated with his name. He was a good man in the highest acceptation of that word. His strong religious convictions and benevolent impulses were not dissipated in sentiment, but were manifested in his daily

life. Gentle, courteous, and truthful, he was yet firm in the reproof of vice as he was thoughtful and anxious in promoting what his conscience approved; and his energy seemed equal to his duties, until at last, for a brief period, physical infirmity compelled him to relax, and he expired at the close of 1873 at the ripe age of eighty. No wonder that such a man was respected and beloved in his life, and that his loss has left a blank in the hearts of the many in whose service the vigour of that long and active life had been unselfishly expended.

Thomas Wormald commenced his profession in 1818, as an articled pupil of Mr. Abernethy, at St. Bartholomew's Hospital, and with that institution he retained his connexion until his retirement from office as surgeon at the age of sixty-five. He first became a member of Council in this College in 1849, and subsequently filled the offices of Vice-President, President, and Hunterian Orator; he was also for many years a member of the Court of Examiners. Shortly after his retirement from his hospital duties, Mr. Wormald withdrew from London, and spent the remainder of his life in rural retirement. He died on December 28, 1873, of cerebral apoplexy, in his seventy-second year, whilst on a visit to a sick brother in Yorkshire. It is said that there was considerable sympathy between Mr. Wormald and his eccentric master; and those who can recall, as I just can, some of the peculiarities of Mr. Abernethy, may readily credit that such was the case. The honest bluntness of the pupil would commend itself to one who never cultivated amenity of manners; and as avowed eccentricities are usually apt to be exaggerated, it seems probable that such was the case in this instance with both master and pupil. Mr. Wormald was successful as a teacher of anatomy, an accurate observer, and a good surgeon; but, like Mr. Partridge, he has left but little record of his work or of his experience. A graphic and feeling sketch of his life will be found in the last volume of the *St. Bartholomew's Hospital Reports*, by one of his former pupils, and now the Senior Surgeon to that Hospital.

Surgeon-Major John Wyatt died at Bournemouth in January of last year, after a protracted illness, the fatal issue of which may be attributed in part to the hardships he had voluntarily borne in the protracted siege of Paris. He entered the army in 1851, and served in the Crimea, remaining with the army until the fall of Sebastopol. His eminent services at this time recommended him to the Government, when a Medical Commissioner was appointed to join the head-quarters of the French army in the Franco-German war; and he finally shared all the privations to which the population of Paris was subjected, devoting himself with unwearied energy to the relief of the wounded and suffering.

It is only a few months since Edward Cutler, one of the earliest members of our Council under the last charter, passed away from among us at the age of seventy-seven. He was born in 1796, and was destined at an early age for the sea; but his health not being sufficiently robust, he became a student at St. George's Hospital, and received his diploma here in 1820. For a few years he served as assistant-surgeon in the Life Guards, and subsequently was associated with Sir Benjamin Brodie as his private assistant. With St. George's Hospital he was connected as surgeon for eighteen years, after serving for several previous years as assistant-surgeon. To his professional qualifications, aided by the alliances he formed in his early career in the army, and to his capacity for making friends, Mr. Cutler owed the popularity he acquired and the esteem in which he was held.

Joseph Swan was one of the last members of our Council who had the privilege of retaining his seat for life. He commenced practice in his native city (Lincoln) after completing his studies at the Borough Hospitals and obtaining his diploma here in 1813, and was for several years Surgeon to the County Hospital. During this period Mr. Swan wrote two treatises, which obtained for him the Jacksonian Prize of this College in 1817 and 1819, respectively for Diseases and Injuries of the Organ of Hearing, and for the Treatment of the Morbid Local Affections of Nerves. He now devoted his leisure time to dissection, and in 1822 he successfully competed for the first Collegiate Triennial Prize, for a minute display of the spinal nerves from their origin to their terminations. Again, in 1825, he was the prize essayist when the subject was a similar dissection of the cerebral nerves, and the preparations which accompanied the dissertations still enrich our Museum. The honorary gold medal of the College was awarded to him, and shortly afterwards he removed to London, and was elected a member of our Council. Mr. Swan was essentially a studious man of retiring habits, who passed much of his time in his favourite pursuit, dissection. By his anatomical writings, as well as by his actual work, he has added to the reputation of this College. He died, unmarried, at Filey, in Yorkshire, in October, 1873, at the age of eighty-three.

Another octogenarian, or nearly so, Sir Ranald Martin, C.B., died on November 27 in last year. He was a native of the Isle of Skye, and obtained his education at St. George's Hospital and the Windmill-street School of Medicine. His diploma dates from 1816, and the year after he obtained it he sailed for Calcutta in the Company's service as assistant-surgeon. After much active service in the field, in which he evinced great personal bravery and readiness of resource, he finally settled at Calcutta in 1826, where he married and was appointed Presidency-Surgeon. Whilst engaged in work at the native hospital, he introduced the method, now universally adopted, of injecting hydrocele with iodine. He enjoyed a large practice in Calcutta, but his health compelled him to return to England in 1840, and he continued to follow his profession in London until within a short period of his death. Sir Ranald has entitled himself to the gratitude of the profession by his contributions to the literature relating to tropical diseases, and for his support of sanitary measures generally. His tall figure and military bearing were familiar to most of us. He was a genial man, a warm friend, and a faithful public servant.

The last loss to our College which I have to record occurred on the closing day of last year, when Francis Kiernan died in his seventy-fifth year. He is claimed by St. Bartholomew's Hospital as one of her sons, and there he soon evinced his taste for anatomy. Shortly after receiving his diploma, he gave lectures, for a short period, on this subject in his private residence. His researches on the minute structure of the liver were commenced about this time; and their publication justly obtained for him a world-wide reputation; and for these discoveries the Copley Medal of the Royal Society was awarded to him. In 1850 Mr. Kiernan first became a member of our Council, and retained this office for many years; he was subsequently a member of the Court of Examiners. After serving the office of Vice-President of the College in 1864, he was seized with paralysis; and although he recovered in great measure from this attack, his official connexion with us ceased. Mr. Kiernan must ever hold an eminent position among English anatomists; and his name will be specially associated with the discoveries to which I have alluded. The accuracy and care with which his observations were conducted are the more remarkable from the imperfection of the instruments which were available at the time that he was engaged in his researches; and we must not measure their value by their bare and direct results, for an impulse was thereby given to minute investigation, especially of the structure of glands, which has since been so fruitful in the hands of others. I am informed that Mr. Kiernan's attainments as a pathologist were of no mean order; and it is to be regretted that these will probably be lost to the profession, in consequence of the disability from deteriorated health which so long preceded his death.

It is, Sir, I believe, an admitted truth in ethics that the practical lessons afforded by an earnest man's daily life are worth far more than his doctrinal teaching, however orthodox that may be; they are no doubt more trustworthy because more truthful and undisguised by sentiment. And I think we may often observe the same fact obtaining in relation to intellectual teaching: probably the lessons likewise in this case are not less impressive because imparted unconsciously or without premeditation. I have been led to make this remark by reflecting how much we are indebted to Hunter for exemplifying in all his pursuits the true spirit of our greatest of modern philosophers. I do not suppose that he had studied Bacon, and yet there never was a more faithful exponent of the inductive method of reasoning than Hunter. His perception of its value in the investigation of the works and laws of nature was intuitive; his foundations were broad and deep, and caution and vigour were conjointly exercised in raising his superstructure. I do not offer any special illustration of this assertion, because every line he wrote, every preparation he made, attest its truth; and it is unnecessary to insist on that which, I apprehend, no scientific surgeon, no physiologist would hesitate to admit. But it is well, in attempting to estimate our debt of gratitude to Hunter, that we should not only appreciate the substantial work

he did, but also fully realise the spirit in which that work was accomplished. And if that spirit had not been deeply graven on the glorious monument of which he laid the foundation within these walls, and read aright by his successors, the lessons inculcated by his thoughtful, truthful life would have been comparatively fruitless. Happily, we have no self-reflection on this score; and we have only now to enter the enlarged depository of our treasures, and to observe their ever-expanding richness, their beautiful arrangement, and the perfection of their keeping,—results attained through the exercise conjointly of a liberal policy on the part of the Council, but under the conservative rule of Professor Flower and his predecessors;—we have only to make this survey to feel assured that the spirit which influenced its first author still survives, and that he himself could have devised or desired no more appropriate recognition of the principles which prompted the conception and sustained the vigorous prosecution of the great work which he initiated.

In thus acknowledging the services of those who preceded us in this important trust, I venture to express a hope that in the future the interests of this College will continue to be guarded, and its Museum cherished, with the same jealous care as heretofore. The present is a crisis in our existence. Through good report and evil report this College has advanced to eminence, and I trust to usefulness commensurate with its prosperity; and is now about to surrender an independent agency it has exercised so long, to co-operate with other public bodies in constituting an examining board for a qualification to practise. I sincerely trust that this arrangement may realise all that is expected of it; for the past history of this College, and its early struggles for independence, its noble aspirations, its great achievements, are dear to me. But who shall forecast its future history when that independence is gone? Whatever it may be, we shall still need the support of all who possess our diploma; and we claim the chivalrous exercise of their franchise by the constituents of an institution which, in its traditions, and as a home and nursery of scientific surgery, is second to none in the world.

To return from this digression. It would not be difficult to show that Hunter's writings have, in like measure, influenced the labours of his successors in the development of surgery, by raising it from an empirical handicraft to a scientific art; for he exemplified, in a way and degree which had never before been attempted, the natural association, the necessary alliance between physiology, pathology, and the treatment of disease, and may justly claim, by his logical demonstration of this relation, to have stimulated the cultivators of medical as well as of surgical practice to seek for a more just interpretation of the phenomena of disease, and thus to conduct its management on more enlightened principles. I do not hesitate, therefore, to express my conviction that the truly philosophic example of this great man is the highest and most lasting title he has established to our recognition of the widespread service he has rendered to our profession in all its branches.

Scarcely inferior in importance is the lesson of *Humility* which Hunter inculcated by his simple faith in Nature. He never troubled himself about the crude theories and sophistical learning of the schools, but put them aside as valueless, because not tested by an appeal to facts. But I refer now more particularly to the modern recognition of Nature's resources in the cure of disease, which his work and example did so much to establish. It is difficult to estimate the mischievous consequences of confounding the phenomena attending a disease with the disease itself, and it may be feared that this is a rife source of the injudicious and empirical practice which still too widely obtains in its management; for the conviction is not yet extinct that, in disease, Nature is to be regarded as an enemy to be combated, rather than as a friend with whom we may take counsel, and whose efforts it is our duty to watch and assist, rather than to thwart and obstruct.

I have confidence in the means which Nature uses, and her mode of using them, though I know that her resources sometimes fail. It is the surgeon's duty to watch such opportunities of interposing, to supplement this inherent disability, by affording mechanical assistance where vital efforts are abortive, by directing misguided energy, and by sustaining failing power; but rarely, very rarely, by counteracting her tendencies or rejecting her suggestions.

In speaking of the phenomena of disease, I mean the attendant signs and symptoms, which are usually but the expression of a natural effort to eliminate a poison or to effect a cure. The swollen joint in gout or rheumatism, the suppurating lung in tubercular phthisis, the special characteristics of the various types of fever, are alike indicative of the strife which is at work between the bane and its natural antidote. And so it is likewise with the diseases and injuries which fall to the surgeon's province to treat; and the fact that these curative efforts are sometimes abortive, and sometimes destructive in their excess, in no degree invalidates the correctness of this view. The diffused light of day, the gently distilling dew of night, the refreshing breeze and irrigating shower, are Nature's agents for sustaining and renewing life and health in the vegetable world;—the hurricane and storm and flood are exceptional, and often destructive. And these lessons have their application in the management of disease, and their exemplification in the beneficial results which are witnessed in the more patiently expectant and less heroic treatment of the present day—a treatment based on that humility which ever accompanies increased knowledge of, and confidence in, Nature's resources. But, it may be urged, this confidence has no justification in the frequent fatality of premature organic disease witnessed in our hospitals—indeed, in every class of life. I would rejoin by affirming that natural organic defect is not to be credited with these results. Investigate the history of such cases, and mark how loyally, how unremittingly, the heart and ancillary lungs, the brain, and especially the eliminating organs, have toiled and striven to keep pace with the thoughtless and vicious demands made on them by excess of all kinds, until at last some over-taxed and willing labourer in the common cause gives way, and the whole machinery is thrown out of gear and ruined.

In contrasting the therapeutics of the past and present generation, much has been said and written respecting the change in type of disease and the physical constitution of our race, to explain—without condemning our predecessors, or too ostentatiously parading our own enlightened views—the results obtained in such conflicting ways and by such different means. This may be so; but have we sufficiently taken into account the liberty which is now accorded to Nature to work in her own way, without being thwarted and coerced at every turn? Decisive interference is sometimes essential in surgery, but Nature will often resent hasty violence which anticipates her slow and gradual method of relief; and abiding success will in many cases wait on patient watchfulness that is denied in the issue to officious meddling, which is more seductive, and therefore more mischievous, because of the temporary success which may attend it.

The modern practice of medicine, as well as surgery, abounds with proofs of this salutary influence. I may instance the copious dilution of soluble medicines. We have long witnessed the beneficial effects of the natural medicinal waters of our own island and of many continental baths and springs, but we have been tardy in recognising the value of prescribing our medicines in the same diluted form. The adoption of this practice—so far as it is adopted—is no doubt more consonant with our present advanced physiological knowledge and acquaintance with the physical law which governs the absorption of fluids, and their transmission to the circulation; but it is chiefly due, I think, to a more careful observation of Nature's gentle methods, for we thence have learned that the required elements will be thus incorporated by assimilation, which would be passed on by the irritated bowel, or refused osmosis, if introduced in a more concentrated form. The combination of some of the less soluble medicines with food is to be commended for the same reasons, and in many instances with equal profit in their action.

In surgery I may venture to speak with more confidence, for its greatest conservative triumphs have been suggested and matured by the study of those indications which natural curative efforts afford. Pre-eminently may the principle of rest, in the treatment of many surgical diseases and injuries, be cited in illustration of this remark. I mean absolute and continuous repose, such as Nature exhausts her resources to obtain, though often ineffectually, on account of the indocility of her patient, or the meddlesome interference of the nurse, and sometimes of the doctor. Abscess, joint-disease, aneurism, necrosis, hæmorrhage, ulcers, and injuries of all sorts, exemplify the value of rest. I remember, many years since, being impressed with a remark of Sir Benjamin Brodie in a consultation on the treatment of a diseased joint. In reply to some suggestion or inquiry he thrice repeated emphatically the monosyllable "rest"; and in truth it is only in exceptional cases that active measures, as they are termed, are justifiable in this class of diseases. Happily this subject, under the title

of "The Influence of Physiological and Mechanical Rest in the Treatment of Surgical Diseases," has had an able advocate and exponent in a late President of our College, whose lectures, delivered in this theatre, exemplify not only the great value of this passive treatment, but also the careful observation and practical experience of their author.(a)

The modern treatment of aneurism, due especially to Hunter, is based on the observation of Nature's efforts to obliterate the diseased artery by the accumulation of fibrin within the sac; and for this, repose, by interruption of the circulating current, is essential. And it is especially interesting to notice how this observation has still guided the experimental surgery of Hunter's successors in perfecting his method of cure. Mr. Travers tried to arrest the blood-current by temporary ligature, but failed, and for many years no advance was made on the permanent ligature; but more recently the desired result has been obtained by tourniquet or digital pressure, or by forcible and sustained flexion of a joint where the position of the aneurism permitted it.

The most successful management of the accessible consequences of inflammation, such as come under the surgeon's care, is the most simple, that which may be termed the most natural—such as cleanliness, repose, moderation of temperature, and protection of a surface exposed by loss of texture. In the treatment of incised wounds, whether by accident or surgical handiwork, a careful study of Nature's ways, aided by the light of pathology, seems to me more trustworthy than the conclusions drawn from hypothetical propositions and the artificial systems based thereon, which have been credited with so large a share in the cure of wounds.

I apprehend there can be little doubt that the same essential condition is required for the healing of a wound, whether by adhesion or by granulation, and that this condition is the presence of a layer of coagulated fibrin on the surface. A derivation from the extremities of the capillary vessels in either case, this temporary pellicle is the cradle of the new offshoots; and having fulfilled this office it disappears. If we watch a freshly cut surface, and cleanse it from accumulating coagulum, we observe that the exuding blood is gradually deprived of its red particles until finally pure serum flows, from which the coagulable fibrin is deposited. Such is the pathological teaching; and how are we to apply it? In waiting patiently till the time has arrived for favouring this coagulation, by sponging the surface (say) with spirit or a solution of chloride of zinc. Subsequent adaptation of the cut edges, free exposure of the wound without dressing of any kind, and scrupulous cleanliness, combined with abstinence from all meddlesome interference, constitute, in my opinion, after a lengthened experience of this treatment, the best security for speedy healing and against any external source of contamination.

Guided by the same wholesome trust in Nature's ways, I have for many years relinquished the use of free incision in carbuncle; being satisfied that, with rare exceptions, this tempting practice is not simply useless, but that it mischievously checks an eliminative action, and is actually fraught with serious risk in many instances.

The excision of diseased joints—an innovation on the mutilating practice of amputation in which this country has taken such a leading and active part under the guidance of two other ex-Presidents of our College(b)—may be regarded likewise as a triumph we owe to the same careful observation of Nature's ways. A joint is destroyed by inflammation, perhaps itself the consequence of some irremediable lesion; and all Nature's resources are engaged in the effort to be quit of its disorganised and now useless constituents. How simple and how natural does it now appear to second these efforts by laying open the spoiled joint and removing the diseased textures, and thus to afford an opportunity for repair by the utilisation of those very means which were previously wasted in fruitless and therefore exhausting activity. We owe skin-grafting to the same watchful attention to the way in which the smallest germinal islet left by ulceration will spread to meet and draw towards it, by some occult attraction, the nearest border of the surrounding integument. Even lithotrity is a more natural mode of removing a stone from the bladder than its extraction through an artificial opening; and the comparative success of this operation, with diminished risk, must act as a discouragement to future attempts to discover a solvent. Yet, in such experiments, instituted for the relief of suffering, and subject to an acquaintance with the laws which govern the animal economy in health and disease, empiricism has its justification. We now excise a cancer as we extract a stone, because it is a method which, though an avowal of our ignorance of its true pathology and of our helplessness in arresting it, offers the best known prospect of relief. But I feel persuaded that the antidote to this malignant disease must be sought in therapeutics and hygienic measures; and may we not even hope that the discovery of the source of this perverted nutrition, in the disturbed function of an unsuspected organ, may some day place the arrest of this malady within our reach? The knife is the most effectual *local* remedy; but its imperfection in demonstrated by the reproduction of the disease and its extension through the lymphatics. Yet this circumstance is not without its suggestive value: for it indicates to us that, by a further insight into the physiology of nutrition, we may expect to become acquainted with the exact pathology of this mysterious malady, and that it is through the channel of the absorbents that we may hope to meet and combat the dread enemy for which our art is not a match, and which still defies our science.

I venture, Sir, to claim for John Hunter a large share of merit in contributing to the adoption of these more enlightened principles in the treatment of disease which I have attempted to illustrate,—principles springing from a more intimate study of, and a more loyal dependence on, the resources of Nature.

Comprehensiveness was another remarkable feature of this great man's work. He was not comprehensive in the sense in which his great prototype Aristotle was so; for the Stagyrite's grasp of intellect and reach of thought extended beyond the domain of the natural sciences: but they were alike sagacious in observing and assiduous in collecting facts and in classifying them. It seems natural to associate these two names, though so widely separated in time, when speaking of careful and extended research in the structure and functions of animals; and whilst we are equally impressed in each with the quality of which I am speaking, we may give Hunter the palm for independence of thought, and for freedom from those scholastic trammels which the antecedent training and educational associations of Aristotle almost necessarily entailed. The capacity for deep reflection, in a truth-seeking, impartial spirit, conferred upon Hunter a singular power of combining his accumulated store of facts in a comprehensive and intelligible classification, which was of more value to him than metaphysical learning, and in great measure compensated for his lack of logical discipline.

There is yet one other characteristic exemplified in all that Hunter *did*, which merits special notice as essential to—I may say the very backbone of—all useful scientific research: I mean *Accuracy*. There is truth in a forcible expression of opinion which I met with in an Address to Science and Art Students by Sir Arthur Helps, who is reported to have remarked that he believed "all the intentional lying in the world—of which there was a good quantity, perhaps—did not do one-quarter of the mischief that inaccuracy did." And certainly it has done more to fetter scientific progress than wilful misrepresentation, because usually more insidious and difficult of detection, and on account of the many absurd and mischievous fallacies which are thus generated and perpetuated.

In speaking of accuracy as characterising all that Hunter *did*, I mean that he was scrupulously accurate in his facts derived from actual observation; but we find in his writings examples of a form of inaccuracy that is probably due in a measure to defective training, but is also evidence of an amount of self-reliance which induced him to treat, sometimes with unmerited indifference, the opinions and researches of others. This is exemplified in his zealous support of his own opinions on vitality, where he confuses fermentation with decomposition, giving a very dogmatic, though even for his time incorrect, definition of the former word; and then adds, in a deprecating tone, that "the processes carried on by chemistry and fermentation, which can *only* take place when the parts are dead, have been introduced by physiologists into the living animal economy, and, not satisfied with this, they have brought in mechanics to account for many of the operations of vegetables and animals." It is with some little inconsistency, though not altogether irrelevantly, that we find him, in the course of this discussion, exclaiming with bitterness, mingled probably with perplexity—

(a) Mr. Hilton.
(b) Sir William Fergusson and Mr. Hancock.

"Of all things on the face of the earth, definitions are the most cursed; for if you make a definition, you may bring together under it a thousand things that have not the least connexion with it." Now, this stricture on definitions is quite admissible where they are loose and inaccurate, but otherwise most inappropriate in its general application, and especially so in relation to scientific inquiries. It may be reasonably expected that the more general cultivation of accuracy in all pursuits will be one of the fruits—perhaps the most precious—of the at length awakened recognition, in our schools and universities, of the value of natural science in the training of youth, and as an important element of general education.

In the foregoing remarks, exemplifying the influence exercised by Hunter's suggestive work on our branch of the profession, I have selected a few of the fruits gathered in by modern surgery; yet far more remains, which, with equal propriety, would illustrate my argument: and if we turn from the cure of disease to pathology, and its sister science physiology, how extensive is the field which opens before us! In Hunter's time but little was known with exactness, either as regards the functions, the minute structure, or the morbid changes in organs or tissues; but organic chemistry, the microscope, and carefully conducted experiments have placed within our reach a vast amount of ascertained facts, to which, I fear we must admit, our therapeutic mastery over disease bears but a modest proportion. Indeed, it is since Hunter exemplified the close alliance between these sister sciences and their true relation to practical medicine, that some of our most distinguished surgeons have gained their legitimate laurels by their joint cultivation. And of such I cannot cite a more conspicuous illustration than is afforded by the teaching and published writings of our senior Vice-President.(c)

I have said that the practical fruits of these researches are not commensurate with the progress which these sciences have made since Hunter's time. But the impulse has been given, and the conviction is deeply rooted that to Physiology we must look, as the chief means of rescuing Medicine from the charge of empiricism, and of transforming an experimental into an inductive science. It is the Physiology of Life—a patient study of the various phenomena which constitute and accompany vitality—which must accomplish this change; and already we have strongly marked indications that it is from the mutual and comprehensive relations of the nervous and vascular systems, and their influence on the various and complex stages of assimilation, that we may expect revelations which shall guide us in the prevention of disease and in its successful treatment. What more apt illustration of this belief can I adduce than the demonstrated agency of the vaso-motor nerves? Much of the vague sympathy with which the cyclo-ganglionic centres were formerly credited, and on which Hunter dwelt so much, is now shown to be due to their direct influence on the muscular coat of the arteries—an influence and supervision which is so constant and conservative, that it is by its occasional suspension in organs which are intermittent in their activity, that a sufficient supply of blood is admitted for the due performance of their functions; and thus we have a reliable explanation afforded of a fact already recognised in Hunter's time—that the healthy vascular activity of an organ is dependent on its appropriate stimulus. The knowledge thus gained has already been prolific of good in many branches of pathology, and we look hopefully for the practical lessons in the treatment of disease to be acquired from so important a discovery. Yet, how recent was the first demonstration of the muscularity of arteries, although this property was assumed and loosely spoken of by Hunter,—so recent that when the generation to which I belong began their studies it was rejected by the ablest physiologist of his time.(d)

If the physiology of the present day presents a striking contrast to that of Hunter's era, the progress which the physics and chemistry of life have made is no less remarkable. Little was then known of the true nature of, and various changes in, the living fluids; of secretion and absorption; of the elements which are essential or prejudicial to health: of the source of heat. Yet how momentous have the discoveries in these directions become to the physician; and how important must the study of the perverted or arrested chemistry of the living frame prove in the treatment of disease. The attention which has been bestowed upon the varying temperature of the body has already been found of incalculable value in diagnosis. May not similar observations in relation to its electric condition be no less significant in the same direction, and even applicable therapeutically in surgery as well as medicine, when we possess available means of testing and employing it?

Yet, with so much in our favour, the prejudices and the obstacles to the diffusion of practical knowledge which Hunter had to combat are not yet extinct; and I fear that our teaching is not entirely blameless in this matter. Perhaps I should rather say, the way in which our students learn their profession; for I freely and thankfully admit the beneficial change which has been wrought of late years in the character of our teaching generally, and in the moral tone and preliminary education of our students. Yet our system of instruction is not perfect—indeed, it may be questioned whether our efforts to make it so have not overreached their mark, in the invention of facilities for learning, and to the prejudice of the student's best interests in after life. It seems as if the hurried, the competitive life we are now leading were uncongenial to reflection. Be that as it may, it is impossible for those whose duty it is to test the attainments of our students to ignore the fact, that knowledge is acquired too often without reflection; that even the more intelligent are sometimes satisfied to store their minds with facts, without reasoning or seeking for an explanation of them. I am jealous of the artistic illustrations which are scattered broadcast through our anatomical and surgical text-books, for I fear that their abuse too often lures the student into the fatal error of believing that he can thus acquire that which should be learned only in the dissecting-room and by the bedside. What would John Hunter, whose life was spent in intercourse with Nature, have said to this? Our prepared College dissections are copied to facilitate their recognition,—our selected museum specimens are studied that they may be identified,—our written questions are stored for the instruction of future candidates for our diploma, as if this were the "Ultima Thule" of their aspirations or responsibilities. Suggestive writing, personal dissection, and even clinical teaching have not the popularity which is accorded to exhaustive or dictatorial instruction; because the latter saves the learner the trouble of reflecting on what he is taught, of seeking for a meaning in what he witnesses, of pondering on the relation between cause and effect.

Possibly, the time allowed for study is not commensurate with the extent and variety of the information now required of candidates for a medical degree,—possibly, the student prefers that method of learning which costs him the smallest expenditure of time and energy, and yields the readiest return in his success at his examinations. Whatever the explanation may be, the result too often is a quickened memory, but an otherwise undisciplined intellect; and, as a natural sequence, where such is the case, in the responsibilities of practice the frail reed of precedent is leaned upon, because the sustaining resource of sound principles has never been properly appreciated,—for the learner has not cultivated the habit of thinking for himself.

In making this observation let me pause for a moment, whilst I direct your attention to the well-known and truthful portrait before you,(e) and ask—Was meditation a trouble to him it represents?

There is no difficulty, whilst we gaze on that face, in crediting the exclamation attributed to Hunter, "It is a pleasure to me to think!" I venture to commend this sentiment, and its realised expression in feature, to my younger hearers. The habit of sustained, unwandering thought may be acquired; and the neglect or cultivation of this mental discipline goes far in explaining the contrast between the faulty *instruction* of the many, and the fruitful *education* of the few.

The most hopeful remedy for these hindrances to progress at which I have glanced, is to stimulate in our students a more general taste for converse with Nature; to foster the habit of thoughtful inquiry; and, I may add, to encourage a healthy recognition of the moral aspect of science, as devotion to truth for its own sake, as well as for its practical utility in its social and professional aspects,—desiderata which, I venture to affirm, have been studiously kept in view, in the endeavour to realise the aspirations of John Hunter, by the Council of this College.

Vitality and development engaged a large share of Hunter's attention, and were then regarded as strictly within the domain of physiology: but in these latter days force and

(c) Sir James Paget. (d) Professor Müller.

(e) Portrait of John Hunter by Sir Joshua Reynolds.

matter have been credited by physicists and biologists with more varied powers than were ascribed to them in his time; and the revival of speculations, respecting the association of these powers with life and evolution, involves questions of more momentous interest than he contemplated, by again raising an alarm lest natural and revealed truth should be thereby placed in antagonism. But when we speak of endowments and natural laws, these expressions, if any definite meaning is to be attached to them, are but convertible terms for the gifts and will of God: and, if our knowledge of these were more comprehensive, and our capacity to understand all their relations were enlarged, we should probably see no incongruity in such deviations from what we *assume* to be their uniformity as are implied by special supervision, and we should be able to reconcile many apparent inconsistencies in that which addresses itself to our senses or our reason, and that which appeals to our faith.

Yet, whilst we witness man's varying interpretation of Nature's laws as the horizon of our knowledge widens, generalisation marches onward with equal tread, now rebuking the delusive timidity of some, and anon rewarding the patient research or bold forecast of others. It is true that, amid all this unceasing activity of mind and matter, this progressive movement onward and upward, change and decay are stamped on all we see around us. Yet these are but the precursor—nay, the necessary condition—of repair and renewal of life: a perpetuation based on dissolution, which is at once an emblem of instability and permanence; alike the foundation of the philosopher's confidence in the ever-recurring order of Nature, and a symbol of the Christian's hope and of his faith in Nature's unchanging and unchangeable Author.

A few more words, Sir, touching personally the subject of this address, and I shall conclude.

John Hunter's character does not seem to me a difficult one to understand, for we have the record of his everyday life—the most trustworthy exponent of principle—to guide us in our estimate of the motives by which he was actuated and the means by which he achieved such great results. His intellect was essentially masculine and vigorous; and his untiring energy and unswerving devotion to his work, even in its minutest details, carried him forward where others would have been daunted or repelled, by the mere contemplation of the comprehensive plan he designed and the stupendous labour it entailed. Self-reliance is an essential attribute of such a character, and probably this was in some degree fostered in Hunter by the lack of those refinements which early education imparts; for he could not but be conscious of his own superiority—indeed he did not always refrain from asserting it—in his intercourse with others who were more favoured in this respect. Yet I cannot persuade myself that he did not really and deeply regret the wasted time and unemployed talents which marked his career till manhood overtook him. We can scarcely wonder that at this late period he should have rejected the advice of his brother, to redeem his lost time and supplement this defect by doing the work of boyhood at the age of twenty. But this decision simply shows his awakened consciousness of the value of time; and he well knew that his higher aspirations then would have unfitted him for the drudgery of general and elementary education. Moreover, in Hunter's time, and for his particular pursuits, preliminary gymnastics for such a natural athlete were less needed than at present. The sciences he cultivated were in their infancy; a literature of comparative anatomy and of comparative physiology scarcely had an existence; and foreign books were little read or heeded. He planned his own works, and resolutely carried out his design.

Hunter owed no share of his professional success to that most profitable of social qualities—tact, and seemed not even to appreciate the advantage of refinement; for he did not care to control the natural impetuosity of his temper, and the bluntness of his manners, which must have often given pain to more sensitive minds: but he did not affect rude and uncourteous behaviour, in the erroneous belief that such conduct is necessarily allied with originality and genius. Happily, these deficiencies were not considered serious obstacles to his qualifying himself as a surgeon, though they were regarded by his polished brother as a bar to his success in practice as a physician: yet Surgery had already asserted its independent dignity in this country, and was then represented by Cheselden at St. Thomas's, and by Pott at St. Bartholomew's—both educated gentlemen as well as accomplished surgeons.

Although not free from the foibles of a strong character, his warm affections, his keen sense of justice, and the promptings of a noble nature generally guided him aright, and saved him from unworthily resenting many provocations.

I have sometimes pondered over John Hunter's title to be called a man of genius; and this has led me to ponder further on what the word "genius" means. Ill defined and differently interpreted, this epithet is often employed to express some vague idea of originality, involving the fallacious supposition that any mind, however gifted, can create without receiving. The richest soil is barren until the seed is scattered, and warmth and moisture are imbibed to fertilise it. The spring which rises in bubbling freshness from the earth's surface is fed by the rain which the clouds supply. So it is with man's intellect; so alike with the naturalist and poet; they must open their hearts wide to Nature, and patiently await her teaching, instead of restlessly forestalling her response. But if genius mean this craving aptitude for conversing with Nature, conjoined with consciousness of power and self-reliance, a strong will with singleness of purpose, a healthy balance maintained between acute perceptive and profound reflective faculties, and perhaps beyond all "a transcendent capacity of taking trouble," then truly may the possession of this comprehensive talent be assigned to one whose life so remarkably exemplified the exercise of such a rare combination of qualities.

"He was indefatigable with the indefatigability which has been called one of the truest signs of genius." Such are the words which were spoken, with equal propriety, over the mortal remains of an eminent divine, whose sudden death was a shock that vibrated through the length and breadth of our land; and in this characteristic, evinced and exercised in such different spheres of labour, and with tendencies and acquired tastes in which there were so few other points of contact, there was a near resemblance between John Hunter and Samuel Wilberforce. And in the close of their long day of toil they were alike, for "when the night came upon them, it was as with the sun of the tropics—there was no twilight." The interest taken by our late trustee in our Museum, and his frequent presence on these commemorative occasions, will justify this passing tribute to the memory of one whose character endeared him to all who knew him, and of whom, as an accomplished Christian gentleman, we, as Englishmen, are justly proud.

John Hunter worked alone. He was sensible of his own resources, and treated with their merited contempt the neglect and jealousy of smaller men; but he escaped the penalty of disappointment, for he had no preconceived notions or hypothetical novelties to prove and support by the perversion of facts to the particular bent of his inquiries. Much that he accomplished was exhaustive, still more suggestive, but all was trustworthy, and freely given, without a thought of self-exaltation, to posterity; and thence the ever-increasing appreciation, the stability of his fame. And should it not be so? The starry firmament, the aged hills, the perpetual streams, are emblems of constancy and permanence; and shall not honest fame endure as long as they?

> "Great deeds cannot die;
> They, with the sun and moon, renew their light
> For ever, blessing those that look on them."

As distance alone imparts its true perspective to the loftiest Alpine summit, which towers in solitary grandeur far above ridge and glacier and icy peak, so as time advances and we recede from Hunter and his contemporaries, we see him standing forth in all his colossal proportions. Yet this greatness was chiefly due to the exercise of faculties and attributes which are not peculiar to him except in their remarkable combination and unremitting employment. And herein, to my apprehension, Hunter differs from many who are, with equal justness, ranked amongst the brightest ornaments of our country; and herein, also, is his example fraught with so much of value and encouragement to all students and lovers of Nature. His simple life and unpretending tastes, his earnestness of purpose and single-hearted devotion to his work, are characteristics which all may imitate; and, though it be given to few to approach his excellence, none can follow in his track without in some degree fulfilling the purpose of his existence in his temporal and social relations.

But pre-eminently was John Hunter's life imbued and characterised by a love of truth. It was the "mystic altar" before which he ever knelt, the energising impulse which determined and regulated his every aim and purpose, the

guiding star of his existence; and it is also the most precious legacy he has left to us, who delight to honour him or desire to emulate his virtues, and to tread, however humbly, in the footprints of his fame.

FROM ABROAD.

Treatment of Fissure of the Anus.

In a clinical lecture delivered by Dr. Erskine Mason at the New York Charity Hospital, and reported in the *Medical Record* of November 16, we find the following useful observations on the treatment to be pursued:—

"This may be divided into medical and surgical; the latter, however, is by far the most satisfactory in every way, and we might almost say in a moment cures the patient. Under the head of medical treatment we place, first, the use of mild cathartics, so as to render the fæces more soluble. This, however, but mitigates suffering for a time. Second, the application of astringents and sedatives, as belladonna, zinc, tannic acid, nitrate of silver, etc., to the fissure itself. This certainly will greatly relieve the pain at times, and in young children—and, at times, even in adults—has been known to cure; but you should not place too much dependence upon it, nor waste time by a prolonged use of these means. When they act as curative agents, they do so by destroying the exposed filaments of nerves in the fissure or ulcer, and the parts are then put in a state of rest, and the fissure takes on healthy action and heals.

"Our surgical treatment acts just in this way—viz., by putting the parts at rest. This is accomplished by either of two methods: over-distending the sphincter, paralysing it for a time, by means of the fingers, or dividing the muscle with the knife. Over-distension is now perhaps more frequently done in this city, certainly in this hospital. When you use the fingers, which I think are far better than an instrument, you place your two thumbs well into the rectum, so as to include the whole of the sphincter, and then, grasping the buttocks with the fingers, you forcibly distend the sphincter as you bring the thumbs against the tuberosity of the ischium. This, at first sight, may appear a very rough and harsh mode of operating, and is so regarded by some, who, I believe, for this reason denounce it; and again, because it has been said to give rise to undue laceration of the tissues and troublesome hæmorrhage. I have resorted to this means a great number of times, and have never seen any but good results follow. When we use the knife, we draw the blade through the centre of the ulcer or fissure, so as to divide the mucous membrane and some or all the underlying muscular fibre of the sphincter. Whether to divide all or only a portion of the muscle is a disputed point. That a superficial incision will suffice, in many cases, in relieving pain and curing the disease, I know from personal experience; and it does so just in the same way that a caustic may act, viz., in dividing an irritable or inflamed nerve. Should you desire to be more certain of the result of the operation, a free incision of the muscle, thus securing a longer period of rest to the parts, is best, and by many this is always made. . . . . Some have seen fit to combine both these methods; and in some instances this may be of service. Thus, a few weeks ago, after stretching a muscle as far as I deemed it safe, and yet on withdrawing the thumbs it did not appear as if distension had accomplished enough to paralyse or impair its tone, I drew a knife through the fissure, and the result was most gratifying. Both methods have their strong advocates; they are both excellent, and will accomplish a cure. If you operate without ether, the knife is the less painful, and if the fissure is but slight and superficial, a slight incision is all that will be required. Should the patient (as some always do) have a great dread of the knife, we can effectually relieve them by means of our fingers. Though myself practising over-distension more than incision at present, I am not quite prepared to recommend one method as much superior to the other. In those cases which, for want of a better name, we call neuralgic affection of the rectum, and which are often accompanied by spasmodic contraction of the sphincter, we have a group of symptoms very like those caused by fissure, yet no ulcer or fissure is detected. In such cases over-distension of the sphincter is the operation to be practised. With respect to after-treatment there is little to be said. As a rule it is but [not?] necessary to keep the patient in bed; but for a few days you had better keep him quiet, preventing his taking exercise, as walking, or standing for any length of time. I have had patients, after the operation of incision or over-distension of the sphincter, resume their ordinary occupation on the following day, and no trouble follow. I do not, however, advise you to allow your patients to do so in cases where you can prevent them. After the operation, patients, as a rule, are at once relieved of pain, and are rapidly restored to health. In weak nervous patients, who have long been sufferers, some little interval will at times elapse before all the symptoms from which they formerly suffered will cease. And here you must pay attention to their general condition—such as the use of tonics, proper diet, and outdoor exercise. In speaking of the operation by incision or dividing the sphincter, I omitted to tell you that, even if there be more than one fissure present, one incision will suffice, that being sufficient to place the parts at rest. In cases of perineal (*i.e.*, where the fissure is situated in the front part of the anus) fissure in the female, do not be too free with your incisions in that direction, else incontinence of fæces may follow. This no doubt is due to the action of the transverse perineal muscles as well as the other muscles around the vagina which take origin from the perineal centre or body, by their traction keeping the parts from healing. Again, by a too free incision in this locality we may weaken the part which is known in the female by anatomists as the perineal body, upon which the integrity of the female perineum depends."

PROVINCIAL CORRESPONDENCE.

SCOTLAND.

Edinburgh, February 15.

Dr. Arthur Mitchell on the Effects of the Weather of the last Three Months on the Death-Rate—Opposition to the New Infirmary Drainage Scheme.

The half-yearly meeting of the Scottish Meteorological Society was held on Wednesday afternoon at 5, St. Andrew's-square. After the annual report had been disposed of, Dr. Arthur Mitchell read a most interesting paper on "The Effects of the Weather of the last Three Months on the Death-Rate." He selected London as supplying the most suitable materials for inquiries of this kind, because the published facts regarding it are fuller, and also because we have there a very large number of people living under substantially the same conditions of climate. Taking the weather of November, December, and January, he alluded to only one element of it—viz., the temperature,—as this element has the closest relations to the death-rate, and as it is the one which, everyone felt, exhibited exceptional phenomena during these thirteen weeks. The mean temperature of the first week of November was 2·1° above the average for that week calculated for a period of thirty years; for the second week the temperature was 3·5° below. The third week was again somewhat above its mean; but in the last week of November there was a great and sudden fall of 11°, the temperature then being 8·4° below the mean for the week. This great depression continued over the whole of December, the last week of that month being the coldest—showing a mean for the week of 28·4°, or about 10° below the usual temperature. The first two weeks of December, although still very cold, were somewhat warmer than the week which preceded, or the three weeks which followed them. With the arrival of January there was a considerable rise of temperature, the weather becoming warmer by 4·5° to 7° than January weather usually is. Thus we have six exceptionally cold weeks interjected between periods of exceptional warmth; and the question is, Did this exceptional distribution of temperature find an expression in the death-rate? If so, what diseases were affected by it, were any uninfluenced, and at what period of life was its influence most apparent? Passing over the well-established and familiar fact that an unusually low temperature is accompanied by an unusually high-death-rate, Dr. Mitchell proceeded at once to the investigation of these questions. He showed generally that those diseases which are ordinarily most fatal in cold weather are those which are rendered increasingly fatal by increased cold

Of some this is more true than of others. Unquestionably the most sensitive are those which affect the pulmonary organs, the mortality from these diseases responding readily to a rise or fall of temperature. This is most strikingly illustrated in the case of bronchitis. The total deaths from this cause during these thirteen weeks were 1774 above the number which, on the average, occurs during these weeks, giving an excess of 55 per cent. due to the greater cold. Pneumonia is as distinctly increased in fatality by low temperature as bronchitis, but the fatal effects are not so apparent, as they continue to be manifest for a longer time after the excessive cold has ceased. The excess from this cause during the thirteen weeks was 434, or 32 per cent. Pleurisy was very markedly affected by the cold, the excess from this cause during the same period being 110 per cent. Deaths from asthma showed an excess of 60 per cent. Dr. Mitchell referred briefly to the following diseases which were markedly affected by the low temperature of the three months, particularly of the six weeks which ended 1874:—Rheumatism showed an excess above the average of 94 per cent.; heart disease, 27; Bright's disease, 75; and erysipelas, 65. The influence of low temperature in bringing these diseases to a fatal termination is thus more marked, Dr. Mitchell thinks, than our general views regarding their obedience to weather would have led us to expect. The following points regarding phthisis brought out by Dr. Mitchell are very interesting, and worthy of special attention:—It is already known that the deaths from phthisis have two maxima—one in November, and another, much more pronounced, in March. It is a disease which is much more fatal in spring than at any other period of the year, and though commonly considered as a pulmonary disease, it stands distinctly separate from bronchitis, pleurisy, and pneumonia as regards the distribution of deaths from it over the different months of the year. It is, says Dr. Mitchell, interesting to find that it clearly preserved this separation during these three months, for the low temperature influenced the number of deaths from it irregularly, and only to the extent of 5 per cent. above its average. It would appear that dryness must be added to cold as a quality of weather, in order to give it the maximum of perniciousness to phthisical patients. What the researches of Mr. Buchan and Dr. Mitchell disclose on this point is briefly as follows:—When tuberculosis kills by the lungs, as in phthisis, we find that the distribution of deaths over the year approaches that of lung diseases, though it remains distinct; but when tuberculosis kills by the abdominal organs, as in tabes, we then find that the distribution of deaths approaches that of abdominal diseases, though here also distinctive characters exist. This is a fact of great interest and significance, and shows the extraordinary steadiness with which certain conditions of weather influence certain organs injuriously and others beneficially. With regard to the next question—Are there any diseases which were uninfluenced by the great cold of last December, or which were influenced by it in the direction of reducing the number of deaths caused by them?—Dr. Mitchell says these appear from the returns of the Registrar-General to be very few in number. One would naturally expect to find among the best marked of these diarrhœa and dysentery—diseases which are rendered more fatal by heat; and the figures show that the mortality from these diseases was actually diminished. In the case of diarrhœa it was 10 per cent. below what occurs during these months in ordinary years. Dr. Mitchell believes that the answer which he is able to give to his third question—viz., Were the young, the middle-aged, and the old alike injuriously affected?—will be a matter of general surprise. Different ages were very differently affected. The young suffered little, the middle-aged suffered considerably, but the old bore the burden of the injury. Children below five showed a mortality of only 6 per cent. above the average for the period; persons between five and twenty a still lower excess of 5 per cent.; the excess rose among persons between twenty and forty to 15 per cent.; among those between forty and sixty it went up to 24 per cent.; it attained the still higher figure of 32 per cent. among those between sixty and eighty; and the maximum of 38 per cent. among those above eighty. It was a common remark during the cold weather of December that it was proving very fatal to the old and young. It has been seen that only the first part of this remark was correct. "Indeed," says Dr. Mitchell, "all our researches show that the specially fatal season for very young children is summer, and not winter—great heat, and not great cold. It will not explain this to say that when the temperature is low they are kept within doors, because the immunity more or less extends to the age of twenty, when exposure must be as great as at any age. The avoidance of exposure, however, becomes a protection. We have a proof of this in the freedom from acute winter diseases which is enjoyed by the inmates of gaols. This season at the Perth Prison the warders suffered far more than the convicts, who were less exposed to the influence of very low temperature. It must not, however, be supposed that children do not die in large numbers in winter, for they show a high mortality in every week of the year round, and this is increased by the cold of winter. All that is meant here is that excessive heat increases their mortality more than excessive cold; while the reverse is true of persons in adult life and old age. All ages were injuriously affected by the cold of December last, and all by the same classes of disease. Nearly four-fifths, for instance, of the 6 per cent. of excess which occurred in the death-rate of infants was produced by bronchitis alone. In reply to some remarks made in the discussion which followed, Dr. Mitchell further observed that it appeared, from the researches made, that whenever a climatic influence occurred which was injurious to health its effect was much more pronounced in communities which were living at all times under circumstances adverse to health,—its effect was much more strongly seen in towns with a high normal death-rate than in towns where the normal death-rate was low.

No great scheme of improvement in this our northern metropolis would be perfect without a counter-scheme of persistent opposition. The new Infirmary is certainly in this respect no exception to the rule. The points of attack on the progress of this institution have varied greatly from time to time, but the attacking party has remained very much the same. This party consists for the most part of proprietors of, or residents in, houses in the neighbourhood of the new Infirmary. The question of the suitableness of the site was first raised. Next, after that had been settled and the foundations of the new buildings had actually been built, an attempt was made through an alliance with the lady-medical-student party to drive the Infirmary back to the old site. This very unfair attempt also failed, and although it is now too late to prevent the completion of the buildings, exception is taken to the drainage scheme.

A public meeting "of those citizens opposed to the new Infirmary drainage scheme" was held on Friday. The first resolution was moved by Dr. Coghill, a recently elected member of the Town Council, and was to the following effect:—"That this meeting views with alarm the proposed junction of the Infirmary drain with the St. Leonard's sewer at Hope Park-end, which the managers of the Infirmary are now seeking statutory powers to effect, as being calculated to endanger the health of a large portion of the city." Dr. T. A. G. Balfour, a resident in the immediate neighbourhood, moved—"That this meeting is of opinion that the protection of the public health demands that means be adopted for affording all possible security to the citizens from the injurious consequences likely to result from the contagious sewage of the Royal Infirmary, including the Fever Hospital, being discharged into the city sewers." The Rev. Dr. Begg moved—"That as the municipal authorities are charged with the protection of the public health, and as the ratepayers of Edinburgh are expending nearly half a million of money for improving the sanitary condition of the town, this meeting appeals to the Town Council to resist the Bill now before Parliament for carrying the Infirmary sewage into St. Leonard's sewer." It was further moved—"That a memorial embodying the foregoing resolutions, and signed by the Chairman, be presented to the Town Council." And—"That a petition against the Bill, signed by the Chairman in name and on behalf of the meeting, be presented to Parliament, and that a similar petition lie for signature to be presented to Parliament in the same form." Not more than 200 persons were present at this meeting. The Chairman (Bailie Marshall), in his preliminary remarks suggested "that the sewage of the new Infirmary might be conveyed to the outlet of the present Infirmary drain, as nobody was complaining of that." This suggestion, which was loudly applauded, not only raises a question as to the public spirit by which the various speakers at the meeting professed that they were actuated, but also cuts the ground from beneath their feet; for surely the best argument in favour of the belief that the new Infirmary drainage will do no harm is to be found in the fact that the old Infirmary drainage has never been complained of!

GENERAL CORRESPONDENCE.

KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.

LETTER FROM DR. J. M. FINNY.

[To the Editor of the Medical Times and Gazette.]

SIR,—By direction of the College I send you the following copy of a resolution which they adopted unanimously at their meeting yesterday:—

"Resolved—That if the Charter be granted, giving the College the power of instituting an order of Members, it is the opinion of the College that any licentiate admitted before the granting of the Charter, who may desire it, may be transferred to the order of Members without additional expense."

I am, &c., J. M. FINNY, M.D.

King and Queen's College of Physicians in Ireland,
Dublin, February 13.

AN EXPLANATION.

LETTER FROM MR. CARSTEN HOLTHOUSE.

[To the Editor of the Medical Times and Gazette.]

SIR,—In my letter on "Dipsomania," in the last number of your journal, I find that the name of Dr. Harrington Tuke is omitted from the list of those distinguished friends who so kindly signed the document referred to in my letter. The omission occurred through an error of my copyist in the first instance, and my own carelessness in not having noticed it before it was sent to press. I am, &c.,

CARSTEN HOLTHOUSE.

3, George-street, Hanover-square, W., February 12.

MEDICAL DEPARTMENT OF THE ARMY.

[To the Editor of the Medical Times and Gazette.]

SIR,—It is rumoured that the whole subject of the reorganisation of the army will shortly engage the attention of Parliament—partly on account of the dissatisfaction which prevails in more than one department, but chiefly to consider the far more important question of how the army is to be maintained at all, dwindling away as it has been doing under the present system for some time past at an alarming rate. It is just possible that the Medical Department, charged with the responsible duty of preserving the physical efficiency of the soldier, may then meet with some share of public attention, its present condition being unsatisfactory in many ways. Two years have nearly elapsed since a warrant was issued with the view of rendering the Department more efficient in time of war. It was hoped that the principle of the division of labour so indispensable to the efficiency of that complex organism, a modern army, would be so far recognised that medical officers would not only be provided with the necessary means, but be invested with the authority requisite for the performance of their special duties. That this expectation has not yet been realised is due mainly to the conflicting interests engendered by the still existing dual government of the army—the source of weakness and inefficiency in every branch of the service, and until the removal of which no permanent improvement in organisation seems possible. The civil and military authorities at the War Office look on the Medical Department from different standpoints. The civilians, provided economy could be secured in pay and in the cost of administration, would make almost any concession in the way of rank and status; while the Horse Guards would gladly see medical officers receive ample emolument for their professional services, provided they would contentedly accept a low position in the military hierarchy, and renounce all claims to authority of any kind, except what they (the military executive) might choose to confer upon them.

That medical officers should enjoy high relative rank, and at the same time larger emolument than their combatant brethren, is somewhat trying to military equanimity; although it would not be difficult to prove that in the long run the advantage in respect of honours and rewards is almost wholly on the side of the executive, whose jealousy, however, for their legitimate authority is natural enough. No soldier, worthy of the name, could ever efficiently command a force, either in war or peace, in which his authority was not in every respect paramount; and consequently the medical officer in all hygienic duties, properly so called, can only act as the adviser of the commanding officer; any exercise of independent authority on his part would in such matters be inadmissible. Very different, however, is the position of the medical officer towards that portion of an army rendered non-effective by wounds or disease. The hospitals are his proper domain, and there his authority should be as unquestioned as that of the commanding officer of the active force. There is no reason to suppose that discipline would suffer in any way. Sick and wounded men are, as a rule, very tractable, rarely misconducting themselves in any way. It should be the duty of the military executive to provide an ample contingent of intelligent and highly disciplined non-commissioned officers and orderlies to carry out the instructions of the medical staff in every branch of hospital administration; while the Departments of Supply, instead of questioning the necessity of the various equipments, should be responsible for furnishing what is required by the medical officer, who is supposed to know the wants of those under his care, and to have the interests of the public at heart as well as the safety of those entrusted to him. This is the unification desired: conferring on medical officers an authority commensurate with their responsibility,—enabling them to do their own work in their own way,—and at the same time securing to them that social status to which the importance of their duties entitles them. The Medical Department has a right to expect, both from the military executive and the other departments of the army, loyal co-operation and support, instead of jealousy and obstructiveness; and were each department held responsible for its own special work, and the whole co-ordinated by the War Minister, who ought to be the most competent and highly educated soldier the country can produce, the maximum efficiency of the land forces would be attained. In the event of a Parliamentary inquiry, it would be desirable that information should be elicited on the following point: What representations have been made by the present Director-General and his immediate predecessor with the view of rendering the Medical Department thoroughly efficient?—these officers being precluded by their official position from publishing their views on any question of departmental organisation. It would then be found that there has been no lack either of zeal or intelligence on their part, but that the present unsatisfactory state is due to the operation of prejudices which it would be greatly for the interest of the public to overrule.

February 12. I am, &c., X.

REPORTS OF SOCIETIES.

ASSOCIATION OF MEDICAL OFFICERS OF HEALTH.

SATURDAY, JANUARY 16.

Dr. Ross in the Chair.

ON NOXIOUS AND OFFENSIVE TRADES.

WE subjoin a brief summary of a most elaborate paper read by Dr. Tidy for Dr. LETHEBY on the above subject. It is impossible for us to give more than an outline of a paper most minutely describing the various processes now used for rendering these trades less offensive, with suggestions for still further diminishing the nuisances caused by these noxious trades. Amongst the nuisances defined in the various Acts of Parliament, general and local, are those occasioned by the operations of trade and industry. "If any manufactory, building, or place used for any trade, business, process, or manufacture causing effluvia, be at any time certified to the local authority by any medical officer, or any two legally qualified medical practitioners, to be a nuisance or injurious to the health of the inhabitants of the neighbourhood, the local authority shall direct complaint to be made before any justice, etc., for the suppression or mitigation of the nuisance complained of." In case of procedure, it is necessary not only to show that the trade or business complained of "is a nuisance, or causes effluvia injurious to the health of the inhabitants of the neighbourhood," but also that

the person complained against has not "used the best practicable means for abating such nuisance, or preventing or counteracting such effluvia." The supervision of trades and manufactures, and the maintenance of them in such condition as that the best practicable means are constantly used to prevent the escape of offensive effluvia, forms one of the most important duties of the medical officer of health. On entering upon any inquiry of this description, it is proper to keep in mind the evident intentions of the Legislature, namely, the maintenance of the public health and comfort with due regard for the necessities of industry; for it will be observed, that although the preservation of the public health has been considered by Parliament of such paramount importance as to justify enactments containing enormous arbitrary powers, yet the exercise of those powers is always guarded with such provisos as will prevent abuse or unnecessary injury to trade. It is fortunate that, in most cases, the interests of the public and the manufacturer, although apparently conflicting, are really in accordance; for that which is injurious to the public is frequently a wasteful loss to the manufacturer; and therefore the prevention of such waste by reasonable contrivances has a double advantage. This may not be apparent at first sight to the chief parties interested. Looking at the individual peculiarities of these nuisances, it is evident they may be conveniently classified under three heads, viz.:—1. Those which are caused by the escape of noxious or offensive effluvia, as gases and vapours. 2. Those which are produced by smoke, dust, or other mechanical impurities. 3. Those which are occasioned by the discharge of noxious or offensive matters into gutters, ditches, or watercourses. Dr. Letheby proposed to limit attention to the first of these nuisances—namely, those which are caused by the escape of noxious and offensive effluvia, as sulphuretted hydrogen, empyreumatic or other organic vapours, and the gaseous acids. Foremost of those operations which cause offence by the escape of sulphuretted hydrogen into the atmosphere is the manufacture of sulphate of ammonia from gas liquor. This liquor is produced in great quantity at the gas-works,—varying from ten to forty gallons per ton of coals, according to the strength of the liquor and the perfection of the processes for removing ammonia from gas. The precautions, therefore, to be taken in the conduct of this business are—1. The transference and storage of the gas liquor in air-tight tanks guarded with boxes of hydrated oxide of iron. 2. The distillation of the liquor in a steady and continuous manner in air-tight stills by means of high-pressure steam. 3. The saturation of the ammonia in close vessels, and the complete expulsion of sulphuretted hydrogen from the saturated solution before it is drawn off for evaporation. 4. The condensation of moisture from the sulphuretted hydrogen evolved from the saturator; and the conveyance of the cold dry gas to the furnace fire, where it is to be completely burnt. 5. The treatment of the exhausted liquor from the still with cream of lime, so as to recover the residual ammonia by a second distillation; or, if the process be in operation at a gas works, the use of the residual ammonia as an absorbent in the purification of gas. 6. The observance of the greatest care as regards the tightness of all parts of the apparatus. Another operation which demands care in its management is distillation of coal tar for the various products derivable from it. There are two kinds of tar derivable from coal, according as the temperature of distillation is high or low, and according to the richness of the coal in hydrocarbon. One is ordinary coal tar, and the other is the tar from which paraffin oils are obtained. The tar produced from common coals at a high temperature (common coal tar) is always heavier than water (sp. gr. 1120 to 1150); it dries freely in the air by oxidation; it contains hydrocarbons with such an excess of carbon that they cannot be burnt in a common lamp; it is almost entirely destroyed by strong oil of vitriol; it contains much sulphur, and its percentage composition is about 86 carbon, 7 hydrogen, 6·5 oxygen, and 0·5 sulphur. Whereas the tar produced from cannel coal at a low temperature is lighter than water (sp. gr. about 900); it will not oxidate, or dry in the air; it contains hydrocarbons of the paraffin series which are comparatively poor in carbon, and which can be burnt in a lamp; it is not much acted on by oil of vitriol; it contains little or no sulphur, and its percentage composition is about 84 carbon, 12 hydrogen, and 4 oxygen. The main points, therefore, to be observed in the conduct of works of this description are—1. The transport and storage of the coal tar in air-tight tanks or vessels guarded with boxes containing hydrated oxide of iron. 2. The proper construction of the primary receiver of the products of distillation, so that it may freely deliver them by special pipes to their respective receivers, and at the same time convey offensive non-condensible products to the scrubbers and purifiers. 3. The passage of the offensive non-condensible gases and vapours to a scrubber charged with a douche of cold water, from thence to an oxide of iron purifier, and thence to a tall chimney-shaft. 4. The proper cooling of the pitch in air-tight vessels before it is allowed to reach the external atmosphere, and the ventilation of these vessels through the scrubber and purifier before mentioned. 5. The use of a fan, or other exhausting power, so as to draw all the noxious gases and vapours from the stills, the pipes, the receiver, and the pitch den, into and through the scrubber and purifier before mentioned. The production of paraffin oil from cannel coal, and the distillation of the crude tar, as well as the distillation of petroleum and Rangoon oil, require like precautions, though not to the same extent, as the products are not nearly so offensive as in the case of coal-tar products. Dead oil, or creasote, is largely employed for preserving timber; but unless there is great carelessness in the management of the operations they are not offensive. The melting of pitch and asphalte for the production of materials suited for the making of asphalte pavements, etc., is in the generality of cases a very offensive operation. All these operations should be conducted in closed boilers, which should be ventilated by a fan through a scrubber prior to its entrance into the chimney-shaft. The clarification of oil for burning and other purposes is generally effected by means of sulphuric acid, which is well stirred into it. Cotton oil is refined by means of a solution of caustic soda; and this also, when subsequently heated by steam, is offensive. The remedy in each case is the carrying on of the operations in closed vessels, ventilated to the furnace fire. The distillation of oils and fats for the production of stearic, margaric, palmic, oleic, and other fatty acids is effected by means of sulphuric acid and superheated steam. In these operations sulphurous acid and acroleine are evolved, so as to be offensive to the neighbourhood unless they are conveyed from air-tight apparatus into the furnace fire. Oil-boiling for making varnishes, linoleum, leather cloth, printers' ink, and black japan is a very disagreeable operation, and requires to be conducted in boilers from which the fumes pass into the furnace fire to be destroyed. Varnish-making and resin-distilling are also offensive operations, and necessitate the destruction of the acrid organic vapours by carrying them to the furnace fire, or to fires placed at the outlet of hoods which cover the pans. In cases where inflammable spirit is used to a large extent in certain manufactures, as in making American cloth, the difficulty of dealing with the vapour is exceedingly great, as it is dangerous to pass it through a furnace fire for fear of explosions. In one factory the quantity of petroleum spirit used daily in the thinning of the oil for the colours is not less than 140 gallons—all of which is daily evaporated from the cloth in the drying-room, which is gradually raised to a temperature of 130° Fahr., at which it is kept for six hours during the drying of the colours. In these cases it is best to ventilate the room freely by special shafts communicating with the chimney at a point where the vapours are not likely to be fired. Fat-melting, bone-boiling, tripe-dressing, and the cooking of sheeps' heads, bullocks' cheeks, livers, and feet, as well as the boiling of shell-fish, lobsters and crabs, are all offensive operations, and require to be conducted in closed coppers ventilated by special flues, which carry the organic vapours into the fires beneath them. The rest of the paper was devoted to a consideration of the processes for manufacturing "size and glue," "manure," "animal charcoal," "roasting of coffee, etc.," "Esparto grass for paper-making," "sugar for beer," "brick-burning," and nuisances occasioned by the escape of acid fumes, bleaching operations, etc.

In the discussion which followed the reading of the paper,

Mr. Fewtrell said that it would have been more satisfactory if Dr. Letheby had better defined the difference between offensive gases which merely created a nuisance, and deleterious gases which were injurious to health. It would not do for medical officers of health to put a stop to smells which were simply offensive, or they would soon ruin nearly all the industries of the country. Therefore it would be bad policy to drive away the industries of these places simply because unpleasant smell existed.

Dr. Ross said that we must consider the great accommodating powers and adaptability of human nature. With regard to

the acclimatising power of human nature, the manufacture of snuff afforded a remarkable instance.

Dr. Meymott Tidy said that we must look at our position from two points—the medical officer of health on one hand, and the chemist on the other. The medical officer of health should not be too willing to stop trade in a large manufacturing country like Great Britain. With regard to sulphuric acid, he thought it would be difficult to say that this acid is injurious to health. In the investigation conducted by Dr. Letheby in the Underground Railway it was found that the men employed were so healthy that they had applied for an abatement of the rate of subscription to a benefit society that they belonged to. We must not be putting down trade because smells are offensive. Dr. Letheby, in the cases he had mentioned, never suggested the removal of a manufactory, but always the abatement of the nuisance. Medical officers of health must determine what is and what is not injurious; they must not seek to destroy the trade of this country from exaggerated notions of nuisances.

Dr. Fergus (of Glasgow) said that he attributed the increase of diarrhœal and diphtherial diseases to the extension of the water-closet system. He considered that the only solution of the difficulty, which he believed would increase, was to prevent all excretal matters from getting into the sewers. Dr. Fergus then exhibited specimens of leaden pipes eaten through by the corrosive effects of sewer gas, and also exhibited diagrams showing how sewer gas passed through the water, placed in the traps to prevent its escape, into houses connected with the sewers.

THE PATHOLOGICAL SOCIETY.

Tuesday, February 2.

Mr. George Pollock, F.R.C.S., President, in the Chair.

Aneurism of the Heart.

The report of the special committee appointed to examine Dr. Southey's specimen of Aneurism of the Heart (see *Medical Times and Gazette*, Jan. 19, 1875, page 51) was read. The committee entirely agreed with the description given of the specimen by the exhibitor.

Elongation of Bones in Disease of the Knee.

Mr. Howard Marsh brought forward a living specimen illustrative of elongation of the bones of the lower extremity in disease of the knee. The patient, a girl of nine, of a tuberculous family, was found to be suffering from scrofulous synovitis of the knee in May, 1869; she had been ill for nine months. Under treatment the condition steadily improved until 1870, when the child took measles and suffered thereafter from the general symptoms of "scrofula." The knee-joint became very much worse, and pus was evacuated by incision. The acute symptoms then again subsided. Three years ago the affected limb appeared unnaturally long, and it was found to be really so on measurement. The lengthening increased for eighteen months, and now the one limb exceeded the other by an inch and a half, the femur chiefly being elongated.

Mr. Wagstaffe believed that elongation of a limb under these circumstances was not so rare as Mr. Marsh seemed to think. He had found that of four similar cases at present in St. Thomas's Hospital (young persons), two presented elongation of the affected limb to the extent of half an inch, five-eighths of an inch, or more; in the others the affected limb was equal in length to its fellow, or shorter. All these cases had suffered for three or four or more years, and all the patients were growing rapidly. Mr. Wagstaffe suggested that such elongation might account for the absence of shortening after excision of part of a scrofulous bone.

Mr. Holthouse said that he had seen several similar cases. Professor Humphry, of Cambridge, had described more than one. He (Mr. Holthouse) would also allude to cases of apparent elongation where the difference in size was in reality due to permanent obliquity of the pelvis.

The President said that he had seen two cases: the elongation chiefly affected the tibia.

Mr. De Morgan said that at that moment he could recall two similar cases. Apparent elongation was not so uncommon.

Mr. Hulke said that the condition was not so rare: he had seen perhaps three or four cases. He had at present under his care a child of thirteen, in whom the left limb was perhaps one inch and three-quarters longer than the other, the increase being equally distributed between the femur and the tibia. The elongation was associated, not with disease of the joint, but with a general teleangiectasis. Curious cases were to be met with where one of a pair of bones outgrows its fellow, as the radius the ulna. This was not from evident disease, such as ulcer. The elongated bone became bent to accommodate its fellow.

Leprosy.

Dr. Pye-Smith brought forward a patient suffering from leprosy. He was a young man of sixteen, born in India of a half-caste mother; his father was Scotch. The disease was chiefly tubercular, but there were some spots of anæsthesia on the arms. The uvula, hard and soft palates, and the left false vocal cord were also partly affected.

Anomalous Tumour of the Arm.

Mr. De Morgan exhibited a tumour of the arm, removed along with part of the limb, only five hours before. The growth appeared to be connected with the musculo-spiral nerve. The subject was a young lady of fifteen, healthy-looking, and with an unblemished family history. In 1867 she was found to present, on the right forearm, an irregular enlargement, which extended from the elbow to the hand; the skin was baggy and hypertrophied, and there were subjacent nodules, which gave the impression of a chain of beads when the hand was passed upwards. The skin appeared to be movable over the mass, and the muscles beneath it. The patient could play the piano. The hand, and especially the fingers, perspired copiously. The account given of the case was that the thumb of the affected hand was irregular at birth, but that nothing was thought of this. Mr. De Morgan again saw the case in October, 1874. The swelling had been increasing for six months, and now appeared as a considerable tumour, chiefly on the radial side of the limb; the skin was movable over the tumour; the circumference of the forearm exceeded that of its fellow by two inches and a half. There was some pain about the thumb; the hand perspired profusely. Some time after this, the swelling was found to be still greater; the beaded character persisted. There was much pain at night. Within a short period the radius appeared to have given way. Amputation of the arm was performed above the elbow, after an exploratory incision into the tumour, which revealed a cyst filled with a dark tenacious fluid. In the course of the amputation, the musculo-spiral nerve was found to be greatly thickened. Below, and connected with this nerve, was the tumour, formed of irregular cysts. The muscles lay above the tumour; while, superficial again to them, and between the skin and the fascia, was a layer of bead-like nodules, which had given the impression of the tumour being movable. The radius was quite gone. Mr. De Morgan said that perhaps the tumour was a neuroma. He had rarely seen such a curious growth; he was inclined to consider it more likely nervous than lymphatic in origin.

Sarcoma of the Sclerotic.

Mr. George Lawson exhibited an eye which he had removed on account of a sarcomatous tumour which grew from the sclerotic and cornea. The tumour first appeared as a small black speck on the conjunctiva at the inner side of the eye, two years previously, and continued to grow until August last, when it had attained such a size that the patient was unable to close his lids over it. Up to this time he had refused to submit to any operation, but he now allowed Mr. Gooch, of Windsor, under whose care he was, to abscise it. The tumour, however, immediately reappeared, and continued to increase until early in November, when Mr. Lawson first saw the patient. There was then a large warty excrescence springing from the sclerotic and adjacent cornea on the inner side of the eye, and overlapping the cornea so as to cover the greater portion of the pupil. It was very painful, and frequent hæmorrhages took place from the surface, so that the patient was becoming exhausted from the repeated small losses of blood and the pain. Mr. Lawson excised the eye, and on making a section of it, the growth was found to be a round-celled sarcoma confined to the sclerotic and cornea, and not involving either the iris or ciliary processes. The patient made a good recovery, and there had been no recurrence of the disease.

The President inquired whether the growth was not rare as to its locality, springing as it did from the anterior part of the sclerotic?

Mr. Lawson replied that this was the point of interest

Nearly all ocular sarcomata spring from the choroid or from the ciliary region ; very few from the sclerotic.

Melanoid Sarcoma and Cancer.

Dr. Hoggan exhibited (1) Microscopical Specimens of Melanoid Sarcoma in a Cod and (2) Microscopical Specimens of Cancer. [Reference was made to this part of the proceedings of the Society in the *Medical Times and Gazette* of last week.]

Melanotic Sarcoma.

Mr. Knowsley Thornton showed a specimen of this kind. A married woman of thirty, after complaining for some time of symptoms of dyspepsia and pain in the abdomen, was found to be suffering from tympanites, and presented the signs of fluid in the peritoneum. Eleven pints of a greenish fluid were removed by tapping, but the patient afterwards died of pneumonia. The abdomen only was examined post-mortem, and a portion of the omentum, uterus, and ovaries reserved. They were evidently the seat of melanotic disease, which seemed to have started in the connective tissue. A single nodule was connected with the liver.

Incarceration of the Ileum.

Dr. Dowse exhibited an incarcerated portion of bowel in the inguinal canal, which formed an incomplete direct inguinal hernia. The subject of it was an old woman of seventy-nine years. The bowel, where constricted, had become sphacelated, and, by progressive ulceration, an artificial anus resulted. A month previous to the patient's admission into the Central London Sick Asylum she was seized with obstinate vomiting and constipation, which continued for a fortnight. After this the bowels were relieved, but a hard and painful swelling showed itself in the right groin. When Dr. Dowse first saw her, there was neither vomiting nor constipation of the bowels; but upon examination there was found diffuse cellulitis of the right abdominal wall, with great hardening about Poupart's ligament, and over the internal abdominal ring, midway between the anterior superior spinous process of the ilium and the spine of the pubes, was a large bleb, which soon ruptured; the aperture then gave exit to fæcal matter. The patient sank from an exhaustive attack of diarrhœa. Post-mortem, all the parts in the abdomen were healthy, but the lower free border of the ileum was found to be invaginated in the inguinal canal and adherent to the internal abdominal ring. There was free communication between the bowel and the skin.

Mr. Wagstaffe inquired whether the portion of ileum was intussuscepted.

The President asked whether there had been any interruption to the passage of fæces—any vomiting.

Dr. Dowse replied that there had been vomiting before the case came under his care. In reply to Mr. Wagstaffe, he said that he did not call the case one of intussusception, but of invagination of the bowel in the inguinal canal.

Mr. Henry Morris suggested that the condition should be described as an incarcerated hernia.

The President said that it could not be so defined on examination. A part of the intestine seemed to have been lodged in this situation; it was either a diverticulum or a dilated portion of bowel.

Dr. Greenfield said that if the side of the bowel were nipped in the canal, the case should be called an incomplete hernia.

Dr. Dowse replied that it was simply a question of terms.

Dr. Green believed that there had probably been a previous diverticulum, which had been drawn into the canal. (A special committee was appointed to examine and report on the specimen.)

Syphilitic Disease of the Rectum.

Dr. Dowse also showed two specimens of syphilitic ulceration of the rectum. The first was taken from a patient, aged thirty-seven, who was admitted into the Central London Sick Asylum in July, 1874, and died the following December. When Dr. Dowse saw her she was suffering from well-marked tertiary syphilitic sores and cicatrices. There was extensive ulceration around the labia, and mucous elevations around the anus. About twelve months previously she had complained of pain when passing a motion, which was usually attended with hæmorrhage. The bowels soon began to act very irregularly—sometimes there was persistent diarrhœa with blood and pus, at other times there was distressing constipation with colicky pains and tormina. Around the anal aperture were to be seen the cicatrices of old fistulæ. There was a stricture of the bowel just beyond the internal sphincter which would admit the forefinger. The ulceration commenced at the verge of the anus, and was continuous up the gut, the wall of which felt rough and uneven. Post-mortem, the rectum when slit up was found to be diseased throughout its entire course. It presented an irregular surface of a greyish-green colour, with here and there somewhat pendulous-looking masses of almost vermilion redness. The second case was taken from a patient, aged twenty-seven, who for the second time was admitted into the Central London Sick Asylum in September, 1874, and died the following December. (Dr. Dowse remarked that in his experience relative to syphilitic disease of the rectum one does not as a rule find chronic periosteal disease with caries and necrosis of bone, but rather a determination to the skin, connective tissue, and mucous membranes. Hæmorrhages from the air-passages and albuminuria are associations by no means uncommon; psoriasis of the tongue, hands, and feet, condylomatoid thickening about the anus, and diffuse cicatrisations of the skin from previous ulceration.) The history of the case was similar in most respects to that just narrated. There was acute pain upon defæcation, irregular action of the bowels, with hæmorrhage and severe colicky pains with tormina. The hæmorrhage was succeeded by the discharge of a dark-coloured fluid consisting of blood and pus. The patient died from lung disease, albuminuria, and waxy liver and kidneys. The state of the rectum was in most respects the same as in the first case.

Enlarged Liver and Spleen without Leukæmia.

Dr. Pye-Smith exhibited the spleen and part of the liver from the body of a man of forty-six, who died in Guy's Hospital. He was a drunkard, and had had syphilis and one attack of rheumatism. When admitted he was very thin and ill; the face presented chronic venous congestion; there was purpura of the legs; the liver and spleen were very large—the latter occupying the inguinal region. First right and then double pleurisy became developed, without much elevation of temperature. The man died in muttering delirium. The diagnosis made was—most probably cirrhosis of the liver, with secondary enlargement of the spleen, and perhaps granular kidneys. Albuminuria did not appear until shortly before death. The blood was several times examined, and no excess of white corpuscles found. Post-mortem, the difficulty of naming the condition was but increased : there was double pleurisy; the kidneys were granular; the heart weighed eighteen ounces—its walls were thickened, its valves healthy; the liver and spleen were perfectly smooth, and weighed eighty-eight and eighty-three ounces respectively. The spleen was found on section to be uniformly enlarged; the Malpigbian bodies had undergone hypertrophy. Under the microscope the liver presented fibrous increase throughout the canals. The lungs contained no tubercle, but on the upper part of the pleura and on the lower surface of the diaphragm there were some small nodules without any softening. There were some cheesy bronchial glands. The blood, examined again post-mortem, showed no excess of the white elements. Dr. Pye-Smith said that the case was an obscure one in its nature; it might be called a "leukæmic" enlargement of the liver and spleen without alteration of the blood.

Hæmorrhagic Gout.

Dr. Pye-Smith also showed a specimen of blood which had been found post-mortem in the joints of a man who was the subject of gout. The patient, aged forty-five presented no very remarkable symptoms : he looked gouty, and had pain in many of the joints; but no tophi were discovered, and the urine contained no albumen ; he had also a bad bed-sore. He had been ailing for years. At first he mended, but he died in a month without sudden symptoms. Post-mortem, enormous accumulations of urate of soda were found in all the joints; there was interstitial nephritis. But in almost all the joints there was also an extravasation of blood—in the knees, hips, ankles, wrists, great toes, and elbows ; in the shoulder-joints there was none. Dr. Pye-Smith said that he knew of no similar case on record. He added, on being questioned by the President, that there was no purpura.

Dr. Hilton Fagge showed, in connexion with the preceding, a specimen of Extreme Congestion of the Knee-Joint. A man of thirty-five, who had been gouty for some time, died in Guy's Hospital of bronchitis. Fourteen days before his death he had an attack of acute gout, with much pain in the knees. Post-mortem much urate of soda was found in the great toe,

and in one of the forefinger-joints there was pus. Both knee-joints were remarkable. In addition to urate of soda in the cartilages, each contained much fluid and flakes of lymph. The lining membrane was extremely congested, and projected in folds into the joint. Dr. Fagge remarked that in this case there was suppuration in a joint, which was said never to occur in gout, and there was in addition the congestion. The latter condition might help to account for the hæmorrhage in Dr. Pye-Smith's case. He added that Dr. Goodhart had met with a very similar case last June.

CANCEROUS BREAST AND LIVER.

Dr. PEARSON showed these specimens, from a single woman of sixty. The case was remarkable, inasmuch as the patient had succeeded in concealing from everybody the existence of an open cancer of the breast. The mammary cancer was not discovered till after her death. There were certain symptoms of hepatic cancer *intra vitam*, including fluid in the peritoneum.

OBITUARY.

FREDERICK BLUNDSTONE WHITE, M.D., M.R.C.P., F.L.S.

DR. F. B. WHITE died at Tetbury, Gloucestershire, on February 4, in his eighty-third year. Having finished his studies at St. George's Hospital, he became a Member of the College of Surgeons, London, in 1813, and soon after passed the Army Medical Board, and was appointed to the 73rd Regiment, which he joined in Holland. He was present at the siege of Bergen-op-Zoom, March 8, 1814, under General Sir T. Graham (afterwards Lord Lynedoch), when nearly all the British soldiers were cut to pieces or made prisoners, and volunteered to look after his men when prisoners—a post of no ordinary danger. In 1815 the 73rd was ordered to join the army in Belgium, and Dr. White was present at Quatre-Bras and Waterloo, his regiment having but three officers not killed or wounded. After these engagements he went with the army to Paris. On coming home, the 2nd Battalion (to which he was attached) was disbanded, and after four years' service he went on half-pay; married in 1820; and took to private practice at Nether Stowey, in Somersetshire. In 1827 he was offered the appointment of Surgeon-in-Ordinary to the late King, then Duke of Clarence, which he declined; but in the same year moved to Tetbury, where his practice became large; and in 1840 he proceeded as an extra-licentiate of the College of Physicians, London; then M.D. Giessen, and M.R.C.P. (exam.) in 1859. He was also Physician to Tetbury Dispensary, and F.L.S. Dr. White's keen perception, accurate diagnosis, and genial manner secured him the affectionate regard of all classes, and his opinion was much valued even after his retirement from active work in the two counties alluded to. He returned only last autumn to Tetbury, the scene of his former labours, to pass peacefully away in a ripe old age.

MEDICAL NEWS.

KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.—At the usual monthly examination meetings of the College, held on Tuesday, Wednesday, and Thursday, February 9, 10, and 11, the following were the successful candidates for the licence to practise Medicine:—

Barnes, Raglan Wykeham.
Boyd, Thomas.
Browning, John Norris.
Callanan, Michael.
Curtin, Patrick.
Hoops, Samuel Evans.
Jones, Richard Sorton.
Jones, Wilmot John.
Sigerson, George.

For the licence to practise Midwifery:—

Barnes, Raglan Wykeham.
Browning, John Norris.
Callanan, Michael.
Curtin, Patrick.
Hoops, Samuel Evans.
Jones, Richard Sorton.
Jones, Wilmot John.
Follen, Henry.

APOTHECARIES' HALL. — The following gentleman passed his examination in the Science and Practice of Medicine, and received a certificate to practise, on Thursday, February 4:—

Johnson, William Boyter, 145, Bishopsgate-street Without.

The following gentlemen also passed on the 11th inst.:—

Cotton, Herbert, Silent-street, Ipswich.
Wye, John Henry, Upper Pit-street, Liverpool.

The following gentlemen also on the last-named day passed their primary professional examination:—

Jackson, Philip John, Guy's Hospital.
Mount, Walter, Guy's Hospital.
Turner, Walter Pickett, Guy's Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

CHIENE, JOHN, M.D.—Extra-Professorial Examiner in Anatomy at the University of Edinburgh.

CLEGHORN, HUGH F. C., M.D.—Extra-Professorial Examiner in Botany at the University of Edinburgh.

DEWAR, JAMES, F.R.S.E.—Extra-Professorial Examiner in Chemistry at the University of Edinburgh.

DUCKWORTH, DYCE, M.D.—Extra-Professorial Examiner in Practice of Physic at the University of Edinburgh.

DUDLEY, F. J. ROBERTS, M.R.C.S. Eng., L.S.A.—Medical Officer of the Third District of Ashton-under-Lyne Union, *vice* Mr. Evans, deceased.

DUNSMURE, JAMES, M.D.—Extra-Professorial Examiner in Surgery and Clinical Surgery at the University of Edinburgh.

FERRIER, DAVID, M.D.—Extra-Professorial Examiner in Forensic Medicine at the University of Edinburgh.

FRASER, THOMAS R., M.D.—Extra-Professorial Examiner in Materia Medica at the University of Edinburgh.

GAMGEE, ARTHUR, M.D.—Extra-Professorial Examiner in Institutes of Medicine at the University of Edinburgh.

GERVIS, HENRY, M.D., F.R.C.P.—Obstetric Physician and Lecturer on Midwifery at St. Thomas's Hospital, *vice* Dr. Barnes.

HALDANE, D. R., M.D.—Extra-Professorial Examiner in Clinical Medicine at the University of Edinburgh.

HANSON, SAMUEL, L.R.C.P. Edin., M.R.C.S. Eng., L.S.A.—Temporary Medical Officer for No. 6 District of Downham Union.

MCDONALD, ANGUS, M.D.—Extra-Professorial Examiner in Midwifery at the University of Edinburgh.

MCINTOSH, WM. C., M.D.—Extra-Professorial Examiner in Natural History at the University of Edinburgh.

PAYNE, JOSEPH F., M.B.—Extra-Professorial Examiner in Pathology at the University of Edinburgh.

POWELL, EVAN, M.R.C.S. Eng., L.S.A.—Second Assistant Medical Officer at the Essex Lunatic Asylum, Brentwood.

SPARKS, E. J., M.A., M.B., M.R.C.P.—Physician to the Royal Infirmary for Women and Children, Waterloo-bridge-road, S.E.

NAVAL APPOINTMENTS.

ADMIRALTY.—William Smith, M.D., Staff Surgeon to the *Unicorn*; William Edney, Staff Surgeon, Second Class, to the *Triumph*; John O'Callaghan and William Breton, Surgeons, additional, to the *Royal Adelaide*, for Plymouth Hospital.

BIRTHS.

FELCE.—On February 15, at 12, Chippenham-road, St. Peter's-park, W., the wife of Stamford Felce, M.R.C.P., of a son.

INCE.—On January 17, at Rawal Pindi, Punjaub, the wife of John Ince, M.D., Civil Surgeon, of a son.

INKSON.—On February 14, at 32, Richmond-terrace, Clapham-road, the wife of I. Inkson, M.D., Surgeon-Major Army Medical Department, of a daughter.

JAMES.—On February 4, at Alcaston House, Melbourne, Australia, the wife of E. M. James, M.R.C.S., of a daughter.

MAY.—On February 13, at 4, Gresham-villas, Stanstead-road, Forest Hill, S.E., the wife of Augustus S. May, M.R.C.S. Eng., of a son.

PITTOCK.—On February 10, at 23, Cecil-square, Margate, the wife of G. M. Pittock, M.B., M.R.C.S. Eng., L.S.A., of a daughter.

SHAW.—On February 13, at Dailly, Ayrshire, the wife of Robert Shaw, M.B., C.M., of a son.

WILLCOCKS.—On January 22, at Chunar, India, the wife of Alexander J. Willcocks, M.B., F.R.C.S., of a son (William Gabriel).

MARRIAGES.

MURRAY—INGLIS.—On December 12, 1874, at the Union Church, Hong-Kong, John Murray, Surgeon Army Medical Department, to Mary Smithers, daughter of John Inglis, Esq.

THORNHILL—DARRACOTT.—On February 6, at SS. Mary and Eanswith's, Folkestone, William Robert Thornhill, H.M. 19th Regiment, son of Wm. Thornhill, M.D., of Upper Pembroke-street, Dublin, to Alice Isis, daughter of the late Thomas Darracott, Esq., of Kingsbridge, Devon, and Trinidad, W.I.

DEATHS.

BROWN, The Rev. JAMES TAYLOR, M.A., Incumbent of Holy Trinity Church, Preston, eldest son of the late Robert Brown, F.R.C.S., at the residence of his mother, 27, Winckley-square, Preston, Lancashire, on February 12.

CHENNELL, SAMUEL PAYNE, M.D., formerly of H.M. Colonial Emigration Service, at 47, Millman-street, Russell-square, on February 6, aged 57.

DE NÉGRI, ATHENODORE, M.B. Lond., at 192, Belsize-road, St. John's-wood, on February 3, aged 35.

FOWLER, JENNY, beloved wife of George Fowler, M.R.C.P., at Kennington-park, on February 14, aged 27.

HARRISON, FRANCIS, M.R.C.S., Retired Staff Surgeon H.E.I.C.S., Bombay Presidency, fourth son of the late Rev. William Harrison, Vicar of Fareham, and Canon of Winchester Cathedral, at Fareham, Hants, on February 9, in his 62nd year.

Merryweather, Philip Edward Collins, M.R.C.S. Eng., L.S.A., at his residence, 14, Colville-road, Bayswater, on February 11, aged 49.

Smith, William, F.R.C.S., of Moor Bank, Kersal, Manchester, on February 10, in his 59th year.

Swayne, Caroline Sarah, wife of S. Henry Swayne, M.R.C.S., and daughter of the late Rev. Thomas Rocke Garnsey, Incumbent of Christ Church, Forest of Dean, at 8, Berkeley-square, Bristol, on February 12.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

Dorset County Hospital.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Chairman, on or before March 4.

Hailsham Union.—Medical Officer for the Parish of Heathfield. Candidates must be duly qualified. Applications, with testimonials, to the Chairman of the Board of Guardians, Board Room, Union Workhouse, Hellingly, before March 8.

Hospital for Women, Soho-square.—Physician and two Assistant Physicians. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before March 2.

London Fever Hospital.—Resident Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, at the Hospital, Liverpool-road, Islington, N., on or before March 6.

Seamen's Hospital, Greenwich.—House-Physician. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before February 22.

University College, London.—Curator for the Museums of Anatomy and Comparative Anatomy. Applications, with testimonials and full particulars of qualifications, to John Robson, B.A., Secretary to the Council, on or before March 6.

UNION AND PAROCHIAL MEDICAL SERVICE.

APPOINTMENTS.

Ashton-under-Lyne Union.—Frederick J. R. Dudley, M.R.C.S. Eng., L.S.A., to the Third District.

Bromsgrove Union.—Charles Carey, M.R.C.S. Eng., L.R.C.P. Edin., L.S.A., to the Workhouse and the Bromsgrove District.

Forehoe Incorporation.—Horace Turner, M.R.C.S. Eng., L.S.A., to the First District.

Honiton Union.—James C. Macaulay, M.R.C.S. Eng., L.S.A., to the Third A District.

Newton Abbot Union.—Stanley A. Gill, L.R.C.P. Edin., M.R.C.S. Eng., L.F.P. & S. Glasg., to the Third District.

Poplar and Stepney Sick Asylum District.—Denis Walshe, L.R.C.P. & S. Edin., L.K. & Q.C.P.I., as Assistant Medical Officer at the Asylum.

Stepney Union.—Edward B. Robertson, B.M. & M.C. Edin., to the Workhouse.

Thingoe Union.—Frederick E. Aldrich, M.R.C.S. Eng., L.S.A., to the Seventh District.

Uckfield Union.—Thomas H. Cresswell, M.R.C.S. Eng., L.S.A., to the Maresfield District.

Vaccination in Glasgow.—Some difficulty appears to be met with in carrying out the provisions of the Vaccination Act in Glasgow, for we find that during the last half of 1874 no less than 306 cases were reported by the registrar in which the parents had failed to comply with the provisions of the Act. This is an increase of sixty-one in the number of defaulters as compared with the corresponding period for 1873.

Aneurism of the External Carotid cured by Digital Compression.—Dr. Marques, of Lisbon, has communicated to the Paris Académie de Médecine a case of carotid aneurism occurring in a man thirty years of age, which has been cured by digital compression, that was maintained during 283 hours. The particulars of the case are detailed in the *Gazette Médicale*, February 6.

High Death-rate at Kilmarnock.—The health of Kilmarnock has for a considerable time past been in a very unsatisfactory state. One epidemic follows another, always keeping the inhabitants in a state of alarm. Last month the death-rate reached 52 per 1000, there being twenty-one fatal cases of scarlatina during the month. This exceeds the highest rate of mortality that was reached at any time last year, which was very high in consequence of the small-pox epidemic.

Inspection of the chest in its normal condition reveals for the most part a perfectly symmetrical state of the thoracic walls on both sides of the sternum. These walls gently rise and fall rhythmically with the in- and expiration, the only thing breaking the monotony of this gentle undulation being the tap of the cardiac apex—averaging four taps to each respiratory wave—which is visible between the fifth and sixth ribs, about two inches from the left edge of the sternum. Any deviation from these appearances is abnormal, though possibly not of much import. Thus, in many cases, the precordial region is more prominent than the similar region to the right of the sternum. Frequently this is of no consequence, yet it may be associated with enlargement of the heart, or with pericardiac effusion if the intercostal spaces be effaced. Of itself, it is a sign of little importance; and in ascertaining its presence we must be careful not to be misled by any rachitic bulgings of the ribs, or even by the more than usually distinct pulsations of the heart in children or in meagre individuals, which may apparently simulate a bulging. This latter simulation is readily corrected by more careful inspection, supplemented by palpation and measurement. In the former, the spinal column is either found to be curved, or, at all events, the costal arch is deformed and depressed posteriorly when it bulges in front. Bulgings dependent upon arterial aneurisms are almost invariably above the third rib, and appear as mere local tumours. Depression of the præcordial region is much more rare than its elevation, and is the result of previous pericarditis, and the indication of adhesion of the visceral and parietal portions of the pericardium. We must distinguish between a permanent and general depression of the cardiac region and those rhythmical depressions of the intercostal spaces which occur over the apex, or even over a more extended portion of the heart's surface, which are often the result of adhesions of the pericardium, not only to the heart, but also to the pleura, and through that to the walls of the chest, but which are sometimes, especially in thin-walled chests, the simple result of atmospheric pressure depressing the intercostal spaces at the moment of the cardiac contraction, where no adhesions exist; this form of rhythmical depression being invariably associated with some degree of enlargement—not always hypertrophy—of the heart, and consequent displacement of the lung.—"*On the Diagnosis of Disease of the Heart*," *by George W. Balfour, M.D., F.R.C.P.E.* (*Edinburgh Medical Journal, June*, 1874).

There is still another form of irregularity in the cardiac sounds which may be a symptom of disease, but which may also occur in perfect health, and that is reduplication of these sounds. In its most extreme and rarest form we have, instead of two, four sounds—two first and two second sounds; the two beats acting separately, and not simultaneously as usual. More usually, however, we have three sounds instead of two; and the rarest form of this is when the first sound is reduplicated, which is extremely seldom to be heard with any distinctness. A reduplication of the second, however, is a matter of common occurrence not only in disease but even in health. It is produced by a more rapid action of one ventricle compared with that of the other, and is heard as a *bruit de rappel* either at base, apex, or both. It may be vocalised by the syllables ta-ta, and closely resembles the sound of a hammer which strikes the anvil, rebounds, and strikes again, remaining motionless. Reduplication of the second sound is of frequent occurrence in mitral constriction where there is a physical cause capable of preventing the filling of the left ventricle, and which therefore permits the right one to get the start of it. Reduplications of the cardiac sounds in disease are often permanent; in health they are more frequently fugacious, appearing one instant and disappearing the next. They are merely abnormal exaggerations of a phenomenon which, with care and appropriate appliances, may be detected in everyone—reduplication of the first sound occurring at the end of the expiration or commencement of the inspiration; reduplication of the second sound occurring at the end of the inspiration and commencement of the expiration. These normal reduplications depend upon the variations in the pressure produced by the respiratory movements at the origin of the arterial and venous systems. The first sound becomes reduplicate because excess of blood-pressure in the heart retards the closure of the tricuspid valve; and the second sound is reduplicated because excess of pressure in the aorta accelerates the occlusion of the aortic valves.—*Ibid.*

NOTES, QUERIES, AND REPLIES.

"He that questioneth much shall learn much."—*Bacon.*

Somerset.—Next week.

T. B.—1. Not very much. 2. We are not in a position to judge. 3. The manufacture is considered a nuisance at all events.

Edwin Yewdall.—We are sorry not to be able to give our correspondent the answer he desires.

Nolens Volens.—Dr. Richard Bathurst resigned the office of Physician of the Middlesex Hospital in November, 1756.

Ted W.—The discovery of animalcules in the semen of animals is claimed by Leeuwenhöck and Nicholas Hartsocker, who both say they published it about 1677-78.

A. D., Norfolk, is thanked.

Wolverhampton.—The address of certain medical practitioners of Wolverhampton to the mayor of that town respecting the medical officer of health is not to be commended. Nothing could be more conducive to the lowering of the profession and the engenderment of ill feeling than an attempt to dictate to governing bodies as to whom they should select to fill a vacant medical office.

G. W., Portsmouth.—Dr. Daniel Turner's advice to a friend, a young physician, was—"In visiting poor people let me persuade you rather to take no fees than undervalue your profession by stooping to crown-pieces as some I have known, making a second visit also for the same." Dr. Turner died March 12, 1741, aged seventy-four.

Penelope.—The German Hospital at Dalston was opened on October 15, 1845, under the auspices of Prince George, who represented on the occasion his father the Duke of Cambridge, absent on the Continent.

G. G. C., Suffolk.—1. Yes. 2. A valuable collection in anatomy and pathology was presented to the Norfolk and Norwich Hospital by Mr. Dalrymple in order to establish a museum. The proposal was responded to by the governors, and a building was erected to contain the collection, which was opened on September 10, 1845.

Cæsar.—The earliest authentic record of the existence of the pursuit of alchemy is to be found in an edict of the Roman Emperor Diocletian, commanding all books which treated of the art of making gold and silver to be burnt. In the fifteenth century, alchemy was very generally cultivated throughout Europe.

Claude, Suffolk.—"The Treatment of the Insane without Mechanical Restraint," by Dr. John Conolly; London, 1856.

F. C. W.—Dr. James Johnson was the founder of the *Medico-Chirurgical Review*.

Gwyn.—*Boston Medical and Surgical Journal* for 1842.

Philo.—*Vide* Dr. Sharpey's address which he read to the British Association in 1852.

Iota.—"Filtration" of the water supplied to the metropolis was for the first time used in 1828. A Royal Commission of three scientific men was appointed to investigate the quality of the water, and their report led to the adoption of filtration. Mr. Hugh Myddelton (afterwards Sir H. Myddelton, Bart.) commenced the construction of the New River in 1609.

Malcolm.—It was on October 26, 1830, that the Royal College of Surgeons of Edinburgh resolved to memorialise the Government on the subject of medical reform.

Amicus.—Cullen's remark upwards of eighty years ago was—"Everyone nowadays pretends to neglect theory, and to stick to observation. But the first is in talk only, for every man has his theory, good or bad, which he occasionally employs, and the only difference is that weak men who have little extent of ability for, or who have had little experience in, reasoning, are most liable to be attached to frivolous theories; but the truly judicious practitioners and good observers are such as have the most extensive views of the animal economy, and know best the true account of the present state of theory, and therefore know best where to stop in the application of it."

Septimus.—*Monthly Journal of Medical Science*, August, 1853.

Lancaster.—It is scarcely credible that Dr. Harker was acquainted with the contents of the puffing paragraph which appeared in the *Lancaster Guardian* on January 30. Such puffs are calculated to have the very opposite effect intended. It was probably, as Sheridan said, a "d——d good-natured friend" of Dr. Harker who has done him the mischief.

Cornwall.—Really we can scarcely notice seriously the articles which have lately appeared in the *Redruth Times* with respect to a recent inquest. The articles in question exhibit such bad taste, and display such gross ignorance on the part of the writer, that the best step to pursue is to let them answer themselves.

Griffith C.—

> "What dire necessities on every hand,
> Our art, our strength, our fortitude require!
> Of foes intestine what a numerous band
> Against this little throb of life conspire!
> Yet Science can elude their fatal ire
> Awhile, and turn aside Death's level'd dart,
> Soothe the sharp pang, allay the fever's fire,
> And brace the nerves once more, and cheer the heart,
> And yet a few soft nights and balmy days impart."—*Beattie.*

Hæmoptysis, Clapham.—In Hufeland's *Journal der Practischen Heilkunde* it is stated that a woman thirty-two years old fell into a pond when menstruating: the menses were immediately suppressed, and a copious hæmoptysis supplied the place of them, and became strictly periodical; fifteen months after she became pregnant, and during the whole of her pregnancy, her confinement, and suckling no spitting of blood occurred, but immediately on her weaning the child it returned.

Fred.—Sir Hans Sloane, then Dr. Sloane, was chosen Physician to Christ's Hospital in 1694, which office he held for thirty-six years.

V. H.—*Guy's Hospital Reports*, 1866, page 177.

Aqua.—The name "artesian" is derived from the province of Artois, in France, where, it is said, artesian wells were first made.

Practical.—It is said the best hospital arrangements for clinical teaching are those which are to be found in Italy.

E. B. R.—We are sorry we cannot help you further than by advising you strenuously to avoid advertising quacks.

Dr. Campbell.—The gentleman mentioned is a Licentiate in Midwifery of the Royal College of Surgeons. The celebrated Coleridge in his "Table Talk" says, "I think there are only two things wanting to justify a surgeon in performing the Cæsarian operation—first, that he should possess infallible knowledge of his art; and, secondly, that he should be infallibly certain that he is infallible."

R. S. B., Margate.—Old gossiping Evelyn in his Diary states, "There was so great a concourse of people with their children (March 28, 1684), to be touched for the Evil, that six or seven were crushed to death by pressure at the chirurgeon's door for tickets."

A Lecturer.—Dr. Knox's lectures will be found in vol. xii. of the *Medical Times*.

Medical Department of the Bombay Presidency.—We have received the following from an occasional correspondent. We may observe, without identifying ourselves with the opinions expressed, that the subject has been freely discussed in some of the Bombay papers, which take the same view on the subject as our correspondent.

"The value of the assurances that have been from time to time held out, in apparent sincerity, by Surgeon-General W. Thom, of the Medical Department of the Bombay Presidency, 'that zeal and qualifications would always meet with their just reward, and that appointments would be given in all cases for merit,' has just been markedly exemplified by the appointment of Surgeon Hughes, of the Bombay Army, to the chair of Midwifery in the Grant Medical College, Bombay. This fortunate young officer has only been five years in the Service, and it is asserted that he does not possess a single special diploma in midwifery of any school. He has never seen a day's active service, nor has he ever been entrusted with any but an acting appointment to a native charge before. He was educated in a colonial school in Canada. There were several candidates—surgeons-major—who were well up in the Service before Surgeon Hughes commenced his career as a student; all the candidates were senior to Surgeon Hughes, one of whom held no less than three of the highest obtainable special diplomas in midwifery—a Fellow, a prizeman of his University in that speciality, and one of Sir James Simpson's favourite pupils; and two of them at least had done unusually good service to the Government in times of urgent need. This, then, is the manner in which Surgeon-General Thom rewards seniority, merit, and special qualifications!"

Much has been said or hinted about backstairs interest and outside influence; but there are two sides to every question, and at present we have before us only the opinions of those who object to the appointment made by Surgeon-General W. Thom.

Circumcision amongst Mahommedans in India.

After one or more days of feasting and hospitality, the boy is seated on a new earthern pot inverted, with a red handkerchief over it. A couple of hours before he is made to swallow some *majoon*, or sweetened *bhang* or *subzee* (a milky liquor prepared from *bhang*—*i.e.*, Indian hemp), so as to intoxicate him a little, to prevent his crying out and to deaden the pain. The usual age is between seven and fourteen years. A few friends being present, some of whom hold the patient, the operation is done thus by the barber: A wooden probe is introduced to feel for the extent of the prepuce and make certain that no adhesions exist. Then the prepuce is seized between two pieces of split bamboo tied together at one end so as to make a rude forceps. This is applied obliquely, so as to exclude about an inch and a half of the prepuce above and three-quarters of an inch below, and one downward stroke of the razor completes the operation. The moment it is over the boy is made to vociferate "Deen!" and is told to slap the barber. Meanwhile the friends chew betel, which tinges the spittle red, and spit on the wound to make believe that there is no blood, only spittle. The wound is dressed with burnt rag and ashes and a resinous ointment; sometimes it is fumigated with the smoke of benjamin. Dr. Herklots preferred the common *ceratum calaminæ*. The boy is well fed to support his strength, and especially on chicken broth, with cakes made of wheaten flour and ghee. He is guarded from all contact with dogs, cats, and other defilements, amongst which are reckoned menstruating women, for it is supposed that to see them or for their shadow to pass is pernicious. Moreover, great pains are taken to guard the patient from being attacked by ants, which are supposed to be attracted by the smell of blood. A girl on her first menstruation is shut up for seven days, and not allowed to bathe.—*Herklots*, "*On Mussulmans*," *etc.*

COMMUNICATIONS have been received from—

Mr. J. Hutchinson, London; Dr. Eois, London; Dr. Farquharson, London; Mr. F. Gordon Brown, London; Mr. E. Yewdall, Leeds; Dr. Bateman, Norwich; X.; Dr. J. M. Finny, Dublin; Mr. J. Whittall, London; The Military Secretary, India Office; Dr. C. J. B. Williams, London; The Registrar of the Apothecaries' Society—Mr. B. Vincent, London; Dr. Handfield Jones, London; Mr. J. E. Ingren, London; Mr. Carsten Holthouse, London; Dr. R. Shaw, Dailly; Mr. G. Howard, Edinburgh; Mr. T. Annandale, Edinburgh; Dr. Sparks, London; Mr. J. Chatto, London; Mr. H. Morris, London; Dr. Lawson, Wakefield; Dr. Powell, London; The Registrar General, Edinburgh; Our Birmingham Correspondent; Dr. J. Cook, London; Mr. J. J. Merriman, London; T. B.; The Rev. P. L. Jameson; Dr. J. Northcote Visen, London; Dr. Coffield, London; Mr. T. P. Pick, London; Mr. T. M. Stone, London; Dr. Campbell, Brentwood.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—La Tribune Médicale—Le Mouvement Médical—La France Médicale—Le Progrès Médical—Bulletin de l'Académie de Médecine—National Food and Fuel Reformer—Philadelphia Medical Times—Pharmaceutical Journal—Centralblatt für die Medicinischen Wissenschaften—Cincinnati Medical News—Redruth Times and Camborne Advertiser—Bombay Gazette—The Scotsman—Irish Hospital Gazette—Melbourne Argus—Birmingham Daily Post.

BOOKS AND PAMPHLETS RECEIVED—

Turner's Introduction to Human Anatomy, part 1—Crombie on Cancer of the Uterus—Mapother's Lectures on Skin Diseases, second edition—Wagstaffe's Remarks on the Force used in Transfusion, and on the Selection of Fluids for Injecting into the Veins—Health Report of the Medical Officer of Health for Worcester—Johnston's Clinical Report of the Rotunda Lying-in Hospital—La Limonea Cloroidrica Sperimentata utile e Sicura per Abortire all' Istante il Cholera, per Dott. O. de Stefano—Dr. Thorne Thorne's Report to the Local Government Board on an Epidemic of Enteric Fever in Lewes—Charteris on the Excessive Mortality of Glasgow, its Causes and Remedies—The Coming Medical Man, by Dr. St. John Roosa—Specielle Kranken-Tabellen zur sofortigen leichten Uebersicht für practische Aerzte—Earth to Earth, an answer to a Pamphlet on Cremation, by F. Seymour Haden, F.R.C.S.—Russell on the Immediate Results of the Operations of the Glasgow Improvement Trust—Half-Yearly Report of the Medical Officer of Health for the Port of London—Cooke's Fungi: their Nature, Influence, and Abuses, edited by the Rev. M. J. Berkeley—Dickson's Diseases of the Kidney and Urinary Derangement, part 1 (Diabetes)—Statistique des Service. de Médecine des Hôpitaux de Lyon, par le Dr. Mayet et MM. Duchamps.

APPOINTMENTS FOR THE WEEK.

February 20. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 9 a.m. and 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

Royal Institution, 3 p.m. Mr. J. T. Wood, "On the Discovery of the Temple of Diana, and other Results of the Government Excavations at Ephesus."

Society of Medical Officers of Health, 7½ p.m. Dr. G. Ross, "An Analysis of the Bill, introduced by the Home Secretary, for Facilitating the Improvement of the Dwellings of the Working Classes."

22. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

Medical Society of London, 8 p.m. Mr. Spencer Watson, "On the Obstructions of Lachrymal Sac and Nasal Duct." Dr. C. Theodore Williams, "On a Case of Temporary Paralysis in a Young Female."

Royal College of Surgeons of England, 4 p.m. Professor W. K. Parker, "On the Structure and Development of the Skull."

23. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Anthropological Institute, 8 p.m. Meeting.

Royal Institution, 3 p.m. Mr. Alfred H. Garrod, "On Animal Locomotion."

Royal Medical and Chirurgical Society, 8½ p.m. Dr. Wm. Marcet, "Contribution to the History of Laryngeal Phthisis."

24. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Hunterian Society (London Institution), (Council Meeting, 7½ p.m.), 8 p.m. Dr. Sedgwick Saunders will give his Presidential Address. Mr. R. Clement Lucas will exhibit a Case of Excision of the Ankle-Joint. Mr. N. Davies-Colley, "On Two Cases of Diffuse Palmar Ganglion treated Antiseptically."

Royal College of Physicians, 5 p.m. Goulstonian Lectures—Dr. R. J. Lee, "On Puerperal Fever."

Royal College of Surgeons of England, 4 p.m. Professor W. K. Parker, "On the Structure and Development of the Skull."

25. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.

Royal Institution, 3 p.m. Prof. Tyndall, "On Electricity."

26. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

Clinical Society, 8½ p.m. Adjourned Discussion on Dr. Vivian Poore's "Case of Paralysis of Serratus Magnus" and Dr. Southey's "Case of Lepra Anæsthetica." Mr. Pugin Thornton, "Case of Exceeding Infrequency of Pulse." Mr. John W. Teale, "Case of a very Remarkable Elevation of Temperature (to 120° F.) after Injury to the Spine." Dr. Whipham, "Fatal Pleuro-Pneumonia in an Opium-Eater."

Quekett Microscopical Club, 8 p.m. Mr. B. T. Lowne, "On the Histology of the Eye."

Royal College of Physicians, 5 p.m. Goulstonian Lectures—Dr. R. J. Lee—"On Puerperal Fever."

Royal College of Surgeons of England, 4 p.m. Professor W. K. Parker, "On the Structure and Development of the Skull."

Royal Institution (Weekly Evening Meeting, 8 p.m.), 9 p.m. Mr. W. R. S. Ralston, "Popular Tales: their Origin and Meaning."

VITAL STATISTICS OF LONDON.

Week ending Saturday, February 13.

BIRTHS.

Births of Boys, 1264; Girls, 1224; Total, 2488.
Average of 10 corresponding years 1865-74, 2354·1.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	867	859	1726
Average of the ten years 1865-74	773·6	754·8	1528·4
Average corrected to increased population	...	...	1635
Deaths of people aged 80 and upwards	...	...	81

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric or Typhoid Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	...	4	1	10	...	3	...	4
North	751729	1	1	7	...	14	2	4	...	5
Central ...	334369	...	...	4	...	1	...	2	1	...
East	639111	...	1	11	1	20	1	1	1	1
South	967692	...	9	20	6	17	...	7	1	5
Total	3254260	1	11	46	8	62	3	17	3	15

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·932 in.
Mean temperature	34·5°
Highest point of thermometer	45·4°
Lowest point of thermometer	27·8°
Mean dew-point temperature	29·0°
General direction of wind	Variable.
Whole amount of rain in the week	0·33 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, February 13, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1876.*	Persons to an Acre. (1876.)	Births Registered during the week ending Feb. 13.	Deaths Registered during the week ending Feb. 13.	Temperature of Air (Fahr.) Highest during the Week.	Temperature of Air (Fahr.) Lowest during the Week.	Temperature of Air (Fahr.) Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	Rain Fall. In Centimetres.
London	3445160	45·7	2488	1726	45·4	27·8	34·5	1·39	0·33	0·84
Portsmouth ...	122632	27·3	86	46	...	23·2	...	...	1·01	2·57
Norwich	82812	11·1	55	43	43·0	25·0	32·6	0·34	0·34	0·86
Bristol	196186	44·1	139	102	51·7	27·3	37·7	3·17	1·01	2·57
Wolverhampton ...	71718	21·1	55	44	51·0	25·1	34·6	1·45	0·25	0·63
Birmingham ...	366325	43·6	282	219	52·2	25·0	35·4	1·83	0·35	0·89
Leicester	109830	34·3	89	57	49·0	27·2	35·1	1·73	0·34	0·86
Nottingham ...	92251	46·2	68	52	45·3	27·1	31·7	−0·17	0·39	0·99
Liverpool	516083	99·1	396	367	54·9	27·1	36·7	2·61	0·33	0·84
Manchester ...	356626	83·1	279	253	50·0	27·0	35·8	2·17	0·25	0·63
Salford	135720	26·3	106	78	49·4	25·1	34·9	1·61	0·31	0·79
Oldham	87437	18·7	81	42	...	...	...	...	...	...
Bradford	168305	23·3	122	87	43·2	27·8	33·7	0·95	0·39	0·99
Leeds	285118	13·2	224	145	43·0	28·0	33·5	0·84	0·58	1·47
Sheffield	267881	13·6	190	159	44·0	27·0	34·3	1·28	0·42	1·07
Hull	133932	36·8	82	77	44·0	28·0	34·2	1·22	0·29	0·74
Sunderland ...	106342	32·2	85	49	50·0	28·0	35·4	1·89	0·19	0·48
Newcastle-on-Tyne	137065	25·5	102	70	...	...	...	...	...	...
Edinburgh	211626	30·5	119	117	...	...	...	...	...	...
Glasgow	531765	88·1	374	369	51·0	28·6	37·6	3·12	1·38	3·51
Dublin	314666	31·3	202	192	55·6	31·7	43·7	6·50	0·27	0·69
Total of 21 Towns in United Kingdm	7739490	37·0	5624	4294	55·6	23·2	35·4	1·89	0·47	1·19

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·93 in. The highest was 30·08 in. on Monday at noon, and the lowest 29·70 in. on Friday afternoon.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

LECTURES ON INJURIES TO THE HEAD.

By JONATHAN HUTCHINSON, F.R.C.S.,
Senior Surgeon to the London Hospital; Surgeon to Moorfields Ophthalmic Hospital and the Hospital for Skin Diseases.

Lecture II.

OSTEITIS, NECROSIS, AND PYÆMIA.

Traumatic Inflammation of the Skull and Necrosis—Risk of Meningitis—Risk of Pyæmia—Successful Exfoliation of Large Fragments a rare event—Instances of it—Pyæmia often consequent on very Limited Injuries—Not always a Hospital Disease nor occurring only in those out of Health—Its Mode of Production—Do Fractures or Trephine Perforations increase the Risk of Pyæmia?—Process of Necrosis—Suppuration between Bone and Dura Mater—Pott's Puffy Tumour.

If in a case of laceration of the scalp the pericranium, as well as the other structures, be extensively stripped up, there is great risk that inflammation and death of a portion of bone will be the result. In most cases of scalp laceration, and even in many of those in which it is said that "the skull was laid bare," the pericranium is not torn up, and these cases are not attended by much danger. Occasionally, even where the bone is really denuded, the pericranium will re-adhere quickly, and the wound will heal without exfoliation of bone. If, however, at the end of a week there be any considerable surface of bone still bare, then exfoliation must be expected.

In some cases only a very thin lamella from the external surface is thrown off, but in others both tables are involved.

During the process of inflammation and death of a portion of the vault of the skull there is great danger in two different directions—first, that suppuration may occur between the bone and its internal periosteum, to be followed in its turn by inflammation of the arachnoid membrane; and secondly, that the gangrenous veins of the diploe of the dying fragment may become choked with coagula and the products of inflammation, which may extend to the sinuses and cause pyæmia.

The latter danger is the greater. The two occurrences not infrequently go together, and we have both arachnitis and pyæmia at the same time.

Inflammation of the bones of the skull is of far more consequence after injuries to the head than are any secondary effects likely to ensue in the brain itself. The old motto, *nullum vulnus capitis contemnendum*, had its origin undoubtedly in the dangers of which the bone is the medium, rather than in those to the brain itself. The risks are, indeed, those which are common to all compound fractures, increased in the case of the skull by the close proximity of the injured bone to a most important organ. It is probable, also, that the risks of pyæmic infection after compound fracture or contusion of the skull-bones is greater than it is in the instance of any other bone. The form of the bone, its diploe and large venous channels, and its two distinct membranes, internal and external, all tend to augment this risk. Its shape is likely to retard the formation of a line of demarcation, whilst the extent of contact between the dead and the living prior to the formation of such a line must be much greater in a flat bone than in a long one. At every point of this contact there is danger that a softened thrombus may pour its *débris* into the adjacent living vessel. Then, again, the possession of two membranes of nutrition, quite distinct from each other, must also tend to retard the process of local death, whilst rapidity in that process is most desirable for the safety of the living parts. In the necroses of long bones, as a rule, the periosteum is early stripped off by the suppuration beneath it, and with it are torn through the veins which would have returned the blood from the dying bone. The risk of pyæmic infection is thus much diminished. In the case of the skull-bones, however, the internal periosteum remains usually in close living connexion with the diseased part, and carries the blood back in its large venous channels. In this peculiarity we meet with a great source of danger. If the dura mater could be extensively detached at an early stage, in cases in which necrosis is about to occur, the risk of pyæmia would probably be much diminished. That it is possible for portions of the bones of the skull to die and be exfoliated, without the clots in their sinuses being absorbed into the system, is well proven. Cases of recovery are, I fear, however, the exception rather than the rule. I put aside all cases in which the necrosis begins from a constitutional cause—syphilis, for example—and in which it is a somewhat different process, and speak only of traumatic necrosis. My observation supplies me with but few instances of adult patients safely passing through the process of traumatic necrosis of any considerable portion of the skull, unless such portion were wholly detached from the living bone by lines of fracture. When the portion is so detached, of course there can be but little danger of extension of phlebitis.

A most interesting example of recovery after extensive denudation of bone was under our observation in Richmond ward about a year ago. A workman at Truman's brewery fell from a vat, and struck his head with such violence on the edge of a wall below that his scalp over the whole of the left side of the head was stripped up and hung loose over his ear. The flap was readjusted before he came into the hospital, but on the third day there was suppuration under it, and we were obliged to cut the sutures. The bone being bare, the flap could not adhere to it, and again slipped down. We now had a surface of bone larger than one's outspread hand, as clean as if it had been macerated. The coronal suture was exposed for four inches of its length. It was hopeless to attempt to readjust the flap, and the condition of things remained as I have described for several months. At length, slowly, the bone, which had looked dead—white or greyish—began to show a pink colour, then little islands of granulations were thrust through the outer table, and then lamellæ of the latter were exfoliated. When the man left the hospital the wound was rapidly closing by granulations. During the first month I was in daily expectation of hearing that the man had had a rigor, but he escaped. You will observe that the diploe of the bone was not involved in the necrosis; only the outer table died.

We have also had two other examples of the successful termination of this process during the last few years. The patients were children, and in each instance the fragment exfoliated was large, and included at parts the internal as well as the external table. In one of them, the child, who was under Mr. Curling's care, was twice very ill, as if with commencing arachnitis, during the process of exfoliation. Of cases in which osteitis led to fatal pyæmia I shall have to mention numerous instances.

Some most important questions suggest themselves as to how this osteitis is produced, and what circumstances favour its occurrence.

Several of my cases prove that the most typical pyæmia may be induced by the death of a very small area of bone, that death occurring under circumstances apparently the most favourable to exfoliation, without ill consequences. In several the wound was perfectly healthy, and the area of bone exposed exceedingly small at the time the symptoms of pyæmia set in. Indeed, the local processes, as seen externally, may progress most satisfactorily up to the very end of the case. In one case we could observe clearly the line at which separation of the dead fragment was first about to commence.

If the local damage may appear to be very slight, so also may the constitutional condition appear highly favourable. In several instances the patients were in excellent health up to within a day or two of the first rigor. There is not an iota of evidence in proof that any one special condition of the general health favours or prevents the gangrenous phlebitis of the sinuses of the diploe upon which pyæmia depends. Although frequently occurring in association with erysipelas, yet it has really no special connexion with that disease, for we constantly see patients do well after severe erysipelas around scalp wounds, and we constantly see pyæmia follow where no erysipelas has preceded it.

It may be suspected by some that residence in a hospital atmosphere favours the phlebitis alluded to by inducing some special form of cachexia. This is as yet wholly devoid of proof. It so happens that several of the best-marked cases in my series occurred in those who had been at home until the serious symptoms supervened, and were only brought to the hospital because pyæmia had set in. In several others the pyæmia showed itself at a time when there was nothing whatever in the patient's state to excite the suspicion that he was injured by the hospital air,—when, on the contrary, his wound and stomach alike seemed to be in perfect condition. I am therefore disposed to regard this formation of purulent thrombi in the diploe and their escape into the circulation

as a sort of accident, about the prevention of which we know little or nothing.

Of the different forms of injury to the skull-bones, which is the most likely to be followed by death of bone and its attendant risks? Mere contusion of the scalp, without laceration, and therefore without denudation of bone, very rarely is so. Nor, indeed, are lacerations of the scalp, provided the pericranium be not damaged. A tearing up of the pericranium, with contusion of the bone, is probably one of the most dangerous conditions. One case which I shall cite shows that mere laceration without contusion is sufficient, for the boy who was the subject of it had received no blow whatever, the scalp having been torn up by a dog's teeth. If the bone be contused and the pericranium damaged, are the risks of pyæmia made less or greater by the addition of a fracture or a trephine perforation? This is a most important practical question, and at the same time one most difficult to answer with confidence. My impression is that the existence of an open wound in the bone—such, for instance, as that made by the trephine,—diminishes rather than increases the risk of pyæmia, and this impression is supported by the results of cases which I shall cite. Out of a considerable number of cases of primary trephining, I have had but one which was followed by pyæmia.

The question as to whether the risk of *arachnitis* is increased by fracture or perforation is a different one, and must be answered separately.

As to theory in respect to the prevention of pyæmia, it is at any rate clear that a line of fracture will break across certain venous channels, and thus interfere with the complex inosculation, to the perfectness of which so much danger is attached. A torn vein would probably be closed at the seat of injury, and no longer be capable of holding a continuous coagulum, or of receiving softened material from it.

At any rate, we may, I think, come with confidence to this practical conclusion—That, in cases in which the propriety of primary trephining is debated, the surgeon may put wholly aside any fears as to increased risk of pyæmia after that procedure, and may adopt it or not, as the other circumstances of the case may indicate.

In the cases of simple death of the bone a period of from ten days to a fortnight usually elapses before there is any evidence of blood disturbance. This interval is probably occupied in the process of inflammation of the veins and extension of thrombi to the large sinuses.

The portion of bone in process of death becomes dry, very opaque, and white, with a tint of green. When cut by the trephine it yields no blood; the sawdust is at first quite dry, and when the diploe is entered becomes moistened, not with blood, but by a greenish sticky fluid, the result of the decomposing coagula. On examining the structure of such bone after removal by the saw, or in section after death, the diploe, instead of presenting its healthy pink aspect, is seen to be greenish or brownish. These appearances are well exhibited in the drawings which I show. The external and internal tables are dry and white, being more or less green, according to the age of the patient and the consequent thickness of the bone. Between the dura mater and the bone there is very commonly a little purulent lymph, not sufficient, however, to detach the membrane entirely or to interrupt the vessels which pass between them. The occurrence of a considerable circumscribed abscess in this position, as described by Pott, is certainly very exceptional. When it occurs it conduces to the patient's safety in some slight degree, by tearing through the veins passing inwards from the skull to the membrane.

Amongst the three or four distinct diseases, or injuries, with which Mr. Pott has for ever connected his name, is the condition known as "Pott's puffy tumour." This puffy tumour was produced by swelling of the scalp over a dying portion of skull, and it indicated the necessity for the use of the knife and trephine, in order to evacuate matter beneath the bone. We see at the present day plenty of cases of dying bone, with inflammation of the dura mater beneath; but, as a rule, we have neither the large collection of pus within nor the puffy tumour externally. Our cases are almost always those in which the scalp was lacerated and the bone laid bare in the first instance. In these it is clear that no puffy swelling could form. If we trephine we find, not a local collection of pus, but extensive inflammation of the dura mater, with only a thin layer of purulent lymph. I have seen plenty of these latter cases, but I have never seen a complete example of what Pott describes.

(To be continued.)

ABSTRACT OF A CLINICAL LECTURE ON THE

DIAGNOSIS OF TUMOURS OF THE BREAST.

DELIVERED AT GUY'S HOSPITAL ON FEBRUARY 3, 1875.

By THOMAS BRYANT, F.R.C.S.,
Surgeon to Guy's Hospital.

GENTLEMEN,—Six months ago I removed from a woman thirty-three years of age a cancerous tumour connected with the breast, which I mistook for an adenocele, or simple chronic mammary glandular tumour; and I then made up my mind to keep the case before me, and to make it the text for one of my future clinical lectures. Indeed, my intention had gone a little further than this, for I had designed to devote every clinical season one or more lectures to the consideration of my mistakes during the past year.

It is true that to dwell upon past errors is not so pleasant as to talk about our successes, but it is far more profitable; and as I may honestly admit that it has been from the errors I have committed and seen committed that some of my most useful lessons have been learnt, I would fain hope that the consideration of my mistakes will form no exception to this experience, and that good will come of it to you as well as to myself.

The mistake you saw me commit on Tuesday last (January 26) has led me, at once, to adopt the practice I had arranged to follow. I propose, therefore, to-day to consider with you the different points of the two cases in which I have fallen into error, at the same time drawing such useful lessons from their consideration as may present themselves.

You all remember the case, on which I operated last week.(a) The patient was a woman forty-seven years of age, married, but had had no children. An aunt on her mother's side died of cancer of the breast. Her health was good up to six months ago, when she observed a tumour of the right breast, about the size of a pigeon's egg. It caused very little inconvenience until about two months ago, when the breast became painful, and she consulted a surgeon, who prescribed an embrocation, which produced a rash, but failed to give relief. He therefore recommended her to consult a hospital surgeon. On admission we found a hard roundish tumour of the right breast, about the size of a small tennis-ball, freely movable over the pectoral muscle. The skin over the tumour was not adherent, the nipple was not retracted, neither were the axillary glands affected. The tumour could not be separated from the gland. When the tumour was moved the whole breast moved with it, indicating that the growth was in the substance of the gland-tissue. It thus appeared to be a chronic cancerous infiltration of the gland in an early stage. I therefore advised immediate removal of the breast, for all experience points to the wisdom of removing the entire breast as soon as it is discovered to be the seat of carcinoma. Accordingly, I excised the breast yesterday week, and was surprised to find that the tumour was a simple cyst.

Now, you may ask—Why did you not ascertain by puncturing whether the tumour was cystic or not before operating? My reply is that the age of the patient, the history, and the characters of the tumour pointed strongly to cancer. It clearly was not inflammatory; it had none of the characters of adenoma, and there was nothing about the growth to raise a suspicion of its being a cyst. If you ask me why I did not suspect that it might be a cyst, I would ask you to look at the preparation, and you will observe that the tumour has fully three-quarters of an inch of gland structure in front of it, so that it felt irregular, hard, and resistant, not smooth, round, and fluctuating, as cysts usually are. I am sorry that the possibility of its being a cyst did not cross my mind, for then a puncture would have corrected the diagnosis, and a less severe operation would have been performed.

Ought we, therefore, in all cases of tumour of the breast to make an exploratory puncture before operating? To this I must answer, decidedly not; for the practice of employing in all cases what may be called for in exceptional instances alone cannot be recommended. I must advise you, however, and very strongly, to puncture all doubtful tumours; for the surgeon is bound to employ every means at his command to arrive at a correct diagnosis. On the other hand, given a tumour with all the evidences of carcinoma,—fixedness to the

(a) Reported in the *Medical Times and Gazette* of January 30.

muscles beneath the gland, adherency of skin, retraction of nipple, and enlargement of the neighbouring lymphatic glands,—a puncture is wholly unnecessary. The same remarks apply to cases of adenoid tumours of the breast, in which their distinguishing features are so marked as to leave no room for doubt. If we exclude these two classes, there is an intermediate class of breast tumours which cannot be diagnosed with certainty unless a puncture be made. Looking at the case on which I operated on January 26, by the light of the knowledge gained after the event, I might say that this was one of the intermediate class of cases in which puncture would have been advisable, and in similar cases I shall in future do so before proceeding to operate. Although in this case we have removed the entire gland, we have done no great harm: it had long ceased to be active, and would never be required for its natural function, whilst at any time it might have become the seat of carcinoma. Our respected consulting surgeon, Mr. Cock, tells me that his experience of the clinical history of such cases enables him to give the opinion that, sooner or later, if allowed to remain, carcinoma will develope around the cyst-wall. You saw an illustration of this in that beautiful case on which Mr. Birkett operated in our theatre yesterday.(b) In this case there was not the slightest suspicion of cancer, and Mr. Birkett hoped to save the breast by dissecting out the cyst-wall. On reaching the posterior wall of the cyst, he found it to consist of a mass of carcinoma, which had also infiltrated the pectoral muscles, necessitating the removal of the entire gland.

I will now return to the other case of mistaken diagnosis to which I referred at the commencement of this lecture. The patient, a married woman, thirty-three years of age, was admitted to this hospital under my care on June 13, 1874, with a tumour about the size of a hen's egg, situated at the sternal margin of the mammary gland. She was a healthy-looking woman, and the mother of three children. The youngest was two years of age, and had been weaned only six months. The tumour began as a small lump six months before admission, and had been steadily increasing in size. It was of rounded outline, lobulated, freely movable over the subjacent tissues; as far as could be made out, it was unconnected with the substance of the gland, the skin and subcutaneous tissue were not implicated, the lymphatic glands were not affected, and it was free from pain. Here there were all the typical features of adenoma occurring in a woman whose breasts had been in an active condition up to the appearance of the tumour; and I, as well as those of my colleagues who examined the case, concluded that that was the nature of the growth. Whilst removing the tumour I suspected my diagnosis, and accordingly cut into it, hoping to see it encapsuled, and that it would readily turn out. I found, however, that it was undoubted carcinoma, and that it was connected by means of a neck with the substance of the gland itself: it was, in fact, cancer of an outlying lobe of the gland, and I was therefore obliged to remove the whole of the breast. Here, although the diagnosis was wrong, the practice was right. Had we formed a correct diagnosis at first, it would not, as in the other case, have prevented our removing the entire breast. The only error on my part was in pronouncing such a definite opinion as I did before operating.

And here let me remark that, although we are here as teachers, we do not profess to be infallible. When a case is presented to us we can only weigh the evidence derived from the facts before us, and state our opinion accordingly. It is not for us to hesitate or refuse to pronounce an opinion because the case happens to be a difficult or somewhat obscure one; and I would caution you, as young surgeons, not to be too mistrustful of your power of diagnosis, especially in breast cases. It is not enough to say that a tumour is a tumour. The clinical characters of the various classes of tumours are well known, and it is for you to weigh well all the facts derived from examination, the clinical history and the general condition of the patient, and then give your opinion as to the particular class among which the case under examination should be placed. Exceptional cases will now and then arise when you may be mistaken in your diagnosis, but you may derive some consolation from the reflection that the best among us make mistakes occasionally.

We will now for a few moments glance at some of the leading points in connexion with diseases of the breast, confining my remarks chiefly to those characteristics which aid us in arriving at a diagnosis. Excluding acute and inflammatory diseases, tumours of the breast may be divided into three classes:—

1. Cancers;
2. Adenomas;
3. Cysts (simple or complicated).

The first and second are of common occurrence; the third is an intermediate class, and are comparatively rare.

Cancer of the breast is a disease of adult life, and usually occurs at the age of forty and upwards. In looking over the notes of some 500 cases which have come under my notice, I was struck with the fact that cancer attacks unmarried women earlier in life than it does married women. The cause probably is that in the unmarried the breast ceases to be active at an earlier age than in the married. The period at which the breasts are most prone to the attack of cancer is that of functional decline.

Cancer attacks the breast in two forms—as a general infiltration and in the tuberous form. In the infiltrating variety the elements are thrown out around and between the ducts, separating the ducts from each other, and putting them as it were on the stretch. If the infiltration is at no great distance from the nipple, this tension of the ducts draws the nipple down, causing what is called retraction. The cancer-cells go on multiplying, and as the disease progresses the cancer disseminates its elements into all the tissues with which it comes in contact. In this particular it differs from all other morbid processes. In other growths the natural tissues are not invaded,—they are simply pushed on one side. If the tumour is very large, the skin may be stretched to the point of ulceration, yet it remains freely movable over the tumour, and so far healthy that if the tumour be enucleated the parts become restored to their normal condition. But it is otherwise in cancer. As the cancer elements increase they spread to the subcutaneous tissue, and finally the skin itself becomes infiltrated, and is no longer movable over the tumour. If the tumour be not removed, the skin after a time loses its vitality and ulcerates. So with the tissues beneath the gland; each in turn becomes infiltrated with the elements of cancer—cellular tissue, muscles, and bone. When this occurs there is a fixedness about the tumour: the breast can no longer be moved over the pectoral muscle. In these cases it is often doubtful whether a surgeon is justified in operating or not. But no case should be allowed to advance to this stage; the rule of surgery is to excise as soon as the diagnosis is made out. You often hear reference made to the axillary glands being affected in cancer. One of the characteristics of cancer is its tendency to spread to distant parts. How the elements spread is not in all cases clearly made out; but in the case of the lymphatic glands it is well ascertained that the cancer-cells are taken up by the lymphatic vessels, and are thus conveyed to the glands. In the same way cancer-cells may be propagated by means of the systemic circulation—a contingency which should make us always very guarded in our prognosis.

The tuberous form of cancer differs from the infiltrating in that it is more circumscribed. It has, however, the same clinical course, and will lead to the same results—infiltration of skin, muscles, etc.

Adenoma generally occurs in the breasts of young healthy women during their period of developmental perfection. Among married women it often occurs in those who are suckling. It usually grows slowly, and as it enlarges it pushes the breast aside; it never infiltrates it. It may grow to a great size, and stretch the skin even to the point of rupture; but the skin is never infiltrated, nor the tissues beneath. The tumour is encapsuled, and usually movable, and can be readily turned out. It is never associated with any secondary glandular enlargement. Although the breast is the most common seat of adenoma, the disease may appear in other parts.

I had intended to say a few words on cystic disease: but as I have already trespassed beyond the time usually allowed for these lectures I must reserve this part of the subject for another occasion. I only hope that what I have said, and the experience gained from these two cases, may be the means of preventing you making similar mistakes under like circumstances.

(b) Reported in the *Medical Times and Gazette*, February 6, p. 148.

YELLOW FEVER, it is reported, has broken out with great virulence in Rio de Janeiro, the deaths from it averaging twelve a day.

ORIGINAL COMMUNICATIONS.

CLINICAL STUDIES.

By Sir JOHN ROSE CORMACK, Chevalier of the Legion of Honour; F.R.S.E., M.D. Edin., M.D. Paris;
Fellow of the Royal Colleges of Physicians of London and Edinburgh; Physician to the Hertford British Hospital of Paris.

I. Congenital Syphilis.

The causes which determine the time and manner in which the congenite syphilitic poison first unequivocally shows itself—in the fœtus in utero or in the recently born infant, as the case may be—have not as yet been discovered. This statement is well illustrated by a case of twins mentioned by the late Dr. William Campbell, of Edinburgh. "The following case," he says, "would seem to prove that in a twin pregnancy the virus sometimes progresses very differently in each fœtus, though both are exposed to the same source of contamination. In the summer of 1823 a pupil of my class delivered a woman in Rose-street of twin males at the full time. The first was dead and much decomposed, while the second was living, plump, and apparently healthy. We were unable to account for this remarkable difference for some weeks, when the secret was revealed by the living infant exhibiting unequivocal evidences of syphilis; and shortly thereafter the female parent also became affected with tertiary symptoms."(a)

It is a remarkable fact that although the syphilitic taint of the fœtus, derived from either parent, is a common cause of abortion, the vast majority of syphilitic infants are nevertheless born in a state of apparent health. For weeks they may appear to be thriving well, when all at once the dreadful malady declares itself by indubitable manifestations. My own practice has afforded me numerous proofs of the accuracy of this statement, which is now generally accepted as a clinical fact; and as such it has been more or less known to practitioners for fifty or sixty years. In 1823 it was remarked by Cliet, in recording his experience of infantile disease in the wards devoted to foundlings at Lyons (to which from 16,000 to 17,000 children were then annually admitted), that syphilis "is one of the maladies which most commonly affect abandoned children, and is all the more appalling and dangerous that it exceedingly seldom shows itself at birth by evident signs."(b) Cristofori, Physician to the Foundling Hospital at Bologna, announced in 1844 that he had arrived at similar conclusions from his own observation. He said that in whatever way syphilis is communicated to an infant, it generally manifests itself between the ages of one and three months—in very few individuals later; and in an exceedingly small number of cases at an age under one month. Never once, he states, was a newly-born infant admitted with the disease unquestionably developed.(c) Abundant additional testimony to the same effect might easily be adduced, but this is not necessary, as most practitioners are now aware that it is unusual for syphilitic infants to bear the stamp of syphilis at birth.

Trousseau believes that eight months sometimes elapse before the congenital disease manifests itself with certainty in the infant. In the last edition (1868) of his "Lectures on Clinical Medicine" he says:—"In the infant, which in coming into the world bore no certain traces of venereal infection, pox rarely developes itself before the second week, and it is very exceptional for the disease to make its first appearance after the eighth month. Usually it appears about the fourteenth or fifteenth day after birth. These dates, which I gave so far back as 1847 in a memoir which I published conjointly with my friend Dr. Lasègue, have been confirmed by all subsequent observers, and are in harmony with those indicated by our predecessors, if we except cases of doubtful authenticity."(d)

Case.—On Friday, September 11, 1874, Mrs. B., an anæmic Englishwoman, brought her female infant to me at the ordinary consultations for out-patients given at the Hertford British Hospital. I may here state that I had known a good deal about this woman and her family during both sieges of Paris in 1870 and 1871, when they were great sufferers from want of food and fuel as well as from disease. Mr. and Mrs. B. passed then, as indeed they do now, as man and wife, but I have lately ascertained that Mrs. B. is not the wife of B., with whom she has lived for the last eight or ten years, he having a living wife from whom he separated more than ten years ago. He is a German by birth, and earns a precarious subsistence by teaching English and other languages. Mrs. B. teaches English, but only has occasional pupils. Privation, poverty, and disease are stamped on the countenances of both. I did not expect to meet with syphilis in the infant of this couple. Till the occurrence of the case now about to be described, I had always looked on them as respectable married persons, valiantly struggling for daily bread.

Mrs. B. states that at birth the patient, E. G. B., was perfectly free from eruption and snuffling, appearing, moreover, in all respects healthy, though of small size. She was born on June 26, 1874, so that when first presented to me at the hospital her age was three months less nine days. The small size of the infant confirmed the mother in her opinion that she had been confined a month before the natural term. On or about July 28—that is to say, fourteen or fifteen days before admission—without any previously recognisable impairment of health, the skin of the whole body became covered with a general redness, which the mother described as having been exactly similar to the eruption of scarlatina. In a few days the eruption became moist, and gradually lost its bright red colour. After this change had taken place in the aspect of the eruption, the skin became tense and leathery, looking as if deeply cracked in various places. Around the mouth and anus these appearances resembled cuts or hacks made with a knife. Some days before admission there were deep cracks between all the fingers and toes. The mother is positive that the right thumb has had three nails in succession, and that most of the nails of fingers and toes have been renewed once, at least, since birth. Large exfoliations of epidermis took place some days before admission from various parts of the body: those which came from the hands and feet bore a considerable resemblance to the tattered fragments of a glove.

The mother has a debilitated, cachectic appearance, and complains of having very little milk for the infant. She is free from eruption; and on examination I could detect no trace of any syphilitic affection in the organs of generation or elsewhere. She says she does not know of B. having had venereal disease in any form since the commencement of her cohabitation with him, and she has no suspicion of his having been affected by any disorder of a syphilitic character. She states that he has at present a skin disease, and is suffering so much from acute rheumatism as to be unable to leave home, otherwise she would ask him to attend at the hospital to be examined by me, in consequence of my having said that the disease of the infant was syphilis derived from one or other of the parents. She was attended in her confinement by a French midwife, whom she promises to request to call on me. The mother was accompanied by another female child, aged two years and a half, which (with a view to prevent conception) she suckled till eight months ago. Neither during the prolonged lactation nor since nine months prior to its commencement has she menstruated. Lactation so prolonged might fully account for the anæmic, cachectic condition of the mother, without a syphilitic cause. The little girl of two years and a half has no eruption, nor any appearance of unwholesomeness or bad health except conspicuous anæmia, imputed by the mother to imperfect alimentation.

State of the Infant on Admission.—The respiration is oppressed, though to a less degree, the mother says, than yesterday and three previous days. There is much snuffling. The nostrils are lined, and nearly plugged up by a pseudo-membranous exudation; they yield a slight amount of thick sanguinolent mucosity. There is a somewhat similar, but slightly less consistent discharge from the eyelids. Aphthous vegetations cover the tongue and the interior of the mouth. The skin around the mouth, anus, and vulva has a dirty-brown leathery appearance, and is deeply cracked. The skin of the cheeks is cracked and puckered, and in colour resembles the lees of red wine. The hands and feet are covered with a thick, puckered, leathery envelope, which is evidently formed of exfoliated epidermis and a subjacent exudative layer. Cracking and puckering result from the contraction of the layer of exudation. Between all the fingers and between all the toes there are deep red fissures in the

(a) William Campbell, "Illustrations of Congenite Syphilis," in *Northern Journal of Medicine*, vol. i., p. 8. Edinburgh, 1874.
(b) Cliet, Seconde Partie du Compte-Rendu Médico-Chirurgical des Observations Recueillées à l'Hôpital Général de la Charité de Lyon. Lyon, 1823.
(c) Cristofori. *Gazzetta Medica di Milano*, 1844.
(d) Trousseau, "Lectures on Clinical Medicine," vol. iv., p. 331, of the English edition of the New Sydenham Society. London, 1871.

diseased skin. On the arms, legs, thighs, and lower part of the abdomen there are large shreds of exfoliation similar to that which has just been described; pieces varying in size and shape—several of which are about two inches square—are lying almost detached on the surface of the infant. No enlarged glands can be detected in the neck, axilla, or groin.

The infant sucks so feebly as to require to be fed with a spoon. It does not seem to be in pain, and is neither restless nor fretful. It has an almost narcotised appearance. According to the mother's report, the urine is exceedingly scanty, and the bowels are very constipated. On opening up the infant's napkin, I observed that it was not wet with urine, but was covered with an abundant yellow alvine discharge of normal appearance. The mother having had the nature of the case explained to her, expressed a strong desire to wean the infant, and leave it for treatment at the hospital. It was forthwith received. The natural character of the fæces is the only circumstance which justifies even a slight hope that recovery is possible.

1. The aliment to consist of an abundant supply of the Swiss condensed milk diluted with seven parts of water.

2. To have a tepid bran-bath, the time in the bath to be three minutes. Another similar bath to be given at an interval of about twelve hours. After each bath the skin to be carefully dried by wrapping the entire body in an old very soft napkin; the ulcerated, cracked, and chapped surfaces to be afterwards gently syringed with tepid water, and then covered with a soft rag soaked in black wash.

3. To have the tongue, mouth, and nostrils kept clean and moist by the frequent application of the glycerat of borax.

4. To have an eighth of a grain of hydrargyrum cum cretâ every four hours until one grain and a half has been taken.

Saturday, September 12, 11 a.m.—The treatment ordered yesterday has been carried out, except that the quantity of milk administered has not been quite sufficient. There has been great fretfulness and crying. The countenance is less pinched, less like that of a narcotised infant, and less unpleasant. On both occasions when placed in the tepid bath the infant is reported to have ceased to cry, and to have seemed much soothed. The bowels have been moderately moved twice since admission; and on both occasions the dejections are said to have been yellowish in colour. There is no evidence of any urine having been passed since admission. Epidermic exfoliation is proceeding with extraordinary activity. Since admission two finger-nails have been cast, and likewise the skin of several fingers and toes in sheath-like shapes.

The treatment prescribed yesterday to be continued.

Sunday, September 13, 4 p.m.—The treatment, as directed, has been carried out. The infant is almost unable to swallow; a small quantity only of the milk can be got down. Since yesterday there has been only one scanty stool; it was of a greenish colour. There is no evidence of any urine having been passed. The infant is feebler than yesterday, but its appearance has not deteriorated. Being accompanied in my visit to the hospital this afternoon by my friends Dr. Robert Hunter Semple, of London, and Dr. Arthur Mitchell, of Edinburgh, I submitted the patient and the history of the case to their judgment. They agreed with me in regarding the case as one of constitutional congenital syphilis of typical character, likely to terminate fatally in a day or two.

The alimentation to be continued, the Swiss milk being mixed with beef-tea in place of water. The baths and grey powder to be discontinued.

Monday, September 4, 10 a.m.—The infant has just died as I entered the ward. Since I saw it at 4 p.m. yesterday there has been another scanty greenish stool, but, so far as can be ascertained, not the smallest quantity of urine has been passed.

Autopsy (Tuesday, September 15, 11 a.m., being twenty-five hours after death).—In conducting the anatomical examination of the body I was assisted by Dr. Semple and Mr. J. R. Baillie Cormack. There was no trace of decomposition of any of the tissues. It is, however, noteworthy that the places from which there had been much exfoliation of cuticle presented an aspect which may be called that of pseudo-putrescence. The weight of the body was two and a half kilogrammes, which is about five pounds six ounces English. On laying open the cavities of the chest and abdomen, as well as in examining other parts, it was found that the body was fairly well nourished and was naturally supplied with fat. The encephalon weighed 380 grammes; the only morbid appearance which it presented was a gummy exudation in patches under the pia mater. The cerebrum, cerebellum, and medulla oblongata were anæmic. The spinal cord was minutely examined, after having been carefully removed entire within its membranes; nothing morbid was detected. The liver weighed 181 grammes. On the surface of the right lobe there were some yellow patches, but on cutting into the right lobe very little evidence of disease was apparent. The left lobe was in a very different state. On its upper surface there was a yellowish sub-peritoneal deposit, which extended down into the substance of the organ. In the situations where this yellowish sub-peritoneal deposit was most abundant there were conspicuous patches of thickened peritoneum. Although the yellowish cacoplastic deposit was most conspicuous on the upper surface of the left lobe, it more or less pervaded the whole of that lobe. The lungs weighed sixty-seven grammes; both were emphysematous, except posteriorly, where they were to some extent engorged with blood. The heart—when emptied of the white, tough coagula which it contained—weighed twenty grammes. Its external surface was studded with small, white, slightly elevated patches. Under the endocardium, particularly at and near the valves, there was a considerable amount of greyish gummy deposit. The kidneys weighed thirty-two grammes, the weight of each being exactly sixteen grammes. The cortical substance was infiltrated by yellowish deposit similar in appearance to that observed in the liver; it dipped down into the tubular portion. Both kidneys were equally and profoundly involved in this morbid state.

(*To be continued.*)

A NOTE OF

TWO CASES OF FOREIGN BODIES IN THE AIR-PASSAGES, WITH SUGGESTIONS.

By THOMAS ANNANDALE, F.R.S.E.,
Surgeon to the Edinburgh Infirmary, and Lecturer on Clinical Surgery.

Case 1.—T. D., aged eleven months, was brought to me on August 18, 1872. The patient's father informed me that early the same morning the child seized part of a cooked herring which was lying on the breakfast-table, and, before he could be prevented, conveyed a portion of the backbone of the fish to his mouth. Immediately after, the child's breathing was observed to be affected, and he was seized with a fit of coughing. On looking into the child's mouth a piece of bone was seen to be lodged in the throat, but the father could not succeed in laying hold of it. The medical attendant of the family was called in, and he advised that the patient should be at once sent to me.

An examination of the interior of the throat with the finger at once detected a sharp foreign body projecting for a short distance through the glottis. The child's breathing was distinctly laryngeal, and was accompanied with a constant cough. A pair of forceps being introduced by the mouth, readily grasped the protruding portion of the body, but the latter was found to be too firmly fixed in the larynx to be removed in this way without a risk of seriously tearing the delicate textures in the interior of this organ. Drawing upon the body with the forceps seemed only to entangle it more completely; and this was explained by the nature of the body, and by the fact that its sharp processes were directed upwards—as shown in the woodcut, which represents the bone of natural size, and in the position in which it was fixed in the larynx. Having failed to remove the body by the mouth, I at once gave the patient chloroform, and opened the trachea immediately below the larynx. A pair of fine curved forceps was then passed through the tracheal wound, and the bone seized from below, but it still remained fixed and entangled in the larynx. I now introduced the forefinger of my left hand into the mouth, and placed its tip on the glottis, so as to gently press down the body, and disentangle it from above. By thus assisting the forceps, again passed through the wound in the trachea, the bone was drawn out from below, whole, and without any injury to the surrounding textures. The removal of the bone gave complete relief to the patient, who continued to progress most favourably until the afternoon of the following day, when symptoms of exhaustion occurred, and death ensued the same evening somewhat unexpectedly. No post-mortem was allowed.

Case 2.—C. J., aged seven, was admitted into my wards on July 22, 1873. Five days before admission she was seen to

swallow a glass bead when playing with some companions. A violent fit of coughing followed the accident, and she became quite "black in the face," according to the account of those who saw her at the time. Since then her breathing had been natural, except that she was every now and then seized with attacks of coughing and dyspnœa. She was able to sleep fairly, but the attacks referred to would sometimes awaken her.

On admission the child's breathing was at times regular and natural, but at other times she suffered from the cough and dyspnœa. The little patient gave a most intelligent description of the presence of the body, and told us that she felt it sometimes moving up and down the trachea and striking against the larynx. During the intervals of rest the respiration in the right lung was almost entirely absent; and from this fact it was diagnosed that the body, although moving its position at times, had passed into and lodged in the right bronchus. Chloroform having been given, I made a free opening into the trachea, but failed with forceps to find or remove the body. The patient was then held in the inverted position and well shaken, the edges of the tracheal wound being kept open by means of blunt hooks, but the body still remained unseen and unremoved. This proceeding was tried twice without success, and, as I did not wish to do too much in case of injuring the child, I desisted from further interference until the next day, when the same plan was employed, but without administering chloroform. No success resulted, and I therefore tried the following method, which proved immediately successful. I allowed the patient to take a full inspiration, and then completely closed the trachea below the wound by inserting the flat handle of a knife into the wound and turning it round so that it lay across the canal and prevented any air entering the lungs. In a few seconds there was a violent attempt at expiration, and the bead, dislodged from the bronchus, rushed up the trachea, and struck against the handle of the knife. The displacement of the body was so unexpected that before I could seize it it had again passed down into the bronchus; but on repeating the manœuvre the body again rushed up the trachea, and, being prepared for it, I succeeded in catching and removing it. The bead was a glass one, about the size of a large pea. No tube was introduced, but the edges of the wound in the skin were brought together by a few sutures.

On July 29 the stitches were removed, and the patient left the hospital quite well a few days after.

Remarks.—My principal reason for reporting these cases is to direct attention to the two little points of treatment which I believe assisted me much in the removal of the foreign bodies, and which therefore may be useful as suggestions to others who may require to treat similar accidents. In Case 1 the introduction of a finger by the mouth after the trachea had been opened, so as to steady the larynx and at the same time gently press down the foreign body and assist in directing the points of the forceps passed through the tracheal wound, was found to aid very much the safe removal of the sharp and irregular body which had become fixed in the larynx. In Case 2 the dislodgment and successful removal of the body which immediately followed the temporary closure of the tracheal canal, after inversion and the other usual means had more than once failed, is a circumstance of interest, and in my opinion is worthy of note.

Sir Charles Lyell, Bart.—A petition to the Dean of Westminster has been sent, requesting that the remains of the great geologist may be interred in the Abbey.

Sir William Fergusson, Bart.—The full-length portrait of this distinguished surgeon, painted by Rudolf Lehmann, and recently exhibited in the Royal Academy, was quietly and unostentatiously presented, on the part of the many subscribers, by Surgeon-Major Logie to the Council of the Royal College of Surgeons, at a meeting of that body on Thursday last. It is a capital likeness of the distinguished original, who is represented lecturing to his admiring class on his well-known subject of conservative surgery, judging from the accessories, most artistically displayed, without any of the theatrical effect too often introduced. There is simply the diagram-board, with dotted lines showing the operation for removal of the scapula, with sponge and chalk. On the opposite side are two preparations of the scapula and knee-joint, and chloroform-bottles on a shelf. The engraving from it, we understand, is finished.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

LONDON HOSPITAL.

CASES OF FRACTURE OF THE SPINE, WITH REMARKS.

(Under the care of Mr. JONATHAN HUTCHINSON, Senior Surgeon to the Hospital.)

A German, named H., aged fifty, had been knocked down by a bale of wool, which fell and caught him on the back of the head. He suffered but slight symptoms of stunning at the time of the accident, and was able immediately afterwards to appreciate the fact that he could not use his lower extremities. He was carried into the hospital. Mr. Hutchinson saw him soon after his admission; he complained of some pain in the back of his neck and in his arms, but it was not very severe. He could feel in all parts of the skin of his upper extremities, with the exception of those supplied by the ulnar nerve on each side, which were numb, but not to the extent of absolute loss of sensation. The defect was very definite on each side, and the patient himself drew attention to it. His lower extremities were almost powerless; he could just manage very slowly to draw them up a little, but he could accomplish no rapid movements, and the defect seemed to be equal in all muscles. The integument of his chest, abdomen, and lower extremities was everywhere extremely defective as regards sensation, but nowhere positively devoid of it. No material assistance as regards diagnosis could be gained by an examination of his neck, beyond the fact that he complained of pain on pressure over the lower part. The question as to whether he had or had not sustained contusion of his spinal cord became one not only of great importance but of some difficulty.

In his clinic Mr. Hutchinson remarked—You will see that I speak of *contusion* of the spinal cord; and by using this expression I wish to rivet your attention upon the one lesion which would have been important. Of course, if the spinal cord were contused, a displacement of the vertebræ—in part probably a fracture, in part a true dislocation—must have occurred. So far, however, as fracture and dislocation of the vertebræ are in themselves concerned, they are of no importance to the patient's chance of recovery; all depends upon the degree of contusion of the spinal cord. It by no means follows that the cord is contused in all cases of displacement, and the degree may vary very much in individual instances. In the present case I expressed to you a strong opinion that although the paraplegia was incomplete, the cord must be damaged, and I did so because the defect in sensation and motion was very definite, and was equally marked in all parts. I have but a feeble faith in the doctrine of spinal concussion as adequate to the explanation of such a symptom, and we note especially that it had been present from the moment the man was knocked down. We had yet two important symptoms which might help us: the state of his iris as regards paralysis, and the state of his respiration.

On examining his pupils we found that they contracted well on exposure to light, and that when shaded they also dilated freely. This latter fact proved that his cervical sympathetic, which, as you know, has its principal roots in the lower cervical region, was not paralysed. The contusion, if contusion there were, must then be below its origin. Next we had his chest and abdomen fully exposed, and looked at the state of his respiration, with the result of finding that diaphragmatic breathing was present, though in an ill-marked degree. When this symptom is well marked it is a most definite and conclusive one: in inspiration the abdomen fills, and the chest, instead of filling too, as it ought to do, sinks; whilst in expiration, when the abdomen sinks the chest rises with a sudden short *thud*, which is easily appreciated by the eye.

In H.'s case the thorax scarcely moved at all in either act; but I think I succeeded in making it evident to all who were near his bed that what movements did occur were in antagonism to the diaphragm. The imperfection of this symptom fitted well with the imperfection of the paraplegia, and both seemed to imply that the contusion had not effected complete disorganisation of the spinal cord. We acted on the belief that contusion had occurred, and ordered that he should be placed at once on a water-bed.

During the next few days the symptoms remained much the same. He complained much of cold and numbness in the little and ring fingers of both hands, "so bad that at times he could scarcely bear it." We found him constantly with his hands and forearms in stockings,—and this he did, he said, because the little fingers and adjacent parts were so painfully cold. He had retention of urine and fæces, and became less and less able to move his legs. His nights were restless, and he had no appetite, but was very thirsty. Ten days after the accident he seemed a little better, could again move his legs about, and the cramp and numbness of his little fingers were less; his temperature was 100·3°. It had been my intention to abstain from the use of the catheter, and to allow his bladder to empty itself. In most cases of spinal paraplegia the contractility of the bladder is sufficient to expel its contents before any dangerous degree of distension has been reached, and within a few days of the accident this faculty usually increases to the extent of keeping the viscus constantly empty. In the present case this result did not follow, perhaps in consequence of the sphincter being but imperfectly paralysed. Repeatedly we found his bladder very full, and he was himself slightly conscious of the desire and inability to micturate. If manual pressure were made over the bladder, the urine escaped at once in good stream: for some days we had it pressed out instead of using an instrument; but at length, finding that neither the nurses nor himself managed this well, I thought it safest to employ the catheter. My fear, of course, was that the backward pressure of the urine might distend his ureters and prejudice his kidneys. We may note that the urine had remained clear, was not ammoniacal, and had not caused cystitis.

On November 16, a fortnight after the accident, the notes state that he slept very badly, complained much of constant desire to micturate, and that his symptoms as regards the paraplegia were much the same; he could still move his legs a little. On November 21, eighteen days after the accident, he died.

Relying upon the fact that four-fifths of the brachial plexus, together with the cervical sympathetic, had escaped paralysis, I had given the diagnosis that the displacement must be at the last cervical vertebra. It has not occurred to me ever before to see the ulnar nerves so definitely affected, whilst the rest of the arms had escaped; and the fact is of interest as proving that their roots come out through the first dorsal foramina. As regards the possibility of there being any permanent compression of the cord, I had explained to you repeatedly that I did not in the least expect to find it, and further that I did not expect to find any blood in the theca, or any signs of damage to the membranes themselves. I have dissected a great many specimens of displacement of the vertebræ with contusion of the cord, and the conditions are very closely similar in almost all: nothing is more rare than to find any degree of permanent compression; the bones almost always are replaced at the time of the accident sufficiently to leave plenty of room in the vertebral canal; nor does the fracture lacerate the theca or cause any hæmorrhage within it. Over and over again I have laid bare the spinal cord, and found it clean, plump, and rounded, with nothing whatever to imply that it had been in the least damaged until you cut into it: then in the centre of the cord itself you find a clot of blood, surrounded by pulpy or almost fluid nerve-matter. The clot may extend upwards and downwards to an indefinite extent; usually it is about three-quarters of an inch in length, but I have seen it as much as three inches. I by no means deny that hæmorrhage into the theca may now and then occur, or that in fractures from blows it is possible that portions of the laminæ may be permanently depressed. What I assert is, that neither of these lesions are met with in the ordinary spine fractures which so often come under our care in the hospital, and which are almost invariably the result of indirect violence, *i.e.*, of falls with the spinal column doubled up.

The post-mortem in this case was in close conformity with previous experience. Excepting that the man seemed a little round-shouldered there was no deformity. After removal of the viscera of the neck and chest, nothing more than a little prominence of the body of the seventh cervical vertebra could be noticed; the anterior common ligament was not torn, and even on using considerable force I could not produce any abnormal motion. To tell the truth, I half doubted the correctness of my diagnosis. Mr. Dobbie was good enough to take the specimen out, and subsequently, with the assistance of Mr. James Adams, to make a very careful dissection of it. The seventh cervical had slipped a quarter of an inch forwards, and the lower part of its body had been crushed off. The cord and its membranes showed externally no signs of damage. In the substance of the cord itself were a group of small hæmorrhages marking the place at which it had been crushed. There was, however, remarkably little evidence of disorganisation, and scarcely any softening.

As regards the immediate cause of death, the post-mortem showed that the lungs, in addition to being very emphysematous, were much congested. The right side of the heart was dilated and filled with clot; the left empty. The liver and kidneys were extremely congested. The valves of the left side of the heart were extensively atheromatous. These conditions probably all helped. The previously existing emphysema would tend to make it more than usually difficult to carry on respiration after paralysis of the chest.

In contrast with the preceding case, in which the disorganisation of the injured part of the cord was not great, and the paralysis was incomplete, Mr. Hutchinson mentioned the particulars of another and much more rapidly fatal one.

Emma P., aged thirty-three, met with her accident at 4 p.m. on March 21. While going downstairs she fell a distance of about ten feet on to the top of her head. When found she was insensible. On regaining consciousness she found that she had neither feeling nor power of motion in the lower extremities. She was brought to the hospital about three hours after the accident. She then had complete paralysis of motion, and loss of sensation of the lower extremities and of the greater part of the trunk (sensation being retained only in the skin of the upper part of the chest, supplied by the cervical plexus). She had also lost sensation and power of motion in the greater part of the upper extremities. Breathing was performed entirely by the diaphragm, the chest-walls sinking with every inspiration and rising with expiration. On carefully examining the paralysed parts, it was found that in the legs she could not feel the prick of a pin; when the soles of the feet were tickled, however, the toes became flexed. In the upper extremities she had lost all sensation in the parts supplied by the ulnar nerves, but in other parts the feeling was not impaired. The paralysis of motor nerves was, however, much more extensive, for she had lost the power of using all the muscles of the upper extremities, excepting the biceps. Thus she was quite unable to extend her forearms or to move her hands in any direction, but she could flex the forearms. She easily drew the forearms across the chest, but repeatedly asked bystanders to draw them down again. The pupils were small, and dilated but very slightly when shaded; but when shaded, and then suddenly exposed to a good light, they contracted actively. She complained of acute pain in the spine over the sixth and seventh cervical vertebræ. The pulse was slow, 65, and full; respirations 18. In the evening some morphia was given subcutaneously, but she passed a bad night.

The next morning it was found that she had retention of urine and fæces, although both bladder and rectum were evacuated when pressure was made upon the abdomen. She had at this time lost the slight reflex irritability of the muscles of the lower extremities, and the loss of sensation in the upper extremities had extended as high as the axillæ. A tract of skin on the front of the arm and forearm retained sensation. Temperature 102°; respirations 20; pulse 84. In the evening the breathing had become embarrassed, and the lips and finger-nails were becoming dusky. It was noticed that the pulse in the tibial arteries was very full and strong, and that the skin of the paralysed parts was very hot. It was also noted at this time that there was a hyperæsthetic line of skin at the upper boundary of the paralysed skin of the chest. Temperature 102°; respirations 28; pulse 96.

The next day she passed urine involuntarily. Her temperature kept at about the same height. In the evening her breathing had become much more embarrassed, and was accompanied by much rattling noise as if from mucus. She became gradually comatose, and died at five o'clock a.m. on the 24th—about sixty hours after the accident.

At the post-mortem the seat of injury was found to be between the fifth and sixth cervical vertebræ. There was fracture of the articular processes. There was no rupture of either anterior or posterior common ligaments, and no perceptible displacement of the bodies of the vertebræ. There was blood in the arachnoid cavity, but not enough to compress the cord. The cord opposite the fifth and sixth vertebræ felt

decidedly soft. On cutting it longitudinally, blood was found in the central part of the cord; this blood extended for a distance of an inch and a half in the substance of the organ.

ST. BARTHOLOMEW'S HOSPITAL.

CASE OF CROUP—DIAGNOSIS DIFFICULT—URGENT DYSPNŒA—TRACHEOTOMY—TEMPORARY RELIEF—RETURN OF DYSPNŒA—REMOVAL OF FALSE MEMBRANE FROM TRACHEA—RECOVERY.

(Under the care of Dr. BLACK.)

R. C., aged fourteen years, was admitted to Matthew ward on December 10, 1874. The patient, who is a well-nourished, healthy-looking boy, of good family history, was at work up to the night of December 6. The next morning he was attacked with slight hoarseness, which became rapidly worse, so that in a few hours he could scarcely speak. He says that his throat "felt stopped up," his face became puffed and congested, especially on coughing. On the 8th he lost his appetite, and his throat felt sore and swollen.

State on Admission.—Patient has great difficulty of breathing; says that the impediment seems to be at the back of the throat. On examination nothing unnatural can be seen. In front the resonance of chest is good; behind it is impaired. Occasional sonorous râles to be heard at the back; in front the breath-sounds are normal. Respirations 20 per minute; heart-sounds normal; pulse 104, small and feeble; temperature 100·1°.

December 10.—Evening: During the day he has had several attacks of dyspnœa, some of which were so severe that it was thought tracheotomy would be necessary. Linseed-meal poultices were ordered to the chest, and haustus ammoniæ acetatis internally every four hours.

11th.—Breathing much easier; is now scarcely stridulous. Respirations 24; pulse 108; temperature, morning 97·7°, evening 100·1°.

12th.—Had a good night. Breathing quieter, but still difficult. Tongue dry and furred. To continue poultices and draught, and to be placed in a tent-bed.

13th.—Early this morning patient was attacked with sudden dyspnœa, which lasted some few minutes. This was followed by three other attacks in quick succession, each worse than the preceding. As death seemed imminent it was decided to perform tracheotomy. Mr. Sheehy having placed the patient under chloroform—which had the effect of relieving the breathing,—the operation was performed by Mr. Shuter, one of the house-surgeons. After the operation the patient breathed well through the tube, and he slept at intervals. Pulse immediately after operation 114; temperature 104·5°; respirations 30. Shortly after the operation he expectorated some lumps of thick sputum. Poultices were ordered to be continued over the chest, and renewed every two hours.

14th.—About four o'clock in the morning the patient was seized with another severe attack of dyspnœa. On Mr. Shuter arriving he removed the tube from the trachea, and found it quite free. Tube replaced. Dyspnœa continued for some time, the patient fighting and struggling for his breath in a distressing manner. After about half an hour he became drowsy, and fell back on the bed quite quiet. It now appeared certain that the patient would die from carbonic acid poisoning. A polypus forceps was procured, and the trachea explored. After two or three unsuccessful attempts to dislodge anything Mr. Shuter succeeded in grasping a lump of false membrane about the size of the tip of the little finger. Up to this time the cause of the dyspnœa was unknown, as there was no positive evidence to indicate that the case was one of croup. As soon as the membrane was removed the breathing improved, although the patient remained in an almost torpid state for nearly half an hour. During the day he coughed up a quantity of false membrane. Pulse 132; temperature 100·6°; respirations 42.

15th.—Another attack of dyspnœa about 2 a.m., but not of so alarming a character.

17th.—Improving; takes plenty of nourishment; breathing quiet.

18th.—Can now breathe well through the mouth and nose. Tube removed from trachea.

January 4, 1875.—Continues to improve; got up for the first time since the operation.

22nd.—Patient discharged, and sent to the Convalescent Hospital at Highgate. When discharged the wound was quite healed, and only a little hoarseness of voice remained.

Remarks.—It will be noticed that the patient became worse at night, the attacks of dyspnœa being very distressing. This agrees with what is usually observed in these cases, but, as far as could be ascertained from physical examination, there was nothing to account for the exacerbations. Here, however, physiology comes to our assistance; for it has been ascertained that during the twelve hours from six in the morning to six in the evening a healthy man absorbs only 230 grammes of oxygen, whilst in the twelve hours from six in the evening to six in the morning he absorbs 471 grammes—just twice the quantity. Hence it may be inferred that the increased dyspnœa at night is in some measure due to the increased demand for oxygen.

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Medical Times and Gazette.

SATURDAY, FEBRUARY 27, 1875.

THE SALE OF FOOD AND DRUGS ACT, 1875.

It is generally admitted that considerable benefit has been derived from the operation of the Act for the Prevention of Food Adulteration passed in 1872. Public interest has therefore been excited with regard to a measure which professes to be the result of experience gained from careful observation of the defects in the former Act, which defects a Parliamentary Committee was appointed to accurately ascertain, consider, and report upon; and from the recommendations and report of that Committee the instructions were framed upon which the new Bill has been drafted. The labours of the Committee occupied so much time, that their report was not forthcoming until it was too late for legislation on the subject last session. The Government have consequently had ample opportunity for carefully considering all the details of their measure; and it is with no little regret and disappointment that we feel obliged to say that this Bill, introduced as a better provision for the sale of food and drugs in a pure state, appears calculated rather to defeat than to promote the objects which it pretends to have in view. It has often been a just matter for complaint that a Bill sound enough when first introduced into Parliament becomes so mutilated

or transformed in passing through committee as to be scarcely recognisable by its framers. In the case of the Bill under discussion our only hope is that it may undergo similar maltreatment before it becomes the law of the land. We agree with the observations made by Dr. Lyon Playfair, in the debate on the second reading of the Bill, that "unless considerable amendments of its provisions are made in committee the present Bill will relieve traders from what they considered hardships, at the expense of the public."

The Bill, which is intended to supersede the Adulteration Act at present in force, is to be cited as "The Sale of Food and Drugs Act, 1875." The term "adulteration" is discarded altogether. The reason for rejecting the word adulteration is that it does not cover all the ground which the Act should occupy. Adulteration means addition, and not subtraction, and is not in strictness applicable, for instance, to the practice of skimming milk; and it is desirable that practices of this description should come under the operation of the Act. If, then, the term adulteration were preserved, it could only be by making a technical term of it—by depriving the word of all intrinsic meaning, and giving to it an arbitrary and absolutely conventional value. For the purpose in hand the term is superfluous, and is discarded accordingly.

The ostensible object of this Bill, as also of the former Act, is to prevent the sale of poisoned provisions of all kinds, and to prevent the sale of food, drink, and drugs under wrong designations. These practices are declared to be offences, and rendered punishable by law. To poison is more serious than to cheat; so if your baker puts sulphate of copper into your bread, he is to be made liable to a fine of £50, and to be imprisoned with hard labour if he persists in this use of copper. If your milkman sells you milk and water, he may be fined £20; and if he sells skimmed milk he risks a fine of £10, and more serious consequences if he persists in his evil course. Such are the broad provisions of the Bill, which is, however, replete with exceptions and qualifying clauses. A remarkable feature in it is the penalty which attaches to knowledge. The word "knowingly" occurs seven times in the first nine sections. The baker incurs his penalty if he "knowingly" lets copper get into the bread; the milkman if the water be "knowingly" put to the milk, or the cream "knowingly" taken off it. After reading this clause we concur in Dr. Playfair's remark, "that the Bill might be an Act for prohibiting tradesmen from acquiring a knowledge of their business." But the retailer who is "knowing" in his business, and who wishes to conduct it on what are sometimes styled "sound commercial principles," has not been forgotten or left without protection. When the grocer sells you any article of food or any drug which is not of the nature, substance, and quality demanded by you, and when you have taken proceedings against him and proved your case, he will escape the penalty of £10 or £20 if he can show that the mixture with some extraneous matter is unavoidable. Failing in this plea, the Bill invites him to declare the extraneous matter to be useful for rendering the article portable or for preserving it. And he has a further option of maintaining that the extraneous matter is a harmless ingredient, used "for the purpose of rendering the article palatable, or of improving its appearance." Should he fail to excuse himself on any of these grounds, the Bill gives him yet another chance: he may plead "the usage of trade," which, as Dr. Playfair remarked, has already sanctioned the mixing of milk with 25 per cent. of water, the aluming of bread, and the strengthening of vinegar with sulphuric acid. Section 25, to which Mr. Selater-Booth says he has given very anxious consideration, affords another opportunity to the retail tradesman to claim exemption from penalty, on the ground that he holds a "warranty" from the wholesale dealer. This section seems to be specially designed for the further relief of the retailer (already only too well protected by the previous exceptions),—who, if sufficiently ignorant, may poison or cheat his customers to any extent, and yet be held harmless, and if knowing and intelligent, is fairly coaxed into adulteration, by being invited to cast all his burden upon the wholesale dealer who shelters him with his warranty. And, by a singular omission, the Bill does not contain any special provision to enable the poisoned and cheated customer to reach the wholesale delinquent. Another strange defect which has been pointed out in the Bill is, that while certain public officers are empowered to buy samples of either food or drugs, and, if these are found to be adulterated, to take proceedings against the offenders, this power is given to private individuals with regard to food only; consequently, a medical practitioner would not be able to proceed against a druggist who sold him an inert or adulterated substance for a pure or powerful medicine. In the debate in the House of Commons, the mover of the Bill, Mr. Selater-Booth, pointed out that its title, "The Sale of Food and Drugs Bill," had been in some inexplicable manner altered by the printer, to that of the "Adulteration of Food and Drugs Bill." The mistake is intelligible if the printer happened to have read the Bill; for the exceptions and modifying clauses would license almost any amount of those malpractices which the public require the Act of Parliament to repress. Although the Bill has evidently been drawn up by a careful draftsman, it exhibits some singular instances of want of knowledge. Thus, after a blundering definition of food (which would not even include flour, tea, or coffee) comes the section relating to poison—and placing the poisoning of drugs in much the same category as the poisoning of food.

We shall have to comment on the Bill frequently, in all probability, as it passes through the legislative mill, but as it now stands it is open to the same reproach as was the constitution of the Select Committee upon the recommendations of which it has been drafted: it has been but too evidently drawn in the interests of the traders rather than in those of the long-suffering and much-enduring public.

MURRI ON FEVER.

In spite of all the time and labour which have been devoted to the investigation of fever, the true source of the elevation of temperature has not yet been accurately determined. Speaking roughly, we may say that there are at the present time two main theories which attempt to explain the origin of fever—the neuro-paralytic, which ascribes it to a derangement of the nerves which regulate the escape of heat from the body; and the bio-chemical, which explains fever by assuming an increased production of heat owing to accelerated tissue-change.

The former theory is partly based on the results of section of the spinal cord in dogs. After the operation, some observers have found that they cool down in a cool atmosphere more quickly, and in a warm atmosphere get warmer than healthy dogs do; and this has led Naunyn, Quincke, and others to the idea that the section of the cord not only increases the loss of heat from the skin, by paralysing and dilating its vessels, but also augments the production of heat, owing to the exclusion of a supposed centre in the brain which regulates this function.

It appears, however, from the recent experiments of Murri ("Sulla Teoria della Febbre," Fermo, 1874—*Centralblatt*, Jan. 2, 1875) that the facts are not as they have been stated, and that less heat is produced after the cord has been divided than before. If the vaso-motor nerves of a small portion of the body—*e.g.*, one ear—be paralysed, this part will become warmer from increased blood-supply; but when *all* the vessels of the body are paralysed, it is impossible to understand how an increased flow of blood to the surface and an increased loss of heat can occur over the *whole* surface of the body at once. On the

contrary, the diminution of blood-pressure will cause a smaller quantity of blood to enter the capillaries in each unit of time, and there will be less heat given off than before the operation. The absolute repose of muscles which follows heir paralysis will also lead to venous stasis, and a part of the blood will be withdrawn from the general circulation.

Goltz and Naumann have further shown that section of the spinal cord must injure the circulation very seriously, because the greater part of the blood collects in the abdominal vessels, owing to the paralysis of the splanchnic nerves. Murri relates a case as a clinical illustration of the influence of the spinal cord on the circulation. A part of the cord was suddenly compressed by the bursting of an abscess into the spinal canal. This was followed by œdema of the lower and paralysed part of the body, while at the post-mortem no organic change in any organ could be found to account for the phenomenon except the compression of the cord. Murri's experiments on dogs prove that after dividing the cord the skin is less warm and gives off less warmth than in the natural state. The temperature was simultaneously taken in the rectum and on the surface of the body generally by introducing the thermometer through a wound under the skin. The temperature of the skin fell after the operation both in small and large animals, and the result was the same whether they were placed in a cool room or in one at a temperature of 30° C.

If the surrounding air was raised to 40·2° C. during the experiment, the temperature of the skin rose only to its former temperature of 39·6° C., while that of the rectum reached 41·6°, or 1·2° higher than before the operation. And even if the rectum temperature fell below the normal, yet increased warmth was never observed in the skin. Murri determined the exact amount of heat given off by the skin before and after the cord was divided, in the following way:—The dogs were placed in a wooden box in a room kept at a temperature of 24° C., and the increase of warmth which the air of the box exhibited in definite intervals of time while a dog was in it was taken as the measure of the heat given off by the animal. It was found that the dog warmed the air much more before the cord was divided than afterwards. Now, since the internal temperature of the animal was lower after the operation, although it gave off less heat, it follows that it must have produced less heat afterwards than before. The diminished production may be dependent on several causes—among others on the concomitant paralysis of the muscles, on the disturbance of the circulation, by which the organism gets too little oxygen, on the lessened work of the heart, and the diminished friction of the blood against the walls of the vessels.

If we apply the results of these experiments to explain the theory of fever, we find, says Murri, that they completely negative the idea of fever being due to a neuro-paralytic lesion. In fever more heat is given off than in health, whereas after section of the spinal cord less heat is given off; and since we know of no other experimental lesion of the nervous system which alone and unaided increases the production of heat in the tissues, the neuro-paralytic theory must be abandoned. Murri shows, too, that *septic* fever is not dependent, as has been supposed, on an interference with any centre in the brain which restrains the production of heat; for when the brain's influence is completely cut off by the division of the cord, putrid pus injected under the skin makes the temperature rise just as in a healthy animal; and the whole length of the cord below the point of section may be destroyed without preventing the development of septic fever. Senator(a) has lately endeavoured to show that in fever the irritability of the vaso-motor nerves, and especially of those supplying the arteries of the skin, is increased, so that the vessels contract, and so check the loss of heat necessary to preserve a normal temperature.

(a) "Untersuchungen über den fieberhaften Process." 1873.

Murri, on the other hand, believes that the only theory which will satisfactorily explain fever is the bio-chemical one, which makes fever in the main depend on an increased production of warmth. He points out that all our clinical experience of the incubation of fevers, and of the predisposition to and immunity and spontaneous recovery from them, is completely unintelligible on the neuro-paralytic view, but explicable on the bio-chemical, and that only the latter theory renders an account of the qualitative tissue-changes which accompany fever.

In the portion of his essay which is devoted to treatment, Murri divides antipyretic remedies into two classes—true antipyretics and refrigerants. The drugs in the first class act as direct antagonists of the diseased bio-chemical process, as quinine does in intermittent fever, probably either by destroying the pyrogenic substance or by producing such alterations of the system generally that the conditions necessary to its existence cease to be present. The refrigerants—for example, digitalis in small doses—only produce favourable conditions for the escape of heat on the part of the circulatory organs.

THE HUNTERIAN ORATION.

However undeniably and exceptionally great a man John Hunter was, it must now, we imagine, be rather an oppressive task to have to add one more to the half-century, nearly, of Orations delivered at the Royal College of Surgeons on his genius, character, and work. It is no doubt a highly honourable distinction to be appointed Hunterian Orator, for the appointment is a proof that the surgeon holding it has gained a very high standing in the profession and in his College. But the appointment flows from the position already gained; the former illustrates but does not add to the latter. And it may perhaps be suspected that the necessity, entailed by the appointment, of producing a new Hunterian Oration is regarded, by some men at least, as a somewhat onerous duty rather than as an enviable and very desirable honour. Be that as it may, however, it must be universally acknowledged that this year, when delivering the forty-seventh Hunterian Oration, Mr. Le Gros Clark fulfilled the office most excellently well. Part of the Oration was devoted, gracefully as well as of necessity, to the making honourable mention of those members of the College who, having "contributed by their labours to the improvement or extension of chirurgical science," had died since the last Oration was delivered; and short appreciative notice was taken of Richard Partridge, John Bishop, Thomes Turner, Joseph Swan, Ranald Martin, Thomas Wormald, Francis Kiernan, and others. And then the Orator proceeded to notice some of Hunter's chief characteristics, and eloquently to point out and enforce the lessons that a consideration of them ought to teach us, and the influence that his example and writings have had on the development of scientific surgery. He enlarged on the philosophical spirit in which Hunter pursued all his studies and researches; on his simple faith in Nature; on the comprehensiveness of his work; on the accuracy which characterised all that he did; on his love of patient thought; on his intense, energising devotion to truth in his work; and on his "transcendent capacity for taking trouble," applying to him words which have been used in speaking of the late Samuel Wilberforce—"he was indefatigable with the indefatigability which has been called one of the truest signs of genius." But as we have had the privilege of publishing the Oration in full, it would be a waste of time and space to give any *résumé* of it here; and we will further notice only one or two of the points dwelt on by Mr. Clark. He is not, apparently, an admirer of the so-called "antiseptic" doctrines and surgery of the day, for when speaking of Hunter's "simple faith in Nature," he remarks that "the most successful management of the accessible

consequences of inflammation, such as come under the surgeon's care, is the most simple, that which may be termed the most natural—such as cleanliness, repose, moderation of temperature, and protection of a surface exposed by loss of texture." The full Lister method may be said to be just this; but Mr. Clark adds, "In the treatment of incised wounds, whether by accident or surgical handiwork, a careful study of Nature's ways, aided by the light of pathology, seems to me more trustworthy than the conclusions drawn from hypothetical propositions, and the artificial systems based thereon, which have been credited with so large a share in the cure of wounds."

Mr. Clark, when speaking of the glories of the Hunterian Museum, alluded to the Conjoint Scheme. "The present," he said, "is a crisis in the existence of the College. Through good report and evil report it has advanced to eminence, and I trust to usefulness commensurate with its prosperity; and is now about to surrender an independent agency it has exercised so long, to co-operate with other public bodies in constituting an examining board for a qualification to practise. I sincerely trust that this arrangement may realise all that is expected of it; for the past history of this College, and its early struggles for independence, its noble aspirations, its great achievements, are dear to me; but who can forecast its future history when that independence is gone?" And he expressed a "hope that in the future the interest of this College will continue to be guarded, and its Museum cherished, with the same zealous care as heretofore." His tone was one of hope rather than of trust, and in this feeling he does not stand alone in his College.

Touching on medical education, Mr. Clark admitted "freely and thankfully the beneficial change which has been wrought of late years in the character of our teaching generally, and in the moral tone and preliminary education of our students"; but he severely criticised the present system of instruction as one which results in a quickened memory, but an otherwise undisciplined intellect,—in the faulty *instruction* of the many, and the fruitful *education* of but the few. "Our prepared College dissections," he complained, "are copied to facilitate their recognition; our selected museum specimens are studied that they may be identified; our written questions are stored for the instruction of future candidates for our diplomas as if this were the *Ultima Thule* of their aspirations or responsibilities. Suggestive writing, personal dissections, and even clinical teaching, have not the popularity which is accorded to exhaustive or dictatorial instruction, because the latter saves the learner the trouble of reflecting on what he is taught, of seeking for a meaning in what he witnesses, of pondering on the relation between cause and effect." No doubt there is unhappily a very large amount of truth in this representation of the way in which numbers of students work up for their diploma examinations. But does the fault lie wholly, or even chiefly, with the teaching of the schools? We more than doubt it, and venture to suggest that the remedy is rather to be found in an improved system of examination. Students would not work or cram up in this way for the College examinations unless they found it the easiest and surest road to success in them. The examinations of the College have been greatly improved of late years, and are admirable in many points; but does not the fact that Mr. Clark could with truth draw the picture we have quoted above prove that still further improvements in the system of examination are needed?

THE WEEK.

TOPICS OF THE DAY.

Vaccination, or re-vaccination, should be made compulsory on all persons who enter any of the public services, public schools, etc. We perceive by the report recently presented to Parliament by the Inspector-General of Recruiting, upon recruiting for the past year for the regular army—a very able statement on the subject,—that he recommends, *inter alia*, the vaccination of all soldiers on joining the army. The Inspector-General says there appears to be no reason why this operation should not be performed in some special manner, which may meet all requirements, sanitary or otherwise; and those who accept service in her Majesty's army would bear an indelible mark, to be regarded in future as an honourable distinction, and which would at the same time serve as a preventive to some frauds now practised.

The revelations made by sanitary inspectors in various localities, in which disease and death have been more than usually prevalent, are almost too frightful to contemplate. There is too much reason to believe that the cases which have recently been brought to light are by no means exceptional ones. The last special report has been issued by Mr. Bennett, a sanitary inspector. It refers to the village of Gerstage, near Weaverham, Cheshire, and states that the reporter never in all his experience saw human habits or habitations so calculated to produce filth, fever, and immorality. The district is almost without drinking-water, none being available nearer than the Kennels of the Cheshire Hunt. Nine-tenths of the houses are without drains, and the consequent stench arising from the stagnant drainage, from pigs and other animals, and house-sewage, is worse about some houses than he will attempt to describe.

However obstinate has been the controversy which has been carried on between the Hampstead Committee and the District Asylums Board, it has on the whole been conducted with considerable temper and good feeling. That on both sides there has been some exaggeration must be admitted, but the decision arrived at by the Asylums Board last week will, we think, after being impartially considered, meet with general approval. It will be recollected that the Hampstead Committee, some short time since, offered the Board two sites, either of which might be chosen in lieu of the one at present occupied; and the Committee contended that either of these suggested sites was preferable in every respect to the managers' site. The Board undertook to visit both these spots, and after a lengthened and careful examination the following resolutions were passed, at their meeting on Saturday last, by a majority of thirty-five, the voting being thirty-seven for and two against them. The two dissentients represented Hampstead and the Holborn district:—"The managers having inspected the two sites of land in Mill-lane submitted to them by Mr. W. D. Jeremy, adopt the opinion expressed in the report of the General Purposes Committee bearing date January 30—viz., that the site No. 1 is wholly unsuitable for the erection thereon of buildings to be used for the several classes of sick for whom the managers are called on to provide. That site No. 2 is not nearly so eligible as the present site of the managers at Hampstead, and would be equally open to the objections raised against the latter site. That a copy of these resolutions be forwarded to Mr. W. D. Jeremy, in reply to his communications of January 21 and 28, and that a copy thereof be also forwarded to the Local Government Board." Surely any further agitation on this subject will be mere waste of time.

Dr. Diplock, the Coroner for Western Middlesex, held an inquest last week at Hounslow which embraced one or two circumstances worthy of notice. The deceased was a maiden lady, housekeeper to a gentleman at Hounslow; her age was sixty-nine. It appeared in evidence that she had suffered for some time from pains in the region of the heart, but seemed the day before her death in her usual health and spirits. "At half-past twelve on Friday night," said a witness, "I was called to the house, and found her on her knees on the floor. I called my son up, and we lifted her on the bed, and he went off

for Dr. Douglas; but not being able to make anyone hear at that gentleman's house, he went for Dr. Taylor. I afterwards went down to Dr. Douglas myself, and he gave me a certificate, which, I believe, stated 'Death from heart disease.' He had attended her previously." Mr. Henry S. Taylor, surgeon, of Hounslow, deposed that when he saw the deceased she was dead. He made a post-mortem examination on Monday, and found death to have been caused by rupture of the aorta. The Coroner having been asked how it was that the medical attendant of deceased, Dr. Douglas, had not been subpœnaed to give evidence, replied that it was usual to call as a witness the medical man attending at death. Dr. Diplock further stated that he was sorry to say that Dr. Douglas had in reference to this case put himself in an antagonistic position, and had not only refused to supply any information to his officer (Hoad), but refused to write to him as coroner. However, last night he received a letter with Dr. Douglas's signature giving some particulars of the case which he thought might have been given before. As regards the death, the Coroner observed that it was not disease of the heart at all, and it was a case in which neither he (Dr. Douglas) nor anyone else could properly give a certificate without making a post-mortem examination. This case has given rise to much discussion in the neighbourhood, and a very improper and intemperate letter has been published in the *Middlesex Chronicle* from Mr. Benjamin Glover, in whose service the deceased was at the time of her death. Mr. Glover censures the Coroner and his beadle, and makes some strange observations upon the duties of these two officials. Notwithstanding the high authority of Mr. Glover, we are bound to express our opinion that the conduct of Dr. Diplock was highly to be commended. He acted with judgment and firmness, and he upheld with becoming dignity the importance of instituting a post-mortem examination in this case. We recommend more care and consideration being taken before giving a certificate of death in what may be called, at least, a doubtful death. Dr. Douglas undoubtedly acted on the purest motives, and with the desire to prevent, if possible, what he regarded as an unnecessary inquest. But was the inquest unnecessary? We contend that, under the circumstances of the case, the inquest was properly held.

Jersey, by its last public act, has shown, with reference to vaccination, that the voice of the States is the *vox populi* also. At a public meeting held last week at St. Helier's a resolution was proposed that efforts should be made to reopen the discussion in the States on the subject of compulsory vaccination. An amendment *contra* was proposed, and passed by a considerable majority, amidst much excitement.

At a late meeting of the Keighley Board of Guardians, Bradford, a letter was read from the Local Government Board, stating that it intended to apply for a *mandamus* to compel the guardians to enforce the provisions for compulsory vaccination in their district. The guardians question the authority of the Local Board, and will probably oppose the *mandamus*, as "a large majority of the Keighley people are opposed to vaccination."

A committee has been formed to consider the subject of a Self-Supporting Hospital at Brighton, and report thereon to a general public meeting. Much difference of opinion exists on the matter.

THE POLLUTION OF RIVERS.

Professor Frankland's lecture at the Royal Institution on the evening of Friday, the 19th, was occupied with a subject which is at this moment of peculiar interest. It embodied the results of the Royal Commission on the Pollution of Rivers, whose report will presently claim the serious attention of Parliament and the country. The lecturer commenced by demonstrating, on a map which has been prepared by the Commissioners, the various British rivers which have been found to be polluted, and which are described as such in the report. On the fair face of the outline map the foul, dark-coloured valleys of polluted streams occupy a deplorable amount of space, from the Moray Frith to the Land's End. The chief sources of pollution have been classed under three heads—fibre manufactures, chemical products, and town sewage,—a system of grouping which is especially useful in the application of measures for the prevention and cure of the nuisances. Coming to the description of certain special rivers, the lecturer gave an account of the abominable condition of the River Aire in Yorkshire as an example of the excessive pollution of a stream originally pure and bright; and furnished some details of much interest in regard to the Thames. It is reassuring to learn from Professor Frankland that the visible impurity of the Thames water, of which we are painfully conscious in the course of the river through London, is chiefly inorganic matter, which is being constantly driven into suspension by the traffic, and that the Thames water at London-bridge contains very little more organic matter in solution than it does where it is taken up by the water companies.

The results of the investigations of the Commission on the prevention and treatment of the pollution of rivers are fortunately highly encouraging. It had first of all to decide whether prevention or artificial treatment is necessary; for the opinion is seriously held—of course by interested parties—that a process of natural or spontaneous purification goes on, and that after a course of some miles a river will be found to have "cleaned itself," and to have lost the greater part of its impurities. By means of carefully conducted experiments, taking specimens of a river water at two distant parts, and at intervals of time carefully calculated from the rate of flow, Professor Frankland proved that such self-purification is so insignificant that it must be disregarded for practical purposes, even in rivers well filled with vegetation. A certain amount of suspended solids will settle, but little oxidation of organic impurities occurs. Artificial treatment must therefore be resorted to. Professor Frankland then described the various methods which have been proposed or adopted for purifying waste products, sewage, and river water, and illustrated this part of his discourse with specimens of waters before and after treatment, as well as by experiment. The chemist, in considering the various means of purifying water, regards its impurities under three heads—organic matter in suspension, inorganic matter in suspension, and organic matter in solution. One of the first processes introduced for restoring the purity of waters was that of precipitation. Thus, when milk of lime is added to a hard water, not only a precipitation of a certain amount of the earth is produced, but the heavy carbonate carries down with it some of the suspended impurities, and—what is remarkable—even a certain amount of the organic matter which is in solution. The A B C process and some others are, in part at least, based upon the same principle. The method of precipitation is fairly successful, but laborious, and so expensive—chiefly on account of the worthless nature of the products—that it probably will not pay the working. The next process of purification is a more natural one—the process of irrigation and subsidence. In this method advantage is taken of the principle of the former, the particles of impurity being freely exposed to "points of contact," in the shape, not of a precipitate, but of an enormously extended surface of earth. The results obtained by this method are extremely satisfactory; and the products are valuable, as the appearance of the sewage farms abundantly testifies. The grave objection to it is the large amount of space which it demands for its perfect working. To remove this objection, and to obtain a result equally or even more satisfactory in other respects, a third method has been introduced, and promises to be speedily in extensive application. This is the system of intermittent filtration, where the soil or earth is

alternately exposed to the water which has to be purified and to the atmosphere. It would appear that the particles of earth possess the property, which is familiar to chemists in spongy platinum, of "condensing" oxygen on their surface, so that they serve not only as "points of contact" for the particles in suspension in the fluid, but as seats of oxidation or destruction of the organic matter in solution.

It is surprising to learn how much ignorance prevails among proprietors of mines and manufactories of the enormous loss which they inflict upon themselves and each other by the pollution of rivers and of the atmosphere. Tons of valuable mineral products are being constantly poured into the water and the air; and great loss is sustained by manufacturers from their being compelled to use foul waters. It may be confidently expected that they, as well as the nation at large, will be greatly benefited by the coming legislation on the pollution of rivers.

OPIUM BLIGHT IN INDIA.

In the tenth annual report of the Sanitary Commissioner with the Government of India for the year 1873 will be found some "Microscopical Notes regarding the Fungi present in Opium Blight," communicated by Surgeon D. D. Cunningham, M.B., of Her Majesty's Indian Medical Service.

The fungus forming the main subject of the notes is one, Mr. Cunningham remarks, which has been so long known, and is of such common occurrence at home, that any details regarding the features presented by it in India would be uncalled for, were it not for its destructive effects on the opium crop. Owing to the fact that in Western Europe poppies are either troublesome weeds, or, at the utmost, mere garden ornaments, it is quite natural that the existence of a fungus belonging to the same genus as the *Peronospora infestans*, and bearing the same relation to the poppy which that far-famed parasite does to the potato, should have attracted little general attention, and have been regarded as a mere matter of botanical interest. In India, however, the case is very different, as any information regarding a parasite capable of exciting serious prejudicial influences on the growth of the opium poppy acquires a practical importance from the value of the affected crop. The observations were made on specimens obtained from the Botanical, Agricultural, and Horticultural Gardens, Calcutta, and on others received from Patna; they refer solely to the appearance presented by the parasite, and the lesions resulting from its presence as they occur in the leaves, as, from the difficulty of procuring perfectly fresh plants for study, the examinations were almost entirely devoted to these points. All the specimens of blighted leaves, from whatever locality they were obtained, agreed in showing the presence of *Peronospora arborescens*. The fungi belonging to this genus are true entophytes, their mycelium or vegetative apparatus being developed within the tissues of the plants which play the part of hosts to them; their reproductive apparatus consists partly of filaments bearing the so-called spores or conidia, which emerge from the substance of the leaves and project on the surface as a whitish mouldy layer, and partly of larger reproductive bodies termed *oogonia*, which are developed within the substance of the affected tissues. These consist of a sac containing a mass of living protoplasm, which subsequently forms the *oospore*, and is ultimately invested with a thickened membrane, frequently marked with projecting tubercles, ridges, or reticulations. It is by means of such *oospores* that the species of *Peronospora* affecting various plants at home are supposed to survive the winter, and to be enabled to appear year after year.

Mr. Cunningham's notes are illustrated by carefully executed plates, showing the appearance of the different fungi collected from the poppy-leaves when subjected to microscopical examination; and in conclusion he regrets that want of time upon the present occasion prevented his having been able to determine the localisation of the *oospores*, or the existence of any other arrangement providing for the recurrence of the disease—a want of success which next season, however, may see satisfactorily overcome.

THE ARMY MEDICAL SERVICE.

The inauguration of an improved state of affairs in the Medical Service of the Navy has not unreasonably caused a hope in the sister Service that Mr. Gathorne Hardy may emulate the achievements of Mr. Ward Hunt and promulgate an Order in Council calculated to restore a feeling of satisfaction amongst army medical officers, by removing some, if not all the existing grievances, and introducing compulsory retirement for Surgeons-General and Deputy Surgeons-General at the age of sixty instead of sixty-five. As the present Government is not pledged to any policy of economy at the expense of efficiency, there is no doubt that the Secretary of State for War, whenever he publishes the result of his inquiries, will be found to have treated the subject in a liberal spirit; and should our anticipations prove correct, we may at no very distant date have the satisfaction of beholding a moderately contented frame of mind pervading the medical officers of both army and navy.

In the meantime we feel it only right to notice some very sweeping remarks upon the present state of army medical officers which lately appeared in our contemporary the *Standard*. Simply recording the fact that, if heaps of unsuccessful candidates have not been discarded, the Service at least has not suffered from any want of medical officers, we must take exception to the assertion that "as a matter of fact a large number of military surgeons are only competent to deal with the most obvious cases, in fact are mere rough-and-ready practitioners." To admit any such dictum as this would be practically to assert that the professors at the Army Medical School at Netley Hospital were incompetent to determine between ignorance and proficiency. All successful candidates for admission to the Army Medical Service are, after the London examination, compelled to spend a certain period on probation at the Royal Victoria Hospital, Netley, and if they were only so superficially qualified as our contemporary makes out, we do not believe that these gentlemen would pronounce them fit and proper persons to receive commissions. Again, every surgeon has to pass an examination before he can claim promotion, so that if in his quarters "his professional library will be seen to be scanty, commonplace, and evidently seldom consulted," he must be keeping up his knowledge more by practice than by theory, as very few fail to qualify themselves for the welcome step when their turn arrives.

Undoubtedly the new order of things has been responsible for a great deal of discontent, engendered by the partial manner in which the last warrant was carried into effect; but, as we have before pointed out, all states of transition are harassing and unsatisfactory. Moreover, after accusing the Department of being grumblers, our contemporary goes on to explain the different causes which, in its opinion, have justified a large amount of dissatisfaction in the Medical Service. In fact, although the article in question—which is full of the shortcomings of medical officers of the army—admits that something must be done to render the Service again popular and sought after, it only proceeds to point out, in a fault-finding vein, what concessions have failed to produce that effect, and would seem to recommend promotion by merit instead of by seniority, as a panacea for increasing efficiency and re-establishing universal happiness and contentment.

In conclusion we must emphatically express an opinion that our contemporary has been unjustly and unnecessarily severe upon medical officers of the army, and further that an amended

order of things, which may shortly be expected, is the true remedy for placing the Service once more on a firm basis of efficiency and content.

CONVICTION OF AN UNQUALIFIED PRACTITIONER.

At the meeting of the Justices of the Peace of Airdrie, Lanarkshire, on the 18th inst., a Philadelphian "Professor," who has been practising at Airdrie for some time past under the name of Chadwick de Banzie, M.D., LL.D., was charged by the Procurator-Fiscal of the county with falsely using a title or designation implying that he was a duly registered medical practitioner. Evidence was given to prove that the accused had attended patients professionally in the town, and that no one answering to his name or description is on the Medical Register. In defence, the accused said that he was a medical graduate of the University of Philadelphia. He did not pretend that he was on the Medical Register; he had never applied to be registered, as his diploma entitled him to practise without it. The Justices, however, thought otherwise, and ordered him to pay the full penalty of £20, or three months' imprisonment. The "Professor" has given notice of appeal to the Court of Session, and in a letter to the *North British Daily Mail* he says:—"I distinctly state that I am not registered under that Act (Medical Act, 1858), and am advised by counsel that I do not require to register unless I choose." "Professor" Banzie and his counsel appear to be under misapprehension as to the intention of the Medical Act. It was not framed for the purpose of compelling qualified practitioners to register, or with a view to prevent them practising unless registered, but it was expressly framed for the purpose of preventing unqualified persons—such as this man Banzie is—assuming the title of physician, surgeon, apothecary, or any other title implying that they are registered, or that they are recognised by law as practitioners of medicine. It were to be wished that our metropolitan magistrates would execute the provisions of the Medical Act in the same manner. An exactly similar case to the above was a short time ago dismissed by Mr. Bridge at the Wandsworth Police-court.

AN UNDIGNIFIED POSITION.

It is scarcely possible to imagine a more degraded position for a qualified medical practitioner to hold than that of an assistant to an unqualified man; yet it appears that there are those among us who feel no shame at occupying such a post. At the Royton (Lancashire) Police-court, last week, a man named Charles Alfred Gibson was summoned by the Board of Guardians for neglecting to contribute towards the support of his wife. In the course of the case it transpired that Gibson is practising at Royton as a duly qualified surgeon. He is said to be doing a practice of about £1200 a year, and to be living in good style. He keeps a horse and carriage, pays his groom 22s. a week and his housekeeper £20 a year, and keeps another servant. In order to protect him in practice, to sign certificates, etc., he pays a qualified man £60 a year. The name of the assistant is said to be James Hadyn, but we cannot find the name in Churchill's "Medical Directory." Perhaps some of the practitioners in the neighbourhood may be able to furnish such particulars as may lead to his identification, for it is desirable that the corporation whose licence he holds should know what he is doing to degrade his profession.

DR. HARDWICKE AND PADDINGTON.

A communication from Dr. Harwicke was received by the Paddington Vestry last week, to the effect that, as he is about to prepare his annual report, and wished to complete his inspection of the parish, he proposed to defer the resignation of his office as Medical Officer of Health and Food Analyst till June next. The letter was referred to the next meeting.

CURE OF ANEURISM OF THE EXTERNAL CAROTID BY PRESSURE.

A case is reported, in a recent number of the *Correio Medico*, of aneurism in the external carotid cured by digital compression. Only a very few cases of successful compression are reported as applied to this artery, and none hitherto in Lisbon, although success has attended the process as applied to a great many other arteries in Portugal, where, from the hilly character of the country, and perchance from other causes, aneurism is exceedingly frequent. Among these, one may conclude that the habit of carrying loads on the head and shoulders is highly operative, the wheelbarrow not being in general use. In the case above mentioned digital compression had just before been employed in Brazil for the space of thirty-nine days. On November 21, 1874, it began to be once more applied in the Sanatorium of Lisbon, and terminated successfully at the expiration of forty days. Towards the end of the period compression was kept up for twelve hours daily. The pulsation was found to have ceased on awakening from sleep on the morning of December 30, after a night's rest which had been preceded by a continuous application of the pressure for the space of forty hours. The treatment in Lisbon lasted thirty-nine or forty days, during which 283 hours were spent in compression. This constitutes, if we mistake not, the fifth case of aneurism of the carotid cured by digital compression.

THE PATHOLOGICAL SOCIETY OF LONDON AND THE SOCIETY FOR THE PREVENTION OF CRUELTY TO ANIMALS.

In answer to the now well-known circular of the Society for the Prevention of Cruelty to Animals, the following has been sent by the Honorary Secretaries of the Pathological Society:—

"Pathological Society of London, 53, Berners-street,
"February 17, 1875.

"Sir,—Your letter was laid before the Council of this Society at its meeting on February 16, and the following resolution was passed with reference to it:—

"'As the Pathological Society of London was instituted for the promotion of pathology by the exhibition and description of specimens, drawings, microscopic preparations, casts, or models of morbid parts, the Council is not prepared to entertain the proposition made by the Committee of the Society for the Prevention of Cruelty to Animals.'

"We have the honour to be, Sir,
"Yours, obediently,
"T. Henry Green, M.D.,
W. W. Wagstaffe, } Hon. Secs."

THE LATE DR. ANSTIE.

A portrait of this gentleman was on Tuesday last presented to the Westminster Hospital. The picture, which gave the greatest satisfaction, is to be hung in the Board-room of the above institution, with which Dr. Anstie was so intimately connected. It was subscribed for by many of his admirers, and is the work of Messrs. Barraud and Jerrard, of Gloucester-place, Portman-square, and combines a life-like resemblance with an excellent specimen of these gentlemen's work.

PARLIAMENTARY.—ADULTERATION OF FOOD AND DRUGS—LABOUR IN FACTORIES—WATER SUPPLY—PUBLIC HEALTH.

On Friday, February 19, in the House of Commons,

Mr. Sclater-Booth moved the second reading of the Adulteration Bill. He alluded to the difficulties connected with the practical carrying out of the Act recently passed, because the word "adulteration" not being properly defined, it gave rise to much vexatious litigation. After careful consideration of the late Act, he found it impossible to define the word according to the terms of that Act. The consequence was that the operative clauses had been reconstructed, and an attempt made to define the things prohibited and the exceptions that might fairly release the trader from penalty. The printer had erroneously entitled it an

Adulteration Bill, but its title should be the "Sale of Food and Drugs Bill." It would prohibit the admixture with food and drugs of any ingredient injurious to health, or the sale of any article not of the nature demanded by the purchaser, with certain exceptions. The seller was to show, when required, in what proportions extraneous articles were mixed with the article sold; a label stating the fact affixed to the article would be sufficient. The Bill is obviously one in favour of less stringency in dealing with adulterated articles, so as to give the retail dealer more liberty, especially as many disputes had arisen from the inaccurate reports of analysts. Great difficulty has been experienced in getting competent analysts to undertake such arduous and unpleasant duties. A refusal to allow samples to be analysed would be a punishable offence: but if in any prosecution the defendant produced a warrant of the purity of the article from the vendors, and could prove that he sold it in the same state as he purchased it, he would be discharged, and proceedings could be taken against the vendors. Any tea pronounced by the Customs analyst to be unfit for human consumption would be destroyed. A body of gentlemen representing the public analysts had expressed approval of the general principles of the Bill.

Mr. Sandford took exception to many of the clauses of the Bill on the ground that it would lead to a very considerable adulteration of goods. It was not only necessary to protect the public from "secret poison," but also from "secret cheating." To require the prosecution to prove that the vendor had full knowledge of the adulteration would, he thought, render it impossible to procure a conviction. He was in favour of the appointment of four district analysts for the north, south, east, and west districts of England. He knew of towns where analysts had been appointed with the understanding that they should take no action against any person in the town: therefore he would not have the appointment made by the town council. The House ought to make an endeavour to punish the wholesale dealers.

Mr. Muntz also objected to the use of the word "knowingly."

Dr. Lyon Playfair having referred to several articles of general consumption as being now free from adulteration, proceeded to defend the Act of 1872, and considered that more protection for the public should be provided. He objected to the term "usage of trade," as in too many things the habit, rather than the exception of trade, was to adulterate. At present Scotland and Ireland were left out, but he urged that they should be included in the operation of the proposed measure.

The Bill was read a second time, to be committed on Thursday next.

Mr. W. Holms moved that a Select Committee be appointed to ascertain and report how far it is expedient and practicable to extend the provisions of the Factories Acts (1874) to manufactures other than textile, etc. By the Act of last year the Government only undertook to protect the health of women and children in textile factories. He urged that the same protection should be extended to operatives in bleach works, glass and iron works, etc.

Mr. Cross stated, in reply, that it was his intention, as soon as possible, to carry out his promise of last year in the direction intimated by Mr. Holms. He had recommended the Government to appoint a Royal Commission to inquire into the matter, as he was determined that all children employed in factories should enjoy such advantages of health as legislation could secure them.

Mr. Holms thereupon withdrew his motion.

On Monday, February 22,

Mr. Sclater-Booth, in reply to Mr. P. Taylor's inquiry respecting Dr. Sandwith's letter in the *Times*, with reference to the drinking-water of a large West-end club, stated that he had been making inquiries respecting the condition of the tanks, and he hoped in a day or two to receive the report of the Metropolis Water Examiner. The water supplied by the Company has been during the past month in a wholesome state. In consequence of the complaints against the Chelsea Water Company, a Bill has been introduced which will enable them greatly to improve their intake and to provide additional subsiding tanks.

On Thursday, February 25,

The Public Health Bill was read a second time.

DR. BRYDEN ON ENTERIC FEVER AMONG EUROPEAN TROOPS IN INDIA.

We resume our notice of Dr. Bryden's recently published report with an abstract of his observations on enteric fever among the European troops in India.

The continued fever of the unacclimatised is in almost every instance true typhoid. This fever is the one disease from which our boy-soldiers die. It is not, however, only among boys that it becomes developed. Young men up to twenty-four are equally liable to suffer, and cases will be found to be pretty numerous up to the age of twenty-nine, and occasionally it is seen even in men above thirty. It is peculiarly a fever of the hot season, although it may occur in any month from exposure. It occurs most frequently among boys and young men during their first year of service in India. That it is true enteric fever is proved by the fact that the characteristic typhoid lesions in the small intestines have been found to be present in almost every case in which the continued fever of the hot season proves fatal in the young. Being a fever of the hot months, the nervous symptoms are usually very severe, so that the disease is apt to be mistaken even for typhus by the inexperienced; but to the careful observer it soon declares itself, and every symptom shows that it is the true enteric fever of Europe which is developed in the young and unacclimatised.

Although some have supposed that the typhoid so prevalent of late years is a disease new to India, this is not the case. A most perfect description of typhoid is given by Dr. Stewart in his report for the 9th Lancers so far back as 1841. In the report for H.M.'s 96th Regiment for 1851-52 (its first year in India) it is mentioned that the regiment marched up-country from Cawnpore to Lahore during the spring, and enjoyed excellent health. The men after arrival at Lahore continued to occupy their tents till April 1. There was no shade, and the temperature inside the tents frequently reached 104°. During the months of April, May, and June a continued fever, attended by great prostration, a dry, brown tongue, small, quick, hurried pulse, and diarrhœa in some cases, occurred among the weakly recruits—in many instances with fatal results. Some such cases occurred among the recruits who joined the regiment after its arrival at Lahore, and some were even brought in in this state. On this subject Dr. Bryden remarks that it is very curious to find recent history repeating the fact noticed in the last sentence. Many recruits have died in the Punjaub of late years while marching to join their regiments. These young men expose themselves to the sun on the march, and fall into typhoid and die. Nearly all the deaths recorded between December and April are those of boys on the march.

In the report of H.M.'s 27th Regiment for its first year of Indian service, 1855-56, it is stated that—"Many of the cases treated were very tedious in their progress. In the fatal cases almost all assumed the remittent or typhoid type; and on post-mortem examination the small intestines presented that form of ulceration so usual in the typhoid fever of temperate climates. In one case in particular, the immediate cause of death was profuse and sudden intestinal hæmorrhage proceeding from the ulcerated surface of the ileum."

In the reports from 1858 to 1863 the occurrence of true typhoid in the young soldier, in almost every cantonment throughout the Presidency from Peshawur to Lower Bengal, has been constantly incidentally noticed, thus proving the universal distribution of the disease,—in individual cases, however, as no such thing as an outbreak appears to have been recorded during all these years.

With the arrival of new regiments in 1864, and large bodies of recruits, the study of typhoid assumed a new interest and importance. The 36th Regiment, being the first which arrived in India after 1858, was decimated during its first year, chiefly by typhoid fever. Dr. Bell, in medical charge of the regiment, remarks in 1864 that he was totally unprepared, from his experience of six years in Madras, to find that a typhoid fever almost identical with that of Europe, with ulceration of Peyer's patches, prevails in India, and is as fatal as at home. At the time he believed it to be a new disease in India. The fever and the phthisis which often followed were almost limited to the young men. There were 130 men above thirty in the regiment when it landed in India, and of these not one died from fever or phthisis, and only four were invalided under these heads during the first year. Of the younger men, 20

died from fever or phthisis, and 51 were invalided on the same account, representing a loss of 30 per 1000 of the older class and of 108 per 1000 of the younger. From all causes the regiment lost in its first year 68 men under twenty-four, 19 being entered as twenty years old and under. Dr. Bell goes on to explain that the phthisis for which 39 young men of the 36th were invalided was in reality the filling up of the lungs subsequent to the attack of fever, so that it is necessary to place these cases to the account of typhoid. The same phenomenon is noticed in the report of the 96th Regiment for 1851-52; tubercular disease of the lungs, either passive or in the act of softening, co-existing with enlargement of the mesenteric glands, being found in many of the fatal cases. Dr. Bryden remarks that the possibility of the physiological connexion of the lung-infiltration with that which takes place in Peyer's glands and in the mesenteric glands should not be overlooked.

The 5th Lancers and 55th Regiment, which arrived in India with the 36th in 1864, also suffered from typhoid, though not to the same degree; and Dr. Bryden remarks that he might follow the history of every regiment and battery which arrived between 1864 and 1871, and the truth would hold throughout that not one of these bodies has escaped typhoid during its first year of residence. In a later portion of his report he extends his observations to 1873. He shows how the disease prevailed in the 40th and 51st Regiments at Lucknow and Faizabad during 1873—these regiments having landed in India in the autumn of 1872,—and how the batteries of C Brigade Royal Horse Artillery, which arrived early in 1873, and were stationed at Mhow and Meerut, also suffered very severely from enteric fever.

He does not attribute this prevalence of enteric fever among newly arrived young troops during their first hot season to any special poisoning derived from the locality in which they may be placed, but to the fact that in the young, when the influence of heat tells on the nervous system, infiltration of Peyer's glands follows, the characteristic eruption is manifested, and the fever pursues its course and ends in resolution or death. He is inclined to believe that the physiological resolution of typhoid commences on the fourteenth day, when the sloughs of Peyer's glands will be found to have separated, and that about the twenty-first day, under favourable circumstances, the fever abates, and the pulse sinks below 100 in the natural course of convalescence.

Dr. Bryden remarks that various theories have been advanced to account for the individual instances of the outbreak of typhoid. Importation and the condition of the water-supply have been urged by various writers as the cause of typhoid; also that the disease may be acquired by contagion from the native population. On the question of importation by troopships, Dr. Bryden considers it to be of secondary importance in comparison with the fact that the sudden change to a tropical climate predisposes to the spontaneous development of typhoid in young and weakly-constitutioned lads. He adds that the fact of enteric fever occurring during the voyage out does not necessarily imply that the disease was taken on board at the port of embarkation; he at the same time admits it to be quite possible that some of the cases which occur among recruits on their journey up-country may have their origin on board ship. It appears to us that the more rapid passage to India in troopships by the Suez Canal route(a) within the last six or eight years considerably increases the chance of the importation into that country of fevers and other diseases, of which the seeds may have been laid previous to embarkation. There is very little doubt, we believe, that scarlet fever and measles have in this way not only been imported into India, but carried to up-country stations in which they had hitherto been quite unknown, by troops disembarked at Bombay, and speedily transferred up-country by railway, and we consider it highly probable that the same may have occurred with enteric fever.

As to the influence of impure water or other local causes in the development of enteric fever in India, Dr. Bryden remarks that he knows of no single circumstance that would suggest to him that the type of the fever of which he is speaking is determined by local causes. He admits in the instances of two regiments, neither of which had recently arrived, and which had a large proportion of cases of enteric fever, that the fact naturally suggests that some local cause may have in their case exaggerated the disease, and that this, in one instance at least, is possible from the coincidence of the later cases of typhoid not having been confined to the younger men, although in the other this limitation was not observed. He considers enteric fever to have no geography, and, in establishment of this assertion—that in India its spontaneous origin is a fact, and that the disease is not primarily attributable to special and locally existing conditions—he notices the remarkable phenomenon that in the last ten days of August, 1872, almost every station over several enormous tracts, from Central to Northern India, returned in the same week, and after an interval of months during which no typhoid had appeared, fatal cases of enteric fever. It was not, however, enteric fever alone which came forward in this week, but purely climatic fevers of every variety; and while the exciting cause of all was the same, the type varied according to predisposition and special circumstances.

He does not wish to weigh controversially the results of his observations in India against the results of observation at home, nor does he suggest that the etiology of enteric fever is comprehended in either doctrine or in both combined. He affirms that, while it may be perfectly true that typhoid is in many instances propagated by the introduction of typhoid excretory matter in some shape into the system, the doctrine that this is its only mode of propagation does not meet all the facts of the case; that the specific lesion and its attendant fever are capable of being developed without the application to the system of a poison elaborated elsewhere; and that the etiology of typhoid is not comprehended within the limits to which of late years the tendency has been to seek to confine it. He admits at the same time that a zymotic element is developed in every individual case of enteric fever; that each should be looked upon as a focus from which enteric fever may spread; that the disease should be considered contagious in the same degree as erysipelas or the non-specific cachexies observed in Indian gaols; and that sanitary measures—particularly the careful segregation of first cases—should proceed on such an assumption.

Dr. Bryden wishes it to be kept clearly in view that it does not follow that the aspect in which he represents enteric fever is the only aspect in which the disease shows itself. He does not forget that there is a typhoid which affects communities as well as individuals, and he does not doubt that the etiology of these varieties is to be studied separately, and that from the combined study we may in time come to understand what the physiological significance of the typhoid deposit is, and under what condition it takes place in individuals, and as well how through one common agency a community may become infected with enteric fever. He remarks that Dr. Murchison justly observes that we must study anew the etiology of enteric fevers in the light thrown on the subject by the ascertained history of typhoid in the British army in India. The belief that defective conservancy will be found in every case when typhoid fever shows itself is very apt to lead to the conclusion that every statement to the contrary must be erroneous; this Dr. Bryden designates as a narrow view, and not warranted by any feature in the aspect of typhoid as met with among our soldiers.

Noticing the theory that typhoid may be acquired by contagion from the native population, Dr. Bryden in his report for 1870 remarks that he knows of no single instance of the occurrence of typhoid among the native population; that in the records of the native army and of the gaols from 1859 till 1870 he does not know of a single death attributed to typhoid that is not open to the suspicion that it has been wrongly diagnosed or carelessly returned. He does not make this broad statement willingly, and would rather that its accuracy were called in question and that well-authenticated cases were put on record; but if it should be the case that the liability or non-liability to typhoid is a remarkable race-distinction, it is important that the point should be established. In the reports for 1871 and 1872 a few cases presenting some of the characteristics of enteric fever are mentioned as having occurred among native troops and prisoners. In 1871 one case and one death from enteric fever occurred in the native army. The case has been published at length by Mr. Lyons, in evidence apparently that the comparative immunity from enteric fever which Dr. Bryden claimed for the native army does not really exist. As there were, however, in a similar strength of the European army, 207 cases and 92 deaths from enteric fever, the difference is very striking; and no post-mortem examina-

(a) Dr. Bryden writes on this subject in the following terms:—"It is quite possible that the suddenness of the change to a tropical climate since the introduction of the overland route may of late years have been an additional predisposing cause to the prevalence of typhoid."

tion having been allowed, the case appears to us open at least to a doubt. Out of a gaol population of 57,537, two deaths out of a total of 1986 were attributed to enteric fever. One is apparently incorrectly returned, the patient's age having been forty; in the other case, a young woman of twenty-three, who had long suffered from ague and diarrhœa, Peyer's patches were found prominent—the lowest were more or less ulcerated; the mucous membrane of the ileum had a pale wash-leathery appearance, and the mucous membrane of the ileo-cæcal valve, and of the colon and ileum on each side of it, was thickened; the spleen was normal. This case also appears to us to admit of doubt.

In the regular native army during 1872 four deaths from enteric fever were reported—three by Mr. Lyons and one by Mr. Verchere; the patient in the latter case being a young Ghoorka. From the details given of these cases, they appear to have presented many of the characteristics of genuine enteric fever. One true case in the frontier force, also in a young Ghoorka, is reported by Surgeon Johnson. The same officer returns a fatal case of ague in which there were hæmorrhage from the bowels, diarrhœa, iliac gurgling, and tympanites, with fever of a low typhoid type: the patient being a boy of the Peshawur Mountain Train. No post-mortem examination, however, was obtained.

Among the gaol population, out of a total mortality of 2674, four deaths were attributed to enteric fever. Two appear to have presented the specific lesions, but of the other two no details are given. In a footnote Dr. Bryden remarks that, in connexion with this typhoid in Ghoorkas, and the infiltration of the glands of Peyer and the mesenteric glands, it is interesting to note that the four deaths in the native army from tuberculosis mesenterica occurred in Ghoorkas.

The immunity of natives from this class of disease appears therefore comparative rather than absolute; but even regarded in the former degree it is sufficiently remarkable, and well worthy of being made the subject of special observation by medical officers in India holding charges of native troops and gaols.

Much of Dr. Bryden's very valuable report necessarily remains unnoticed. His views as to the etiology of enteric fever in India are eminently suggestive, and deserve the attentive consideration of all medical officers employed in that country, as well as of the profession at home, among whom enteric fever is so generally attributed to the single cause of excretory contamination that it is commonly known as the "dirt fever" or "sewer fever."

In the foregoing abstract we have, as far as possible, used Dr. Bryden's own words, in order that his views may be fairly placed before our readers. One suggestion for the benefit of medical officers of European troops in India, in conclusion, we append in full:—"It is for the local observer to tell us in what respects the constitutions of the lads attacked differ from those of the young men who pass through the process of acclimatisation under similar conditions without falling into typhoid."

THE PHYSIOLOGY OF VERSIFICATION.

HARMONIES OF ORGANIC AND ANIMAL LIFE.

By OLIVER WENDELL HOLMES, M.D.

Our readers will, we are sure, thank us for the following curious and interesting contribution from the "Professor at the Breakfast-Table," published in a recent number of the *Boston Medical and Surgical Journal*:—

We are governed in our apparently voluntary actions by impulses derived from many obscure sources which act upon us almost without our cognisance. The digestive system legislates largely for our habits, bodily and mental, and its condition has no insignificant effect upon our intellectual and spiritual states. We are commanded to a considerable extent by our idiosyncrasies and infirmities. The secret of our diversities as social beings lies far more in our peptic capacities, in our indifference to exposure or liability to suffer from it, in our sensibility to cold and heat or to the air of ill-ventilated rooms, in the varying amount of sleep we require, in the degree of ability to hear strong light, in the quickness or dulness of our hearing, in the greater or less degree of fatigue induced by the standing posture, and in the demands of internal organs which have a will if not a voice of their own, than our friends who call us good companions or otherwise are always ready to believe.

There are two great vital movements pre-eminently distinguished by their rhythmical character—the respiration and the pulse. These are the true time-keepers of the body; having a constant relation in health,—the proportion being, as Mr. Hutchinson has shown, one inspiration to every four beats of the heart. It is very easy to prove that the first of these rhythmical actions has an intimate relation with the structure of metrical compositions. That the form of verse is conditioned by economy of those muscular movements which insure the oxygenation of the blood is a fact which many have acted on the strength of without knowing why they did so.

Let us look first at the natural rate of respiration. Of 1817 individuals who were the subject of Mr. Hutchinson's observations, "the great majority (1731) breathed from sixteen to twenty-four times per minute. Nearly a third breathed twenty times per minute, a number which may be taken as the average."(a)

The "fatal facility" of the octosyllabic measure has often been spoken of, without any reference to its real cause. The reason why eight-syllable verse is so singularly easy to read aloud is that it follows more exactly than any other measure the natural rhythm of respiration. In reading aloud in the ordinary way from "The Lay of the Last Minstrel," from "In Memoriam," or from "Hiawatha," all written in this measure, the first two in iambics, or short-longs, the last in trochaics or long-shorts, it will be found that not less than sixteen nor more than twenty-four lines will be spoken in a minute, probably about twenty. It is plain, therefore, that if one reads twenty lines in a minute, and naturally breathes the same number of times during that minute, he will pronounce one line to each expiration, taking advantage of the pause at its close for inspiration. The only effort required is that of vocalising and articulating; the breathing takes care of itself, not even demanding a thought except where the sense may require a pause in the middle of a line. The very fault found with these octosyllabic lines is that they slip away too fluently, and run easily into a monotonous sing-song.

In speaking the ten-syllable or heroic line—that of Pope's Homer—it will be found that about fourteen lines will be pronounced in the minute. If a breath is allowed to each line the respiration will be longer and slower than natural, and a sense of effort and fatigue will soon be the consequence. It will be remembered, however, that the *cæsura*, or pause in the course of the line, comes in at irregular intervals as a "breathing place," which term is its definition when applied to music. This gives a degree of relief, but its management requires care in reading, and it entirely breaks up the natural rhythm of breathing.

The fourteen-syllable verse—that of Chapman's Homer,—the common metre of our hymn-books—is broken in reading into alternate lines of eight and six syllables. This also is exceedingly easy reading, allowing a line to each expiration, and giving time for a little longer rest than usual at the close of the six-syllable line.

The twelve-syllable line—that of Drayton's "Polyolbion"—is almost intolerable, from its essentially unphysiological construction. One can read the ten-syllable line in a single expiration without any considerable effort. One instinctively divides the fourteen-syllable line so as to accommodate it to the respiratory rhythm. But the twelve-syllable line is too much for one expiration and not enough for two. For this reason, doubtless, it has been instinctively avoided by almost all writers in every period of our literature.

The long measure of Tennyson's "Maud" has lines of a length varying from fourteen to seventeen syllables, which are irregularly divided in reading for the respiratory pause. Where the sense does not require a break at some point of the line we divide it by accents, three in each half, no matter what the number of syllables; but the breaks which the sense requires so interfere with the regularity of the breathing as to make these parts of "Maud" among the most difficult verses to read aloud, almost as difficult as the "Polyolbion."

It may be said that the law of relation here pointed out does not apply to the writing of verse, however it may be with regard to reading or declaiming it. But the early poems of a people are recited or sung before they are committed to writing; and even if a versifier does not read aloud as he writes, he mentally articulates every line, and takes cognisance instinctively of its physiological adjustment to respiration as he does of its smoothness or roughness, which he hears only in imagination.

The critical test of poetry by the stop-watch, and its classification according to its harmonising more or less exactly with a great vital function, does not go very far, but it is quantitative and exactly scientific so far as it does go. The average reader will find on trial that the results given above are correct enough to justify the statements made. But here, as in astronomical observation, we must not forget the personal equation. An individual of ample chest and quiet temperament may breathe habitually only fourteen times in a minute, and find the heroic or iambic pentametre—the verse of Pope's Homer and Gray's "Elegy"—to correspond with his respiratory rhythm, and thus to be easier than any other for him to read. A person of narrower frame and more nervous habit may breathe oftener than twenty times in a minute, and find the seven-syllable verse of Dyer's "Grongar Hill" fits his respiration better than the octosyllables of Scott or Tennyson or Longfellow. A quick-breathing little child will learn to recite verses of two and four syllables, like the story of the couple whose predilections in favour of azotised and non-azotised diet are recorded in our nursery classic, and do it easily, when it would have to catch its breath in the middle of lines of six or seven syllables.

Nothing in poetry or in vocal music is widely popular that is not calculated with strict reference to the respiratory function. All the early ballad poetry shows how instinctively the reciters accommodated their rhythm to their breathing. "Chevy Chase" or "The Babes in the Wood" may be taken as an example for verse. "God Save the King," which has a compass of some half a dozen notes and takes one expiration, economically used, to each line, may be referred to as the musical illustration.

The unconscious adaption of voluntary life to the organic rhythm is perhaps a more pervading fact than we have been in the habit of considering it. One can hardly doubt that Spencer breathed habitually more slowly than Prior, and that Anacreon had a quicker respiration than Homer. And this difference, which we conjecture from their rhythmical instincts, if our conjecture is true, probably, almost certainly, characterised all their vital movements.

It seems not unlikely that other organic rhythms may be found more or less obscurely hinted at in the voluntary or animal functions. How far is accent suggested by or connected with the movement of the pulse, every stroke of which, if it does not lift the brain, as Bichat taught, sends a shock through its whole substance, and compresses it in its unyielding case? It is worth noting that twenty acts of respiration mean eighty arterial pulsations, and that twenty octosyllabic lines corresponding to these eighty pulsations have exactly eighty accents. Again, there is a singular coincidence between the average pulsations of the arteries and the number of steps taken in a minute; and as we hurry our steps, the heart hurries to keep up with them. They sometimes correspond so nearly that one is reminded of the relation between the steam-chest, with its two alternately

(a) Flint's Physiology, i. 391.

opening valves, and the piston with its corresponding movements, as we see it in the steam-engine. The doctrine of Bichat referred to above has been combated on the ground that the closely imprisoned brain could not be lifted; but the forcible impact of the four columns of arterial blood is none the less real in the normal condition than when the brain is seen to be raised through an accidental opening in the skull. So, also, notwithstanding the gradual equalisation of the cardiac impulse, this impulse must be felt very extensively throughout the body. We see that it can lift a limb through a considerable space when we happen to sit with one leg crossed over the other. It is by no means impossible that the regular contractions of the heart may have obscure relations with other rhythmical movements more or less exactly synchronous with their own; that our accents and our gestures get their first impulse from the cardiac stroke, which they repeat in visible or audible form. In these funeral marches which our hearts are beating, we may often keep step to the cardiac systole more nearly than our poet suspected. But these are only suggestions to be considered and tested; the relations of verse to the respiratory rhythm will be easily verified and extended by any who may care to take the trouble.

FROM ABROAD.

The Relations of General Medicine to Specialism.

Under this title the *New York Medical Record* of November 16 contains a leading article in which the arguments in favour of specialism in the present advanced condition of medical science are ably stated. We transcribe the principal passages:—

"It is not saying too much to affirm that specialism has not only worked its own triumphant way to the front rank of usefulness, but has proved itself indispensable to progress in medicine. We all admit that it is worse than folly to attempt to be well enough informed on the different specialities to enable us to be independent of the aid of specialists in our general practice. The more we appreciate the thoroughness with which the different specialities are studied, the more willing are we to admit that any one of them requires the devotion of a life time. The circle of each special study is widening to such an extent from year to year that we may well doubt whether a lifetime may after all be sufficient to master all the details which earnest workers are constantly accumulating. What may be said of the specialists can with equal truth be made to apply to general medicine and surgery; and the general physician or surgeon, far from being jealous, as formerly, of the apparent encroachments of specialism, must congratulate himself that he has now a better opportunity for keeping pace with the advancements of his own lines of practice.

"The very impossibility of keeping up with each speciality, and becoming equally well informed in all branches, brings us to the question how we can best draw that distinction between general and special practice as shall best serve the interests of medicine, and secure the greatest good to our patients. In the treatment of certain affections under the domain of specialism there is a point beyond which the general practitioner is not expected to go, and from which point the care should be resigned to more skilful hands. . . . In old times the treatment of almost all affections was monopolised by the general practitioner, and the knowledge of these affections was so limited that such a thing was possible. Now, however, the specialist comes in to commence treatment where the general practitioner leaves off, and from that point is capable of carrying it to a successful issue, and of bringing about recoveries the possibility of which was hardly dreamt of before. It is in consequence of the possession of this special skill that the specialist has a claim upon the practitioner and upon the patient. The precise time when a practitioner should resign his case to the specialist must vary with the intelligence of the practitioner, the appreciation of his responsibilities, and on the result of a culpable neglect. For practical purposes, however, we are warranted in assuming that as soon as special skill is required in the treatment, or so soon as there appears to be a liability that such skill may be needed, the case should be gracefully resigned.

"We are not prepared to deny that this is the general custom, but the exceptions are sufficiently numerous to prompt us in calling attention to them. The younger medical men are particularly liable to create these exceptions, and perhaps they are not so much to blame for so doing as are their teachers. In their desire to give the best medical instruction, the teachers attempt altogether too much, and sacrifice the time which should be devoted to the gaining of useful knowledge to what may be termed a devotion to high art in medicine. The student is made to believe that he is as capable of performing an operation for cataract as he is of treating an ordinary case of pneumonia, or that there is as much chance for him to tie the innominata as there will be to perform version. Is it to be wondered at that when such cases may, by some curious accident, fall in his way, there will be no hesitation on his part in assuming the responsibilities? It is truly an amusing, and at the same time a melancholy suggestive circumstance, to see the operating-theatre almost invariably crowded, while the fever wards and lying-in chambers are so shamefully neglected.

"We believe it necessary to do everything which may tend to improve our systems of medical education and to establish extra and special chairs in the general courses of lectures; but the instruction in all these special departments should be given with the sole idea of their utility to the ordinary practitioner. As at present carried on, the system is apparently calculated to induce the student to believe that when he graduates he can dare to attempt anything ever done before by anybody or everybody. The difficulty is, we imagine, that there is not enough care taken to point out those cases which, as a general practitioner, he may be called upon to treat, and those cases which he must not treat unless he has made a more thorough preparation than the college course allows. In fact, the graduate should be taught what is general practice, and what belongs to the practice of a speciality. To be well prepared to engage in general practice, he must have the general foundation of knowledge well laid, and such comprises all the ordinary diseases of every organ. The teachers of specialities can certainly occupy their time to no better advantage than by teaching the principles of treatment, the methods of diagnosis, the necessary measures to be adopted to prevent accidents, and the symptoms which should always demand the resignation of the case to an expert. This very kind of teaching gives the student the best possible chance to succeed in general practice, and the best possible preparation for the study of a speciality.

"In the matter of simple justice to the specialist who devotes his whole time to the study of his branch, the general practitioner should always be ready and willing to give him every opportunity of exercising his special skill. Nothing but good can come of this to all parties concerned. In regard to securing skilful services, this remark applies with equal appropriateness to such gentlemen who may not, in the strict application of the term, be called specialists. They may be said to occupy medium positions between the specialists and the general practitioner; their special skill in the treatment of one or more diseases may be viewed in the light of a cultivated accomplishment. We have instances of this in the particular attention which a physician pays to the diseases of a particular apparatus and in the experience which a surgeon accumulates in the performance of a particular operation. Such gentlemen deserve encouragement; and no conscientious physician or surgeon who has the best interests of his patient at heart can ignore the claims of such experts."

Nitrous Oxide Gas.

Dr. H. J. Barnes read a paper at the Suffolk Medical Society (reported in the *Boston Medical and Surgical Journal*, November 26), having for its object to show that nitrous oxide gas may be usefully substituted for ether in painful examinations, short operations, and the adjustment of fractures. He has availed himself of much information supplied by Drs. Ball and Fitch, dentists of Boston, who have administered the gas not less than 15,000 times, meeting with only two patients who proved refractory to its influence. In a larger number of persons who resisted its administration during the period of excitement its administration had to be suspended, the means necessary to confine them and compel the continuance of the inhalation not being at hand.

Ordinarily, a person is anæsthetised in from one to three minutes, by from twenty to one hundred inhalations, by which three or four gallons are consumed. Excitement, intoxication, and narcotism are as distinctly observed as when ether is used; and this without asphyxia, which is an accidental and comparatively rare occurrence. If lividity is observed, a half turn of the stopcock admits air, and the same relief is the result as when the sponge is removed, for like reason, during the administration of ether. The advantages of the gas over ether are—1. The shorter time required for anæsthetisation. 2. It is more agreeable. 3. There is rarely subsequent vomiting. 4. Its effects pass off quicker, three or four minutes being usually sufficient. 5. There is no danger of ignition. 6. The cost is very much less; fifty dollars will purchase a complete

apparatus, and about four cents per gallon will pay all other expenses.

"I have not observed hilarity so often in patients under its influence as with ether. A few pugnacious, excitable people are with difficulty carried through the different stages without a struggle. Usually, the gas is taken from this class when their ruling passion is manifested. After the excitement has passed, a little explanation of its effects dissipates their fears, and with renewed inhalation they go off quietly. Ten minutes is the longest time I ever kept a patient under its influence. There were no unpleasant symptoms accompanying or following its use in this case. I should not hesitate to employ it longer, were it necessary; and since writing this paper I have been informed by Dr. Baker of its employment in two cases of ovariotomy, one of them lasting over one hour and a half. I have used it thirty-five or forty times in the removal of wens, opening abscesses and felons, the extraction of in-growing nails, etc., and in each case the effect was satisfactory."

The Properties of Jaborandi.

Prof. Gubler, at a recent meeting of the Société de Thérapeutique (reported in *Gaz. Hebd.*, February 19) exhibited some branches of the *Polycarpus pinnatus*, which is the true medicinal Jaborandi; many other plants bearing the name of Jaborandi being liable to be confounded with it. A certain number of the leaves of this plant lately administered to a patient caused the discharge of a litre of saliva, this, in spite of its quantity, effecting the transformation of starch into sugar. A considerable quantity of the *polycarpus* has lately arrived in France, but the parcel has contained an enormous quantity of the wood. M. Gubler has ascertained that about six grammes of the bark are equal in power to four grammes of the leaves; of these last, also, the black-coloured are less active than the green. With so powerful a remedy we may sometimes go beyond the desired point, but hitherto M. Gubler has never found any serious harm result from its employment. Sometimes vomiting is produced, and at others diaphoresis is replaced by a notable diuresis, while at others the salivation becomes so considerable that the patient is prostrated as if he had just left a Turkish bath that had been carried to excess. The thirst is then very ardent, but it should not be satisfied if the diminution of some effusion be the object in view. Sometimes the salivary glands become hardened and enlarged so as to resemble two buboes; but no harm comes of this.

We are not able as yet to state all the indications for the employment of this substance, but some of these are clear enough—viz., the anasarca and œdema met with in rheumatism, albuminuria, and diseases of the heart. Under its use M. Gubler has found serous effusions diminish, and by it he has cut short attacks of influenza. One of the most remarkable results which he has observed has been its effects on chronic bronchitis and emphysema with asthmatic paroxysms. In five or six cases the amelioration has been instantaneous. He met with the first of these in 1873, in a man to whom a cup of tepid infusion had been administered during an excessive paroxysm of asthma, and who fifteen minutes afterwards began sweating and expectorating. Almost immediately after this his respiration became quite easy, the patient declaring that his malady had been taken from him as with the hand. The Jaborandi may also be advantageously given in subacute rheumatism; as also as a salivary revulsive, like calomel.

Antagonism of Atropia and Morphia.

At the same meeting of the Society, M. Constantin Paul related a case of poisoning by atropia which was treated by an enormous dose of morphia. A woman, twenty-six years of age, swallowed five centigrammes of sulphate of atropia. This was followed by furious delirium, aphonia, collapse, and enormous dilatation of the pupil. In the course of a few hours seventy centigrammes of chlorhydrate of morphia were injected, and the next day the patient was out of danger. M. Dujardin-Beaumetz considered that this belief in the antagonism of morphia and atropia was a grave therapeutical error; and what astonished him in the present case was that the patient did not die of a double poisoning. Prof. Gubler somewhat agreed in this opinion, believing, however, that there is really an antagonism between the two substances, but that this is of no avail when the poisoning is considerable. Errors arise concerning poisoning by atropia, because ignorance prevails concerning the natural course of poisoning by this substance. Antagonistic powers are attributed to the remedy that is employed, because the patient gets well. This is an error, as the following case shows:—An advocate liable to migraine, while at home and alone took a dessertspoonful of a mixture containing forty centigrammes of atropia in thirty grammes of water. On rising from his bed he stumbled, fell down, and remained unconscious until found by his servant next day. The day after the accident mydriasis was the only effect of it remaining. It is certain that had any remedy been administered, its antagonistic power, instead of the natural course of the poisoning, would have been adduced in explanation of the recovery. M. Gubler insisted on the great difference that there is between the effects of atropia taken by the mouth and those which result from its hypodermic injection. We may give two, three, four, or even ten milligrammes of the sulphate per diem in a mixture, without any marked physiological effects being produced, while in the same patient the injection of a single milligramme will give rise to enormous physiological effects. He is disposed to believe that this arises from the fact that atropia is remarkably unstable in presence of the ferments of the stomach. It is the same with aconitia. M. Paul did not doubt that poisoning by belladonna may be spontaneously recovered from; but still he believes that in his case the seventy centigrammes of morphia were administered with impunity in consequence of the presence of the atropia.

REVIEWS.

The Histology and Histo-Chemistry of Man: a Treatise on the Elements of Composition and Structure of the Human Body. By Heinrich Frey, Professor of Medicine in the University of Zurich. Translated from the fourth German edition by Arthur E. J. Barker, Surgeon to the City of Dublin Hospital, etc. London: J. A. Churchill. Pp. 683.

It has long been matter for complaint that we here in England had no book for reference or study which dealt in a manner at all comprehensive with human histology. In many respects that portion of "Quain's Anatomy" which was devoted to general anatomy answered the demand fairly well; but beyond this sketch, admirable though it was, nothing was to be had. A year or two ago, we had the further boon bestowed upon us of an English edition of "Stricker's Histology," but this was a step further than we contemplated; it wanted that compactness, that unity of thought, which is the special gift of the books of one master. The multitude of writers, the views not always the same in different writers, and the omission of the writings of some of the best workers in Germany, constituted a drawback to the value of Stricker's great work. On the other hand, Frey's volume had long had a great reputation in Germany. He himself was a skilled teacher as well as a distinguished investigator, insomuch that when, but a few years ago, Dr. Burden-Sanderson desired to lay a proper account of the structure of a lymphatic gland before the world in one of our blue-books, he quoted Frey *verbatim*. Under the circumstances, therefore, it was almost a matter for surprise that attention had not sooner been directed to a book long and favourably known by every sound teacher of histology or physiology.

But let us turn to the volume itself. The English edition is a book of some size—rather greater in bulk, indeed, than the German; but it is so easily studied, one portion at a time, that it is more useful than smaller works, the different subjects being so easily come at. One of the greatest misfortunes connected with the present antiquated system of medical instruction is that the medical student begins on the same day to study chemistry, anatomy, and physiology. He plunges into physiology, which demands a knowledge of anatomy; whilst in chemistry he probably begins to study oxygen, the most complex compounds of which are commonly considered to be a necessary introduction to physiology. In this manual, too, there is such an introduction, termed "histo-chemistry." Everything should be in its place, and in our opinion there should be no such subject in this connexion. Everyone beginning medicine should be of necessity bound to have studied animal chemistry as a subject apart, and should have had training enough to understand what is necessary to be said on chemistry when discussing each organ and its functions. Be that as it may, Frey's chapter on the subject is at once short and exceedingly full of valuable material.

The next great division of the book is devoted to the history of structural elements, beginning with the so-called "cell." It would be hopeless here to attempt any discussion on what

constitutes a cell, but it is certainly not the ultimate element in all cases. The description of cells and cell-forms given by Frey is excellent.

To this chapter succeed in natural gradation modifications of cells and their immediate derivatives, such as constitute what we call tissues, of which the first is blood, then lymph, epithelial tissues, cartilage, bone, etc., in all of which the English student will find much that is new. Turning to connective tissue (strictly so called), to muscle, and to nerve, we have again to express our satisfaction with the work. The greatest care has been taken to make it as nearly as possible perfect, for which its readers may be really thankful. It is, however, to our mind, in the last chapter, which is devoted to the structure of the organs of the body, that Frey has done best. In our idea the descriptions of the bloodvessels and the lymphatics are among the best in the book; but where all is so very good it is not easy to hit upon the best. Moreover, the work has another merit: written originally in singularly clear German, it has passed through the hands of Mr. Barker into as good English. Often, too often, do we find works supposed to be translated into English hardly intelligible; but this is quite as frequently due to the bad German in which the book has been originally written as to any other cause. The work now under consideration contains very many admirable illustrations quite new to this country, and these are judiciously repeated whenever necessary, instead of being given once in the volume only. Again we strenuously recommend the volume to advanced students and practitioners fond of such pursuits, assuring them they can have no better guide to the study of histology.

A Lunacy Chart: being a Synopsis of the Lunacy Acts. By Lyttleton S. Forbes Winslow, M.B., M.R.C.P., D.C.L. Oxon., etc.

This is an exceedingly useful chart, comprising in a small compass a large amount of valuable information relative to the legal care of the insane, and a list of all the county and private asylums in England and Wales. It will be found a most ready means of reference for a medical man called to act promptly in a case of emergency. It is very neatly got up, and can be easily hung on the wall of a consulting-room, and, being thus always at hand, will save much time and trouble in searching for books among the book-shelves.

GENERAL CORRESPONDENCE.

OUTBREAK OF TYPHOID FEVER IN THE COUNTRY.

Letter from Mr. T. W. Blake.

[To the Editor of the Medical Times and Gazette.]

Sir,—In Sir William Jenner's interesting address to the Clinical Society, reported in your columns last week, he spoke of the importance of gleaning the history of outbreaks of typhoid fever when occurring in country districts, where, from the small area, solitary cases may be traced to their origin and probable cause. Acting upon the suggestion, I send you a brief report of an outbreak that occurred in my practice five years ago, in a small hamlet or country village called Binley, in Hampshire. An old woman, who had acted in the capacity of nurse at a case of typhoid fever at a village three miles from Binley (out of my district), was sent home stricken with the fever to Binley, where at the time there was "a clean bill of health." Two young ladies—sisters—visited the patient, being told that the fever was "not catching," taking milk and nourishment to the invalid. At the end of the week I was summoned to attend the eldest of the sisters, aged twenty. Diarrhœa had set in suddenly, with abnormal temperature and febrile symptoms. I at once inquired into the history of the illness of the old woman, who was not under my care, and found that she had suffered and died from the effects of typhoid. Her cottage was situated a considerable distance from the young ladies' abode. My patient's sister, aged eighteen, was the next to suffer, three days later. In both these cases the disease was in its severest form, attended with continually repeated diarrhœa and bloody evacuations.

At the end of three weeks the issue was doubtful, but they ultimately recovered. They were kept in separate rooms. Their mother took her part (and too freely) in assisting the nurses; she took the disease at the end of the third week of the outbreak, and died within a few days. Three nurses attended these patients "in turn"; all of them took the disease, and one died. The household consisted of eight persons—viz., the mother (aged sixty, a widow), the two daughters already mentioned, and a married daughter and her husband, both about thirty-five, and their son ten years of age; also two young maid-servants, besides outdoor servants, groom, etc., in the habit of drinking the ale and water used in the house. All the household used water from the same source for drinking and other purposes.

The married sister, her husband, their son, and the servants escaped the disease, although they were subjected to the same risks in the matter of eating and drinking; and only those who were exposed to the *direct* influence of the emanations from the sufferers contracted the disease in this instance. Every sanitary precaution was taken in the use of disinfectants and ventilation. Their dwelling was close to the rectory, and surrounded by cottages (the village consists of about thirty dwellings), but no other case occurred, and they have been free from typhoid fever from that time to this.

I am, &c., Thos. Wm. Blake.

Hurstbourne Tarrant, Andover, Feb. 22.

REPORTS OF SOCIETIES.

OBSTETRICAL SOCIETY OF LONDON.

Wednesday, February 3.

W. O. Priestley, M.D., F.R.C.P., President, in the Chair.

Professor Gustav Simon, M.D. (Heidelberg), and Professor Courty, M.D. (Montpellier), were elected Honorary Fellows of the Society. The following gentlemen were elected Fellows:—A. Cordes, M.D. (Geneva), Richard John Morton, M.R.C.S. (Aylsham), Ernest Watson Paul, L.K.Q.C.P.I. Brixton), and Richard Thomas Smith, M.D. (Haverstock-hill).

The President then delivered his inaugural address.

Professor Casellan, of Milan, presented his Transfusion Apparatus.

Menorrhagia.

Dr. T. C. Hayes exhibited a uterus and appendages which were connected by adhesions in several places to the large intestines. The patient, aged forty-two, had had two children and four miscarriages, had been subject to frequent and copious menorrhagia, and latterly had had three or four attacks of hæmatemesis. She lived in India several years, where she had ague and rheumatic fever. She was admitted into King's College Hospital suffering from cardiac disease, contraction of liver, and enlargement of spleen associated with ascites and œdema of legs. Death resulted after an attack of hæmatemesis. There was no reason to suppose that she had been intemperate, nor was there any clear evidence of her having had syphilis. Spite of the adhesions the uterus was remarkably movable; the menorrhagia was doubtless passive, and was probably intensified by the serious obstruction to the return of blood from the uterus caused by the adhesions.

The Presiment inquired whether there was any history of previous pelvic peritonitis, to which

Dr. Hayes replied in the negative.

The President remarked that the amount of pelvic adhesions and the absence of any history to explain them was a point of interest.

Dr. Edis alluded to a case of his, recently published, where morbus Brightii was the exciting cause of profuse menorrhagia, this latter symptom being often dependent upon the most varied conditions both general and local.

The Couchaid or Tocophelia.

Dr. Edis exhibited for Dr. E. Diver an apparatus designed to assist labour and economise force during parturition, enabling the patient, by pulling during her pains, to give comfortable pressure to the back, and support to the uterus at the same time. It consisted of a cushioned back pad and another for the front, with two stirrups for the feet, and a series of connecting straps and cords.

Dr. Aveling thought the ingenious apparatus for accelerating labour just exhibited ought to be used with the greatest caution. He feared that, more particularly in the early stage of labour, if not carefully applied it might have exactly the opposite effect to the one desired; and as the patient herself

had to use it, it was necessary that she should be at the time composed, or at least quite mistress of her own actions. A severe pain might either cause her to abandon it altogether or to use it too violently. He thought pressure by the hand preferable.

Dr. MURRAY objected to the apparatus on the score that it would be advertised as recommended by the Obstetrical Society. He thought we had sufficient to attend to in looking after the mother and child, without complicating matters by applying any such apparatus.

ABORTED OVUM.

Dr. EDIS exhibited an ovum, expelled about the eighth week, showing the villi of the chorion. The decidual membrane had not been passed.

The PRESIDENT remarked it was a pity the outer coats had not been obtained, so as to make the specimen complete.

SPECULUM TROUGH.

Dr. EDIS showed an indiarubber trough he had designed to fit over any speculum, so as to prevent wetting the bed in cases where it was necessary to employ the syringe. He had tried it in several cases, and found it answered the purpose well. It was similar to the ordinary ear-trough, except that, being elastic, it could readily be attached to any speculum, and did not interfere with any manipulations that might be necessary.

REPORT OF THREE CASES OF CEPHALOTRIPSY.

Dr. J. BRAXTON HICKS narrated the history of three cases in which he had resorted successfully to this operation, illustrating his remarks by the casts of two heads taken before the removal of the instrument. He employed it as a tractor as well as a crusher, and felt confident that it would in the main supersede the crotchet and craniotomy forceps in all cases of severity. In the first case the bony outlet was so small that the hand could not be passed up to the brim. Delivery was effected by the cephalotribe after the crotchet and craniotomy forceps had failed. In the second case the breech presented, and the labour was very tedious, the conjugate diameter of the brim being only about two inches. The third case occurred in a primapara, four feet three inches high, small-sized in every way, and hollow-backed. The two latter recovered perfectly in a fortnight; the first case succumbed on the fifth day.

Dr. MURRAY inquired if Dr. Hicks had ever known the instrument slip. It seemed to him (Dr. Murray) that its principal value was that of a tractor; as to pressure on either side, it was merely a change in the bulk of the head. He had never used the cephalotribe himself, but if the head were not perforated, lessening it one way would only increase it in the other. Without wishing to disparage the instrument, he thought that if we were able to attain sufficient power with the hook and forceps, delivery would be quite as easy as with the cephalotribe, especially as Dr. Hicks said it would supersede the craniotomy forceps or blunt hook after perforation.

Dr. HICKS stated that he always perforated first. If the head was too high, it was no case for cephalotripsy. It acted as a crusher and tractor; there was no outbulging.

Dr. PLAYFAIR thought Dr. Murray's objection was based on the fact he stated—viz., that he had never used the cephalotribe. Anyone who had done so must at once admit its immense superiority; and it was strange that, even after many years of use, teachers recommended the crotchet and craniotomy forceps for ordinary cases, instead of teaching, as they ought, that the cephalotribe was the proper resource whenever it could be used. No better proof could be given of its value than the last of Dr. Hicks's cases, in which two experienced operators, medical officers to one of our largest obstetric charities, had failed to deliver with the older instruments. When the cephalotribe had succeeded, could any evidence of its value be stronger? One particular value of the operation was also well illustrated by the paper—viz., the safety to the maternal soft parts, which were effectually preserved from injury by the spicula of bone, in consequence of these being within the scalp. Hence the dangers arising from picking away the broken bones were entirely avoided.

Dr. HEYWOOD SMITH said that one of the chief advantages of cephalotripsy was the rapidity with which delivery was accomplished; and this was an element of great importance, for the cases were generally those where labour had already been prolonged until the mother's powers were becoming exhausted, and when every minute saved was of the utmost importance. He, unlike Dr. Murray, had never performed craniotomy proper; and in all the cases where he had been compelled to perform cephalotripsy the facility of delivery was one of the remarkable features. Perforation, of course, was first employed.

The PRESIDENT remarked that in operating he had often been struck with the uselessness of many instruments. Where the skull was firm, even Sir James Simpson's cranioclasp was useless. With the cephalotribe, the bones were broken down more readily, and a firmer hold was obtained than by other means. In some cases the spinal hook of Dr. Oldham was most efficient.

Dr. HICKS, in reply, stated that he had found the head expand after removing the instrument, not because of the brain within, —because by passing the perforator three or four times through it its resistance was overcome,—but it expanded from its own elasticity tending to recover the globular form; this he had proved by frequent experiment, and therefore he had many times in this Society pointed out the advantage of drawing down by the cephalotribe, in opposition to the French recommendation that it should be removed and the head allowed to be expelled by natural efforts, or drawn down by the crotchet. With regard to the remarks which fell from the President, he said till he had employed the cephalotribe he was much indebted to the cranioclasp of Sir James Simpson. But with regard to the use of Dr. Oldham's vertebral hook and the fixing the crotchet in the foramen magnum, he thought there had been much misapprehension. With regard to the crotchet, it could not pass into the vertebral opening, but if it could catch the sella turcica, or if Dr. Oldham's hook were passed into the foramen magnum, this did not assist the descent of the head; for if the cranial base measured three inches, and the brim only two inches, no amount of pulling would conquer the difficulty,—all that was required was to bring the head side- or face-ways. From some unaccountable error, a constant answer from students to the question "How would you draw down the head after perforation?" was "By the vertebral hook." No other instrument was thought of. The vertebral hook was invented by Dr. Oldham to seize the head which had been torn off the body in breech presentation, by being passed into the spinal foramen of the remaining vertebræ. With regard to the advantage of the cephalotribe over the crotchet and craniotomy forceps, it must be remembered that these instruments can only act by virtue of the compression of the mutilated head against the vaginal walls, and therefore the pressure was in direct ratio to the traction employed; whereas the cephalotribe, by compressing the head, directly removed all the pressure and friction in a fourth of the time (and even in some cases in a tenth) it would take to deliver by the old plan.

Dr. HAYES stated that some French authors advocated clearing out the brain before applying the cephalotribe. Dr. Hicks seemed always to stir the brain up well, and so break it up.

UTERUS FROM A CASE OF NEARLY SUDDEN DEATH.

Dr. HEYWOOD SMITH exhibited the uterus and ovaries of a woman aged twenty-six, who had died the previous day within fifteen minutes of hæmorrhage into the pelvis. She had been confined sixteen days. On the third day she had a sharp attack of puerperal septicæmia, from which she with difficulty recovered. She had been sitting up for two days, when suddenly, about 12.30 p.m., she became faint, struggled violently, became blind, and died in less than a quarter of an hour, retaining her consciousness until the last. At the post-mortem the pelvis was found full of blood; the uterus was insufficiently contracted, probably the result of the attack of septicæmia; the left oviduct adhering to the broad ligament as the result of recent inflammation, and on the left ovary a small opening. The right ovary was studded with small cysts. In reply to the President he stated that the source of the hæmorrhage had not been discovered.

Dr. BLOXAM remarked that, given the conditions stated by Dr. Smith, those who were familiar with the symptoms of pelvic hæmatocele and with the fearful organic shock attending the outpouring of blood into the peritoneal cavity would expect such a patient rapidly to succumb.

The PRESIDENT requested Drs. Playfair, Bloxam, and H. Smith to examine the specimen further with the view of discovering the source of hæmorrhage.

NOTE ON THE TREATMENT OF CHLOROSIS AND ANÆMIA WITH THE PHOSPHIDE OF ZINC.

Mr. J. ASHBURTON THOMPSON communicated a short paper exemplifying the advantage of employing this drug. It suc-

ceeded in relieving the symptoms where iron had failed, anp that rapidly. Phosphorus was of great value in the treatment of patients recovering from uterine hæmorrhage and in all cases of anæmia, and seemed to exereise a specific influence upon the neuralgia so often met with in these eases, encouraging the general nutrition of the body. Free phosphorus is not the treacherous poison it has hitherto been considered to be. That it is a fatal and potent poison is true, but its therapeutic effects may be obtained with precision and perfeet safety. If proper formulæ be employed, no apprehension of unexpected or uncontrollable poisonous effeets of a therapeutic dose need hinder its general employment.

Dr. Routh said it might be known to some members of the Society that he had made several inquiries on the employment of phosphorus. In some eases it produced marvels, specially in eases like those detailed by Mr. Thompson, due to deficiency of phosphorus in the system. But it occasionally acted injuriously, produeing headache and giddiness, and in a few cases (of idiosyncrasy perhaps) it acted as a deadly poison, even in the first dose—sometimes immediately—producing vomiting and syncope. The safest preparation was the phosphide of zinc, but it was a medicine always to be closely watched when given.

Dr. Tilt inquired what preparation of phosphorus Mr. Thompson recommended.

Mr. Thompson, in reply, said Dr. Routh had revived the old objeetion—not because it was a poison, but because we cannot calculate the results. These arose from decomposed phosphorus.

Dr. Playfair inquired whether the zinc phosphide was not insoluble in pill.

Mr. Thompson replied that some acid tonic given simultaneously would serve to assist the decomposition.

The Treatment of Rigid Perineum and the Avoidance of its Rupture.

Mr. Trestrail (of Aldershot) read a communication on this subject. In cases where the perineum was long and firm he materially shortened labour by hitching two or three fingers into the posterior commissure, and keeping up extension, thus speedily enlarging the outlet, and obviating the necessity for employing the forceps. He cited a case illustrating this method.

Cases of Prolapsus Uteri Treated by Dr. Vulliert's Pessary.

Dr. A. Cordes (of Geneva) communicated the history of two cases treated by this instrument, which consists of a Hodge's pessary bent upon itself.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, February 9.

C. J. B. Williams, M.D., F.R.S., President, in the Chair.

Hypospadias and Epispadias.

Mr. John Wood exhibited some eases of hypospadias and epispadias on whieh he had operated. Two of the cases of hypospadias were boys who had been unable to pass urine in the erect position, but were obliged to erouch down. The stream passed backwards. Having previously, in other cases, tried various plans with unsatisfaetory results, he adopted in these cases a plan whieh he had found successful in two other patients some time ago. It consisted in making a hole in the prepuee, through which the glans was made to protrude—the operation being somewhat the reverse of that of Nélaton for epispadias. At first he did not realise the difficulty of properly adjusting the parts; but he succeeded by making a broad flap and turning the skin inwards to the urethra. The prepuce was utilised for the formation of a channel for the urine. In one of the cases, there was a *cul-de-sac* apparently representing the fossa navicularis, with the urethral opening behind it. This he slit up so as to form a continuous channel. In the case of epispadias, there was want of retention of urine; but this defect had been quite overcome by, first, operation by Nélaton's method, and then performing two subsequent operations for completing the channel.

On the Treatment of Fistulous Openings by Dilatation.

Dr. W. Murray read a paper on the above subject. The author had been induced to try the effect of dilatiug sinuses by tangle tents, because of the contraction which sometimes follows their use, on the principle that "the lymph which is effused by the inflammation of rapidly dilated tissues will sometimes elose a sinus by its subsequent contraction." The treatment was tried in a case of fæcal fistula at the umbilicus; and, after two or three dilatations, a barrier of lymph was effused, which, by its contraction, closed the opening. In a case of fistula in the cheek, the same success was rapidly obtained. In a curious case of fistula of the urethra, the canal was closed after one or two dilatations, other surgical treatment having completely failed. In ordinary sinuses connected with strumous glands, good results were obtained by dilating, so as to let out curdy matters, and by setting up adhesive inflammation. The author asks surgeons to test the treatment in other eases, and suggests the use of tents for opening up sinuses connected with diseased bones and foreign bodies. By so doing, the parts may be explored, and the offending substance may be removed without cutting.

Mr. John Wood would not detract from the merit of originality in the paper; but the proposal to dilate a sinus leading to dead bone was carried out long ago by Nélaton, by means of a piece of gentian-root, in Garibaldi's ease. *A priori*, the plan described by Dr. Murray would scarcely recommend itself to surgeons, as its principle was to dilate an opening in order to close it. The plan had been followed in Watzer's operation for the radical cure of hernia, and had been found to fail. He would not, however, absolutely eondemn it without further evidence.

On the Diagnostic Value of the Ilio-Femoral Triangle in Cases of Injury to the Hip, more particularly of Impacted Fracture.

Mr. Bryant read a paper on this subject. The triangle which the author described as the "ilio-femoral" was formed between the ilium and the great trochanter of the femur. One side of it, AD, was drawn from the anterior superior spinous process of the ilium, A, to the top of the major trochanter, B; the second, AC, was drawn from the anterior superior spinous process of the ilium directly downwards to the horizontal plane of the recumbent body; and the third, CB, the base of the triangle, was drawn at right angles to AC, and fell upon the line AB when it touched the great trochanter. To this line the author's observations referred. He said that the line AB corresponds in the normal condition of the hip-joint to Nélaton's test-line for dislocation of the head of the thigh-bone backwards, and he regarded the line of the triangle described (CB) to the be test-line for fractures or shortening of the neck of the thigh-bone. He stated that after repeated proofs he could confidently assert, that whilst in a healthy subject the ilio-femoral triangles of the two sides were exactly similar in all cases of injury to the hips, in which shortening of the neck of the thigh-bone existed, the amount of shortening could readily and accurately be made out on comparing the bases of the triangles of the two sides. In impaeted fraeture, where on the sound side the base of the triangle would, in the adult, measure its average normal length of two inches and a half, on the affeeted or injured side it would measure from half an inch to more than one inch less. These measurements were taken with the patient in the horizontal position, the pelvis straight, and the two femora parallel. The author illustrated his paper by quoting half a dozen cases of impacted fracture, in which by the test-line the shortening in the neck of the thigh-bone was readily made out; and eoncluded by pointing out the value of such simple and certain means of making out whether any shortening of the neck of the thigh-bone exists after an injury preventing any undue manipulation of the hip-joint, in cases of impacted fracture or other obscure injuries to the joint. He then passed on to point out how fallacies in the test might be met with; but, as they were quite exceptional in practice, he thought that they could in no way tend to diminish the value of the test-line as a means of diagnosis in hip-joint injuries. (The paper was illustrated with drawings and a diagram.)

Mr. G. Pollock asked whether Mr. Bryant did not find equally good results from the old plan of measuring from the anterior superior spinous process to the patella. The plan proposed was, however, so mathematieally eorrect that it might be a useful aid in diagnosis.

Mr. Thomas Smith said that it had to be proved that the plan of measurement described by Mr. Bryant could be applied to all bodies. It would be difficult, in a corpulent elderly person, to estimate the position of the trochanter. He had

recently been engaged in making measurements on the dead subject; and he had found that accuracy could be obtained only by driving a bradawl into the bone. He would prefer the measurement from the anterior superior spine of the ilium (which is readily recognisable) to the external malleolus. The line proposed to be dropped from the spine of the ilium might not be vertical; and it might be difficult to find the position of the trochanter.

Mr. Barwell spoke of the difficulty of obtaining a perpendicular line on a rounded surface. It was not only necessary to observe that the line AC was perpendicular, but there was a difficulty in making BC at a right angle to it. The measurement from the spine of the ilium to the malleolus was a great guide to diagnosis. The amount of shortening would be better determined by stretching a tape from the anterior superior spine to the great trochanter than by Mr. Bryant's lines. This plan might be applied in cases of fractures and dislocation. Not unfrequently fractures occurred in thigh-bones which were not accurately alike on both sides, as in old persons who had had rickets. All difficulties here, however, would be removed by measuring through Nélaton's line, rather than from the anterior superior spinous process of the malleolus.

Mr. John Wood recognised the importance of the measurement of the base of the triangle as recommended by Mr. Bryant; and he thought a measurement of the kind better than Nélaton's line. He measured, however, from the crest of the ilium to the trochanter; at the same time, in stout females with loose flabby tissue, he combined with it measurement according to the old plan.

Mr. Maunder thought that the diagnosis of impacted fracture of the neck of the thigh-bone was well established and very easy. Its signs were negative rather than positive. The limb remained still capable of some motion, which was not the case in dislocation and fracture. But a great point was, that, in consequence of the bone being driven into the trochanter, the mass of bone could be felt with the fingers.

Mr. W. Adams thought the plan of measurement described by Mr. Bryant likely to be useful in the diagnosis of chronic disease and congenital dislocation of the hip-joint in children. He had used a somewhat similar method by making dotted lines over the parts.

Mr. Callender said that the late Mr. Stanley took great interest in measurements, especially in fractures of the thigh-bone. He used to measure between the different parts by using a flat surface—such as an ordinary prescription board—as the fixed point, in such a way as to ascertain not only the amount of shortening but of lateral depression.

Mr. Bryant said that he would not have brought the plan before the Society unless he had been convinced of its superiority, both in thin and in fat subjects. He did not use a plumb-line, but measured with tape. The plan was especially useful in determining the shortening of bone without subjecting the patient to unnecessary manipulation.

NEW INVENTIONS.

POCKET THERMOMETER.

One of the latest and best forms of this useful instrument has been forwarded to us from Messrs. Arnold and Sons, of 35 and 36, West Smithfield. It is of a very useful size for the waistcoat pocket, and is contained in a case of metal much like that of an ordinary pencil. The end of the thermometer is inserted in a metal heading, which fits the receiving case so as to shut with a bayonet-fastening,—a sure, yet easily manipulated fitting. The marking of the glass is clear and nearly indelible. There is only one remark beyond this we have to make. It is this: though the pins which fasten the bayonet-catch project a little, they hardly do so far enough to prevent rolling on the table. Could not Messrs. Arnold give a flattened section to the instrument, as in the pen-vaccinator?

VEGETABLE TAR SOAP.

We have seen some specimens of a new soap introduced by Messrs. Bristow, of 5, Bishopsgate-avenue, Camomile-street, E.C., which we think we may cordially commend. This soap contains only Stockholm or vegetable tar, the odour of which is not too great, and, above all, it is a soap of good washing qualities. Some of the specimens seemed rather new, but they, too, are excellent save for this alone.

OBITUARY.

WILLIAM ELLIS GUEST.

The death was announced a few days since of William Ellis Guest, of Leigh, Manchester. He was the son of Dr. John Guest, and the grandson of the first Dr. Guest, of Leigh. The son, grandson, and great-grandson of surgeons, he followed his father's profession, and was apprenticed to the elder Thorpe, of Manchester, and studied at the Royal Infirmary. From Manchester he went to Guy's Hospital. After he had obtained his diplomas from the Royal College of Surgeons and the Apothecaries' Company he went to Paris, and attended a course of lectures at one of the French schools. From Paris he made a Continental tour, after his return from which he was elected House-Surgeon of the Royal Infirmary at Manchester. He was one of the founders of the Manchester School of Medicine, and became Demonstrator, and afterwards Lecturer on Anatomy at the old Pine-street School of Medicine. When Mr. Guest retired from his Manchester practice, the chief part of his museum was bought for the opposition medical school in Chatham-street, but it was transferred afterwards to the Pine-street School, and more recently to Owens College. Impaired health, from the constant attention and anxiety of a large practice, obliged him at last to seek rest in retirement.

ATHENODORE DE NÉGRI, M.B. Lond., M.R.C.S.E., L.M., L.S.A.

Athenodore de Négri, of illustrious Greek parentage on his father's side, was born in Edinburgh on June 29, 1839, and brought to London at the age of eleven. The principal study of his early years was the Greek language and literature, conducted by his father. He afterwards, at the age of fourteen, attended University College School, where, though labouring under serious difficulties in consequence of his irregular training, he maintained a creditable position. At sixteen he went to Brussels, where he attended the Athenæum, and being introduced to the family of Sir Robert Carswell, was inspired by him with the desire of studying medicine. At seventeen he became a student in University College, and at eighteen matriculated at the London University. At twenty-one he became an M.R.C.S. and L.M. At twenty-two he passed the Apothecaries' Hall and afterwards obtained the degree of M.B. at the London University. He then practised as assistant in various towns in England for the space of two years, and afterwards spent a year in Paris during the cholera of 1865-66. In 1866, at the age of twenty-seven, he began practice in St. John's-wood, with every prospect of the steady success due to his industry and earnestness, and to the thoughtful and philosophic spirit in which he had invariably pursued the purpose of his life; but his devotion to the practice of his profession made him careless of his own health and strength, and a cold, again and again renewed, at length resulted in serious disease of the lungs. As soon as the nature of his complaint was ascertained, he proceeded to Australia, visited Melbourne, Sydney, and other towns in Queensland, where, forming acquaintance with many medical men, he was frequently called in in consultation; but finding himself still pursued by his cruel complaint, and being weary of colonial life, he returned to England. He unfortunately selected the American route for his return, and encountered many difficulties, delays, and risks in the Pacific. He could not resist visiting every accessible object of interest on the journey across the American Continent; so that, worn out with fatigue, he arrived late in the season "to die"—as he ominously expressed it—"at home." Here he was in a measure restored, by complete rest and careful nursing, for two years and a half, and seemed to promise a much longer reprieve, till, in the worst part of this exceptionally bad winter, he, after a period of feverishness, fell into a state of extreme prostration, and passed away, in sleep, on the morning of February 3. He was remarkable for his modesty with regard to himself, and his readiness to acknowledge the merits of others; for his application to study, his love of his profession, his candour, honesty, and singleness of purpose in all the relations of life.

MEDICAL NEWS.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—The following gentlemen were admitted Licentiates on February 20, viz. :—

Davies, John William, Ebbw Vale, Monmouth.
Frost, William Adams, 47, Ladbroke-square, W.
Hardman, William, Blackpool.
Lyons, Alfred de Courcy, 15, Vicarage-gardens, W.
Mason, Henry William, 19, Granville-square, W.C.
Stocker, Charles Joseph, Stratford-green, E.
Thomas, Robert Thomas, 34, Great Percy-street, W.C.

The following candidate, having passed in Medicine and Midwifery, will receive the College licence on obtaining a qualification in Surgery recognised by this College :—

Edwards, David, University Hospital, W.C.

APOTHECARIES' HALL. — The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, February 18 :—

Perrin, Alfred Charles, 27, Upper Phillimore-place.
Taylor, Henry Cumberland, Boulton House, Jersey.
Thomas, Robert Thomas, East Looe, Cornwall.
Townsend, Charles Percy Green, Queen's Hospital, Birmingham.

The following gentlemen also on the same day passed their primary professional examination :—

Ground, Edward, King's College.
Vachell, Herbert Redwood, King's College.
Harris, Stanford, Manchester College.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

CHEESEWRIGHT, JOHN F., L.R.C.P. Edin., M.R.C.S. Eng.—Medical Officer of Health for Greasbrough, Yorks, *vice* — Cobban, M.B., C.M. Aber.

M'GREGOR, JOHN, M.B., C.M.—Medical Officer for the Parish of Morven, Argyleshire.

MURPHY, GEORGE WYNDHAM, M.D.—Medical Officer of the Ramelton Dispensary District and Ramelton Fever Hospital, co. Donegal.

NAVAL APPOINTMENTS.

ADMIRALTY.—William H. Clark, Fleet Surgeon ; Robert Potter, M.D., and David W. O'Connor, Surgeons, to the *Undaunted*.

BIRTHS.

BELL.—On February 22, at Rochester, the wife of J. Albert Bell, M.R.C.S., of a daughter.

CHOLMELEY.—On February 20, at 63, Grosvenor-street, W., the wife of William Cholmeley, M.D. (prematurely), of a son, stillborn.

GAIRDNER.—On February 18, at 225, St. Vincent-street, Glasgow, the wife of W. T. Gairdner, M.D., of a son.

KING.—On February 18, at Ambleside, Westmoreland, the wife of W. Moore King, M.R.C.S., of a daughter.

SANDS.—On February 13, at 118, Holland-road, Brixton, S.W., the wife of J. Lee Sands, M.D., Staff-Surgeon R.N., H.M.S. *Thetis*, of a son.

SEALY.—On February 21, at Oak-hill, Weybridge, the wife of G. J. Sealy, M.D., of a daughter.

SMITH.—On February 18, at Loftus-in-Cleveland, Yorkshire, the wife of J. Broom Smith, M.D., of a son.

MARRIAGES.

ALLEN—RYVES.—On February 8, at Hove Parish Church, Brighton, Henry Marcus Allen, eldest son of Thomas Allen, M.D., of Regency-square, Brighton, to Florence Alma, only daughter of the late Captain W. C. Lane Ryves, Bengal Native Infantry.

EASTALL—DERRY.—On February 17, at Trinity Church, Blackheath-hill, Henry Francis Eastall, M.R.C.S., L.S.A., youngest son of G. K. H. Eastall, Esq., of the Madras Medical Service, to Ellen Elizabeth, eldest daughter of Thomas Derry, Esq., of Greenwich.

FINLAY—CHALMERS.—On February 23, at St. Jude's Church, South Kensington, William Alexander Finlay, M.D. Trinity, Edinburgh, to Adela Edith, fourth daughter of the late John Chalmers, Esq., of Aldbar, Forfarshire.

HUGHES—DE HANE.—On February 4, at St. George the Martyr's, by special licence, Robert Hughes, M.R.C.S. Eng., L.S.A., son of the late Rev. Thomas Williams Hughes, of the Red House, Woodbridge, Suffolk, to Margaret Caroline, third daughter of the late Edward Francis De Hane, F.R.C.S., of Wolverhampton.

DEATHS.

BARNETT, MARY E. C., beloved wife of Surgeon J. Milford Barnett, M.D., H.M.'s Indian Army, and daughter of the late John Johnston, Esq., of Ashley Lodge, co. Down, at Croft House, Holywood, on February 16.

BROWN, FRANCIS MARSHALL, fourth son of the late Baker Brown, F.R.C.S., at Inverell, New South Wales, of acute laryngitis, on October 19, 1874, aged 30.

BURRELL, ELEANOR, widow of the late Henry Burrell, M.D., Inspector-General of Hospitals, of Beacon Hill House, Exmouth, at The Hermitage, Guernsey, on February 18.

COOKE, CATHERINE BENNETT, widow of the late Charles Turner Cooke, M.R.C.S., at 26, Cambray, Cheltenham, on February 22, in her 87th year.

CAARS, ALFRED, M.D., at Pelham House, Poole, Dorset, on February 17, aged 61.

GRAHAM, MARGARET, third daughter of the late Robert Graham, M.D., Professor of Botany in the University of Edinburgh, at Pallanza, Lago Maggiore, on February 14.

LAKING, FREDERICK AUGUSTUS, M.R.C.S., at Penrith, Cumberland, in his 61st year.

LIGHTBODY, WILLIAM HENRY, M.D., eldest son of the late Robert Lightbody, Esq., of Ludlow, at Burwood, near Sydney, N.S.W., on December 12, 1874, aged 32.

NORTON, EDWARD, M.R.C.S. Eng., L.S.A., at his residence, 29, Upper Baker-street, Regent's-park, N.W., on February 16, in his 66th year.

STONE, HELEN AUGUSTA, widow of Daniel Stone, surgeon, late of Abingdon, and last surviving daughter of the late Lieut. Thomas Strange, R.N., on February 18.

WILLIAMS, CLARA, beloved wife of Albert Williams, M.D., at 4, York-terrace, Sydenham, on February 9.

WOOLMER, JOSEPH BENSON, M.R.C.S. Eng., L.S.A., at his residence, 71, Warwick-square, on February 21.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

CHORLEY UNION.—Medical Officer of Health. Candidates must be duly qualified. Applications, with testimonials, to Mr. E. Stanton, Chorley, on or before March 2.

COVENTRY AND WARWICKSHIRE HOSPITAL, COVENTRY.—House-Surgeon and Dispenser. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before March 25.

DORSET COUNTY HOSPITAL.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Chairman, on or before March 4.

HAILSHAM UNION.—Medical Officer for the Parish of Heathfield. Candidates must be duly qualified. Applications, with testimonials, to the Chairman of the Board of Guardians, Board Room, Union Workhouse, Hellingly, before March 8.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Physician and two Assistant Physicians. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before March 2.

KILBURN DISPENSARY.—Senior Resident Medical Officer. Candidates must possess a double qualification and be registered. Applications, with testimonials, to the Honorary Secretary, 33, Boundary-road, Finchley-road, N.W., on or before March 8.

LANGPORT UNION, SOMERSET.—Medical Officer for the Babcary or No. 2 B District of Langport Union. Candidates must be duly qualified. Applications, with testimonials, to the Clerk of the Union, before March 2.

LONDON FEVER HOSPITAL.—Resident Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, at the Hospital, Liverpool-road, Islington, N., on or before March 6.

NEWMARKET UNION.—Medical Officer and Public Vaccinator. Candidates must be duly qualified. Applications, with testimonials, to the Clerk to the Guardians, on or before March 8.

QUEEN'S HOSPITAL, BIRMINGHAM.—House-Surgeon and Dispenser. Candidates must be duly qualified. Applications, with testimonials, to Captain Fosbroke, at the Hospital, on or before March 25.

ROYAL EDINBURGH ASYLUM.—Assistant-Physician. Applications, with testimonials, to Dr. Clouston.

ST. THOMAS'S HOSPITAL.—Assistant Obstetric Physician. Candidates must be medical graduates of a University in the United Kingdom. Applications, with testimonials, to the Treasurer, at St. Thomas's Hospital, Westminster-bridge.

SHEFFIELD PUBLIC HOSPITAL AND DISPENSARY.—Assistant House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to Dr. J. C. Hall, Honorary Secretary.

SOUTHPORT INFIRMARY AND LOCAL DISPENSARY.—Resident House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before March 8.

TORBAY INFIRMARY, TORQUAY.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Honorary Secretary, Hemsworth, Torquay.

UNIVERSITY COLLEGE, LONDON.—Curator for the Museums of Anatomy and Comparative Anatomy. Applications, with testimonials and full particulars of qualifications, to John Robson, B.A., Secretary to the Council, on or before March 6.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Poole Union.—The Second District is vacant; area 12,393; population 3022; salary £60 per annum.

Shepton Mallet Union.—The Fourth District is vacant; area 6854; population 1305; salary £36 per annum.

South Shields Union.—Mr. George F. Henry has resigned the Westoe District; area 1500; population 19,000; salary £50 per annum.

APPOINTMENTS.

Faringdon Union.—Caleb Barrett, F.R.C.S. Eng., L.S.A., to the Shrivenham District.

Leicester Borough.—Henry Meadows, M.B., C.M. Edin., as Analyst.

Stratford-on-Avon Union.—James J. Luce, M.D. St. And., L.R.C.P. Edin., M.R.C.S. Eng., L.S.A., to the Welford District and the Workhouse.

Worcester Union.—John Davies, L.R.C.P. Edin., M.R.C.S. Eng., L.S.A., to the Second District.

THE Bedford Rural Sanitary District has hitherto been divided, and held by two medical officers of health at £120 per annum each, but upon the recent death of Mr. Stedman, the officer for the Northern Sub-District, it was determined to appoint one officer for the whole district at £210 per annum; and it was intimated at the last meeting of the Authority that Dr. Prior, whose appointment as officer for the Southern Sub-District would expire on March 25, would be willing to undertake the duties.

HEALTH OF LONDON.—The deaths of 1801 persons were registered in London last week, showing an excess on the average numbers of 194. The annual death-rate from all causes, which in the two previous weeks had been 24 and 26 per 1000, rose last week to 27, represented by 26 in the Central district, 27 in the East, South, and North, and 28 in the West. To the seven principal diseases of the zymotic class 168 deaths were referred, against 144 and 166 in the two previous weeks. There was 1 fatal case of small-pox, and 38 of scarlet fever.

LONGEVITY.—The obituary of the *Times* of the 23rd inst. contained some remarkable illustrations of prolonged existence in thirteen persons—viz., five ladies and eight gentlemen, whose united ages amounted to 1108 years, giving an average of eighty-five years and more than two months to each; the oldest was a lady who had reached the great age of ninety-nine years, the youngest of the same sex being eighty-two. Of the gentlemen the oldest was eighty-five and the youngest eighty-one years of age. Of septuagenarians there were ten, averaging seventy-five years and more than seven months. On adding the latter to the former we have the large number of 1864 years for these twenty-three persons, giving an average of more than eighty-one years of age.

MORTALITY IN SCOTLAND.—The mortality in Scotland during the quarter ending December 31 last has been the largest that has ever been recorded in the fourth quarter of a year since the Scottish Registration Act came into operation,—22,162 deaths were registered in the whole of Scotland during that period, being in the annual proportion of 254 deaths to every 10,000 of the population estimated to the middle of the past year. In the corresponding quarter of the ten previous years the death-rate was only 218·4 out of every 10,000 persons. Of the principal towns Glasgow showed the highest and Aberdeen the lowest mortality. The death-rates for every 10,000 in each of the eight towns were as follows:—384 in Glasgow, 353 in Dundee, 344 in Perth, 316 in Paisley, 280 in Leith, 270 in Greenock, 266 in Edinburgh, and 207 in Aberdeen. The deaths during the whole quarter were registered at the rate of very nearly 241 per diem. The mortality progressively increased, and was exceedingly heavy during December, the deaths having been 2536 in October, 2994 in November, and 3906 in December. Of diseases of the zymotic class, scarlatina was the most fatal; it numbered 1420 victims. The extreme prevalence of this one disease explains the unusual mortality ascribed during the quarter to zymotic diseases. Diseases of the respiratory system caused 2321 deaths, and constituted about 25 per cent. of all deaths registered in the eight towns.

A WOMAN appeared at the dispensary with pain of the left wrist. The right arm was one vast cicatrix, the result of an extensive burn while heating spirit for drinking—the usual way of taking spirits in the North. On the inner aspect of the left arm I observed a large scar, unlike anything I had ever seen before. The woman informed me that she had cut out a large piece in that region to promote the recovery of her husband, who, some twenty years before, had been dangerously ill and not expected to recover. This practice is not uncommon. —*Dr. John Dudgeon, in the Report of the Peking Hospital for* 1873.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

Medicus.—The whole subject of bleeding is most fully and ably discussed in Dr. Druitt's article on "Inflammation" in the second volume of "Cooper's Surgical Dictionary."

C. S. L.—The remains of the celebrated Sydenham were interred in St. James's, Piccadilly. A marble tablet was erected at the expense of the Royal College of Physicians. Dr. Arbuthnot, Benjamin Stillingfleet, the naturalist, and Dr. Akenside, the poet and physician, are also buried there. Dr. Armstrong was buried in a vault under the communion-table of St. Paul's, Covent-garden.

J. C., St. Bartholomew's.—The first hospital for sick persons was founded at Canterbury by Lanfranc, Archbishop of that diocese, in 1070.

P. P.—At some churchyard in York the epitaph will be found:—

"Here lies interr'd an honest man of York;
A better fellow never drew a cork;
He left a recipe to cure Hysteria,
Excelling all the Medica Materia."

L.R.C.P. Lond.—It has been remarked that the College was founded by persons who had obtained their degrees abroad. Linacre graduated in Italy, Chambre at Padua, Caius at Bononia, Harvey at Padua, Hamey at Leyden, and Sir John Micklethwaite at Padua.

A Collector.—You will find a large mezzotint portrait of Joshua Ward in the collection of the College of Surgeons. He was known by the name of "Spot Ward," from a nævus maternus on one side of his face. The celebrated Pope signalised him in two lines:—

"Of late, without the least pretence to skill,
Ward's grown a fam'd physician by a pill."

He was the most successful of all pill proprietors.

Kennet.—Dr. Daniel Turner died March 12, 1741, aged seventy-four. Of Colbatch, Turner says—"At his first setting out he was resolved to be taken notice of for novelty of opinion, which was that our stomach could never abound with too much acid, and that alkaline was the root of all diseases, as well fevers as others. Hence the orange and vinegar merchants' interests were to be promoted," and by Colbatch's recommendation "cream of tartar, spirit of sulphur and vitrol came to be much in use."

Cecil.—Sam Weller's observation on chalybeate waters was, that "they taste strong of flat-irons."

Lin.—Dr. John Murray, of Norwich, was said to be the founder of a society established in Norwich in 1775, under the name of "The Scots Society." This Society was afterwards named the "Society of Universal Good Will." It was a benevolent institution to assist the "forlorn and needy stranger."

A Surgeon and a Tobacco Smoker.—The official returns show that there are 230,901 dealers in tobacco in the United Kingdom, and the duty paid by them is £77,592.

Rees.—Dr. Alfred Robinson read his interesting paper before the Royal Society of New South Wales on December 9, 1868. The "Sydney Benevolent Society" was established in 1819.

W. V. H., Cheshire.—"On some Defects in General Education; being the Hunterian Oration of the Royal College of Surgeons for 1869." By Richard Quain, F.R.S. London: Macmillan. 1870.

Valerius.—Faraday was buried in the Cemetery at Highgate. He died on August 25, 1867, aged seventy-six years.

Anthony.—"The Medical Institutions of the United Kingdom: a History exemplifying the Evils of Over-Legislation." By Dr. John Chapman. London: Churchill. 1870.

Cid.—Giovanni Battista Morgagni was born at Forli, February 25, 1682, practised medicine in his native town till his twenty-ninth year, and then, accepting a professorship in Padua, resided there till his death on December 5, 1771. Morgagni is known as the founder of pathological anatomy. His works were published at Vienna in and after 1765.

Berceau-Balance, or Pèse-Bébé.—A healthy child is always growing. Starting from this aphorism, M. le Dr. Groussin, of Bellevue (quoted in *Causeries Scientifiques*), has contrived a machine whereby anxious young mothers may assure themselves from day to day, or even from hour to hour, that their baby is going on satisfactorily as regards increase of weight. It consists of an ordinary cradle, to suit the taste, fitted with a balance underneath which will tell the exact weight of the cradle and its contents, without any need for disturbing the child. It is stated that after two complete days of life a child weighs 100 grammes—that is, 1500 grains (or about four ounces)—less than at birth. When a week old, it will be of the same weight as at birth. From seven days to five months the average increase should be twenty-five grammes (three-quarters of an ounce) daily. At five months the weight should be double that at birth. At sixteen months the weight should be double that at five months. Of course, infants vary from time to time, and each individual has a rule of its own: the great point is, that growth ought to be *constant*. We think that when a child is born very rosy, plump, and heavy, the loss of weight in the first week is much greater than is stated above, and that it is not made up so quickly. On the other hand, we have found that when a child is born very ill-nourished and light of weight (such as under five pounds), it will generally, if well nursed, begin to put on flesh and increase from the day of birth, without any preliminary decrease. Anyhow, the principle of frequent weighing is a good one; but we believe that a little portable steel spring (made by Siemens) is the most convenient instrument to use for the purpose.

COMMUNICATIONS have been received from—

Dr. H. J. HARDWICKE, Sheffield; THE REGISTRAR OF THE ROYAL COLLEGE OF PHYSICIANS, London; THE REGISTRAR OF APOTHECARIES' HALL, London; THE HONORARY SECRETARIES OF THE HARVEIAN SOCIETY; Dr. J. CHEESEWRIGHT, Rawmarsh; Dr. A. TAYLOR, Corfe; Mr. H. A. FRASER, Morven; Mr. J. CHATTO, London Mr. JONATHAN HUTCHINSON, London; Dr. SPARKS, London.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—La Tribune Médicale—Le Mouvement Médical—La France Médicale—Le Progrès Médical—Bulletin de l'Académie de Médecine—National Food and Fuel Reformer—Philadelphia Medical Times—Pharmaceutical Journal—Centralblatt für die Medicinischen Wissenschaften—Middlesex County Chronicle—Lincolnshire Chronicle—Sunderland Times—Leigh Chronicle—Philadelphia Medical and Surgical Reporter—Chicago Medical Journal—Iron—Canada Lancet—Birmingham Morning News.

BOOKS AND PAMPHLETS RECEIVED—

Churchill on Consumption and Tuberculosis—Annali Universali di Medicina e Chirurgica—Transactions of the American Ophthalmological Society—Transactions of the Odontological Society of Great Britain, vol. vii., No. 4—Quarterly Return of the Births, Deaths, and Marriages registered in Scotland—Report by Dr. M. C. Cooke on the Gums, Resios, Oleo-Resios and Resinous Products in the India Museum, or produced in India—Bulletins et Mémoires de la Société de Chirurgie de Paris, nouvelle série, tome i., No. 1.

APPOINTMENTS FOR THE WEEK.

February 27. Saturday (this day).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 9 a.m. and 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westmineter Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

Royal Institution, 3 p.m. Prof. W. K. Clifford, "On the General Features of the History of Science."

March 1. Monday.

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

Medical Society of London (Ballot for the Election of Officers and Council, 7 p.m.), 8 p.m. Dr. Farquharson, "On a Case of Unusually Rapid Action of the Heart." Dr. Carpenter (Croydon), "On the Rational Treatmeot of some forms of Hemiplegia."

Odontological Society, 8 p.m. Meeting.

Royal College of Surgeons of England, 4 p.m. Professor W. K. Parker, "On the Structure and Development of the Skull."

Royal Institution, 2 p.m. General Monthly Meeting.

2. Tuesday.

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Pathological Society, 8½ p.m. Mr. Hutchinson—Drawings and Casts Illustrating the kind of Teeth usually met with in Zonular Cataract. Dr. Barlow—Aneurism of the Heart. Mr. Hulke—Specimens of Epithelioma. Mr. Howard Marsh—Malignant Disease of Testis. Dr. Douglas Powell—Aneurism of Aorta. Mr. Barwell—Myeloid Sarcoma of Humerus. Mr. Godlee—Blood-Cyst in Sarcoma. Mr. John Wood—Tumour of the Scapula. Mr. Knowsley Thornton—Ovarian Cyst with Papillomatous Growths. Dr. Julius Pollock—Worms in Heart of Dog. Dr. Crisp—1. Tubercle in Pheasants; 2. Cancer in Common Fowl.

Royal Institution, 3 p.m. Mr. A. H. Garrod, "On Animal Locomotion—on Land, in Air, and in Water."

3. Wednesday.

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Obstetrical Society, 8 p.m. Dr. Oswald, "On a Case of Suppurating Tumour of the Left Ovary" (with Specimen). Dr. Liebman (of Trieste), "Clinical Notes on the Early Course of Cancer of the Cervix Uteri." Dr. Savory, "Case of Epithelioma of the Cervix Uteri complicated with Pregnancy—Removal of Diseased Portion—Subsequent Delivery of a Healthy Child—Recurring Pregnancy." Dr. Geo. Roper, "On Prolapse of the Funis during Lahour." And other Communications.

Royal College of Physicians, 5 p.m. Croonian Lectures—Dr. Greenhow, "On Addison's Disease."

Royal College of Surgeons of England, 4 p.m. Professor W. K. Parker, "On the Structure and Development of the Skull."

Royal Micaoscopical Society, 8 p.m. Meeting.

4. Thursday.

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.

Royal Institution, 3 p.m. Prof. Tyndall, "On Electricity."

5. Friday.

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

Royal College of Physicians, 5 p.m. Croonian Lectures—Dr. Greenhow, "On Addison's Disease."

Royal College of Surgeons of England, 4 p.m. Professor W. K. Parker, "On the Structure and Development of the Skull."

Royal Institution (Weekly Evening Meeting, 8 p.m.), 9 p.m. Lord Rayleigh, "On the Dissipation of Energy."

VITAL STATISTICS OF LONDON.

Week ending Saturday, February 20.

BIRTHS.

Births of Boys, 1247; Girls, 1139; Total, 2386.
Average of 10 correspondiug years 1865-74, 2324·9.

DEATHS.

	Males	Females.	Total.
Deaths during the week	921	880	1801
Average of the ten years 1865-74	768·9	752·7	1501·6
Average corrected to increased population	...	...	1607
Deaths of people aged 80 and upwards	...	...	83

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric or Typhoid Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	6	3	1	10	...	8	...	5
North	751729	...	3	9	4	12	...	7	1	4
Central ...	334369	...	...	...	2	4	...	2	1	...
East	639111	...	1	10	...	11	...	4	...	2
South	967692	1	6	16	7	19	3	1	2	3
Total	3254260	1	16	38	14	56	3	22	4	14

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	30·016 in.
Mean temperature	37·5°
Highest point of thermometer	51·3°
Lowest point of thermometer	28·7°
Mean dew-point temperature	33·3°
General direction of wind	NE. & N.
Whole amount of rain in the week	0·25 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, February 20, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1875.)	Births Registered during the week ending Feb. 20.	Deaths Registered during the week ending Feb. 20.	Temperature of Air (Fahr.) Highest during the Week.	Temperature of Air (Fahr.) Lowest during the Week.	Temperature of Air (Fahr.) Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	Rain Fall. In Centimetres.
London	3445160	45·7	2386	1801	51·3	28·7	37·5	3·06	0·25	0·63
Portsmouth ...	122632	27·3	89	58	...	25·8	...	...	0·12	0·30
Norwich	82842	11·1	58	53	50·5	29·0	36·6	2·56	0·23	0·58
Bristol	196186	44·1	135	96	53·6	29·7	38·0	3·33	0·22	0·56
Wolverhampton ...	71718	21·1	62	47	52·3	25·8	36·9	2·72	0·65	1·65
Birmingham ...	366325	43·6	275	223	54·3	29·5	37·9	3·28	0·51	1·30
Leicester	109830	34·3	91	68	...	...	...	...	...	...
Nottingham ...	92251	46·2	60	52	52·7	26·1	38·8	3·78	0·24	0·61
Liverpool	516063	99·1	393	309	52·0	31·4	38·8	3·78	0·13	0·33
Mancheater ...	356826	83·1	270	241	52·0	32·0	39·5	4·17	0·13	0·33
Salford	135721	26·3	113	87	51·2	28·8	38·6	3·67	0·14	0·36
Oldham	87437	18·7	66	42	...	...	...	...	...	...
Bradford	168305	23·3	123	100	50·5	31·0	38·8	3·67	0·03	0·08
Leeds	285118	13·2	209	136	52·0	33·0	40·3	4·61	0·14	0·36
Sheffield	267881	13·6	230	133	52·5	30·5	39·2	4·00	0·17	0·43
Hull	133932	36·8	102	73	54·0	27·0	38·3	3·50	0·29	0·74
Sunderland ...	106342	32·2	96	59	53·0	31·0	42·2	5·67	0·33	0·84
Newcastle-on-Tyne	137065	25·5	125	82	50·0	30·0	38·2	3·44	0·21	0·53
Edinburgh	211626	30·5	117	126	52·5	33·0	38·8	3·78	...	...
Glasgow	531765	88·1	417	346	52·7	28·8	40·2	4·55	0·14	0·36
Dublin	314666	31·3	166	202	53·0	25·0	38·5	3·61	1·44	3·66
Total of 21 Towns in United Kingdm	7739490	37·0	5573	4332	55·0	25·0	38·7	3·72	0·30	0·7

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 30·02 in. The highest was 30·32 in. on Tuesday morning, and the lowest 29·85 in. on Saturday morning.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

LECTURES ON INJURIES TO THE HEAD.

By JONATHAN HUTCHINSON, F.R.C.S.,
Senior Surgeon to the London Hospital; Surgeon to Moorfields Ophthalmic Hospital and the Hospital for Skin Diseases.

Lecture II.

OSTEITIS, NECROSIS, AND PYÆMIA.

(*Concluded from page 222.*)

Symptoms of Pyæmia—Rigors—Theory of Arterial Spasm as the Cause of Rigors—Practical Significance of Rigors.

We will now consider the symptoms by which osteitis and pyæmia are denoted. By far the chief of these is the occurrence of a rigor.

The phenomena attending a shivering fit are of great interest. A patient who has hitherto felt perfectly well, whose skin was warm and his lips florid, suddenly begins to feel very uncomfortable. A sense of impending danger comes over him, and he is chilly and distressed. He begs the nurse to put more bedclothes on, but in spite of this rapidly gets worse. His face becomes pale and drawn, his lips blue and pinched, his pupils widely dilated, his pulse exceedingly feeble or even quite imperceptible at the wrists. The muscles of his extremities quiver and start, and his teeth chatter, probably from a similar irregular contraction and relaxation of those of his jaw. His fingers lose their plumpness, and look shrivelled and blue. His tongue is pale, and of a lilac-blue tint. If the rigor be a severe one an apprehension of impending death is usually present.

When the stage of shuddering has lasted from ten to thirty minutes it rapidly passes off, and gives place to one in which the surface becomes pungently hot and the face flushed. During this the patient is very thirsty, and his pupils are contracted. It is soon followed by profuse and general sweating. The patient is now soaked in perspiration. After this ceases he feels well again, is cheerful, takes his food, and, should the recurrence of the rigor be deferred for several days, he may appear to be as well as he was before.

As explanatory of these curious phenomena, the conjecture that the whole systemic arterial system under the influence of the vaso-motor nerve is thrown into a state of clonic spasm, seems most probable.(a)

A rigor bears to the vaso-motor system much the same relation that an attack of convulsions does to the cerebro-spinal system. By supposing that the arteries are for a time very much diminished in calibre, we can explain all the more important features of the attack. The patient is alarmed and distressed because the quantity of blood furnished to his brain is much too little.

His skin is shrivelled because its capillaries are empty. His pulse is imperceptible because the circulation is almost at a standstill. His lips, tongue, nails, are blue because the arterial capillaries are empty and the venous ones full. His muscles quiver because their structure is almost deprived of blood. That excessive heat of skin should follow such spasm is what we ought to expect, since when the state of contraction passed off it is in the highest degree probable that one of undue relaxation of the arterial coats would supervene. The sweating stage is also quite comprehensible, since the sudoriparous glands would be again flooded with blood. It is possible also that the blood, whilst pent up in the internal organs and kept away from the surface, may have become actually hotter than it was. The same nervous changes which relax the arterial coats may not improbably stimulate the glands to functional activity.

The dilatation of the pupils which occurs during rigor is exactly what we should expect from spasm of the vaso-motor nerve, since the radiating fibres of the iris are supplied by this nerve. Spasm of those fibres ought therefore to go in company with spasm of the muscular walls of the bloodvessels. No doubt the dilatation of the pupil is also assisted by the anæmic state of the brain and retina.

After injuries to the head, rigors are met with first in connexion with inflammation of different structures, erysipelas, arachnitis, etc.; or, secondly, with pyæmic blood poisoning. They are, I believe, rarely well marked, excepting either in connexion with erysipelas or pyæmia. In a case of erysipelas of the scalp, a rigor usually occurs at the very commencement, or it may be twenty-four hours before the first blush of redness about the wound. This premonitory rigor may be well characterised and severe, as much so as in pyæmia. Unless, however, there are distinct intermissions and relapses of the erysipelas, the rigor is not repeated. If it be repeated it is rarely severe.

Recurrent rigors, if severe, indicate pyæmia. In cases of traumatic arachnitis, as far as any facts show, rigors rarely occur, nor do they in the acute traumatic peritonitis which we often see after ovariotomy, or after herniał operations.

Now, admitting the theory that arterial spasm is the proximate cause of the group of symptoms presented in a shivering fit, it becomes of great interest to find out how that spasm is initiated. In pyæmia, for instance, what special stage of the process are we to recognise when the first rigor occurs? Does the access of a disintegrated thrombus to the current of the circulation suffice, or is it necessary that inflammation should be set up in some internal organ? We know that deposits of pus in the liver and lungs are almost constant occurrences in the course of pyæmia, and we know that pneumonia and hepatitis in their idiopathic forms are usually preceded by shivering. May we therefore assume that each successive rigor marks the epoch of a new focus of suppurative inflammation in the lungs or liver? There is certainly much plausibility in such a conjecture. I believe that secondary deposits are rarely found, excepting where rigors have preceded them; that the two often bear a strict relation to each other in number and character. Against this view it might be urged that there are rarely any other symptoms of pneumonia or hepatitis at the time of the first rigor, and that the patient has often appeared to be going on quite well up to that event.

I suspect, however, that if patients are carefully watched, there will always be noticed indications of disordered functions for a short time before the first rigor. Loss of appetite, feeling of malaise, a quickened pulse, etc., have in most cases been present. We must also bear in mind that pyæmic pneumonia is rarely productive of severe pulmonary symptoms. The portions of lung involved are abruptly circumscribed and often of small extent, and have none of the severe symptoms, as regards dyspnœa, which are met with in the diffuse or idiopathic form of pneumonia. The pyæmic form is, in fact, even when extensive, so little productive of chest symptoms that we may easily conceive that the early stage may have none whatever.

The rigors of pyæmia are certainly not periodic. The interval between them may be a few days or a week, or three or more may occur within twenty-four hours. This fact favours the belief that they are induced by some special event in the process and not by the mere blood poisoning.

There can be no doubt that the frequency of the occurrence of pyæmia after injuries to the head depends upon the contusion of the bone, followed by its inflammation and death. This connexion of pyæmia with osteitis, or with injuries to bone, is most positive in general surgery. We encounter pyæmia after amputation, excisions of joints, and compound fractures; very rarely indeed after lithotomy or herniotomy, or the frequent excisions of tumours not involving injury to bone. It occurs also with a fair degree of frequency after erysipelas. How inflammation of bone favours its occurrence must probably be explained by reference to the size of the venous channels in the cancellous tissue. In the diploe of the skull these venous channels are peculiarly large and abundant, and hence the great risk of pyæmia after contusions of the bones of the head. Coagulation of the blood in these channels, inflammation of the adjacent lining membrane, and subsequent softening of the clot,—these are probably the steps in the process. Opinions differ as to the extent of true inflammation of the walls of the vein, and as to how far it is a mere choking up of the vein by coagulation of its contents, or an effusion of lymph by its own walls.

In the case of inflamed and dying bone, probably coagulation takes place in the whole area of bone inflamed, and everywhere at its circumference are points where coagula in the sinuses of the diploe must come in contract with living blood.

It is the difficulty, under such circumstances, of the formation quickly of a line of demarcation between the dead and living portions, which constitutes the danger. Here, then, is the real risk attending traumatic necrosis of the skull. The

(a) In Dr. Brown-Séquard's admirable "Lectures on the Physiology of the Nervous System," I find the suggestion of this theory, p. 147. "He will also try to show the stage of this spasm in the cold stage in intermittent fever, in cholera, or after the introduction of a catheter, etc."

bone, and its included sinuses, cannot die quick enough, and the latter get themselves either walled up by adhesive inflammation or wholly separated by a line of ulceration. In soft parts, in a state of progressing death, the veins collapse as they die, and are indeed in all probability empty at the time. In bone, the unyielding nature of the surrounding tissue entirely prevents either emptying or collapse.

To return, then, to the question as to the significance of rigor (arterial spasms) as a symptom. We have seen that it is possibly caused by several different events.

1st.—The osteitis.

2nd.—The phlebitis consequent on the osteitis. (It is certain that this inflammation of veins does occur.)

3rd.—The escape into the circulation of portions of the thrombus (disintegrated) or of pus.

4th.—Some general change in the state of the blood, consequent on its poisoning by detached portions of thrombus, or of pus from suppurated ones.

5th.—The impaction (mechanical) of fragments of the disintegrated thrombus in distant parts (lungs, liver, etc.).

6th.—The occurrence of local suppuration secondary to the impaction of cells or fragments in the capillaries of the viscera.

If we have regard to the stage of the case at which the first rigor usually occurs, we shall be obliged to dismiss the first two suggested causes, for they must be present, if at all, from the very first, whilst the rigor rarely occurs till a certain time has elapsed. Besides, we know also that, as a rule in practice, no shiverings occur in osteitis without pyæmia, nor in cases of simple phlebitis—inflamed varices, for example.

Respecting the third and fourth suggested causes, we may remark that they are very possible, but that there are certain objections to each. The fifth is improbable for the reason that rigors do not occur in connexion with other forms of embolism. The last appears to be by far the most probable. According to it we should suppose the first rigor to denote the commencing suppuration of the earliest pyæmic depôt, and the recurrent ones to mark the times at which other deposits followed in the same course. In support of this hypothesis we have the fact that a rigor (arterial spasm) usually precedes the development of acute pneumonia or hepatitis when of idiopathic origin, especially if attended by suppuration.

We should thus expect the severity and number of the rigors to bear proportion to the number and size of the visceral abscesses to be found after death. My impression is that such is the case. I have not myself witnessed any case in which rigors had occurred in which we did not find secondary deposits. If we regard this hypothesis as satisfactory, the symptom of rigor in pyæmia becomes of yet more serious import than it has hitherto been held. It indicates not phlebitis, nor any form of incipient blood-poisoning, but pyæmia actually consummated, in which secondary deposits are already formed and are even commmencing to suppurate.

The Magistracy and the Profession.—William Crofton, Esq., M.D. Univ. Dub., of Lakefield, Mohill, co. Leitrim, has just been appointed to the Commission of the Peace for that county. Dr. Crofton is Physician to the Cheltenham General Hospital and Dispensary.

Health of London.—There were registered in London, last week, 1854 deaths, which exceeded by 173 the average numbers. The annual death-rate from all causes, which in the three previous weeks had been equal to 24, 26, and 27 per 1000, further rose last week to 28. Two deaths occurred from small-pox, 38 from scarlet fever, and 71 from whooping-cough. To the seven principal diseases of the zymotic class 176 deaths were referred, against 144, 166, and 168 in the three preceding weeks. These 176 deaths were 78 below the average from the same diseases, and were equal to an annual rate of 2·7 per 1000. The 71 fatal cases of whooping-cough showed a considerable increase upon the returns in recent weeks, but were slightly below the average. The deaths from diseases of the respiratory organs, which in the four previous weeks had gradually increased from 409 to 527, rose again last week, under the effects of the continued cold weather, to 576, which exceeded the average weekly number by 191. The Asylum District Small-pox and Fever Hospitals at Homerton and Stockwell contained 186 patients on the 27th ult., of which 95 were under treatment for scarlet fever, 63 for fever, and 15 for small-pox. The Small-pox Hospital at Homerton remains empty.

ORIGINAL COMMUNICATIONS.

CLINICAL STUDIES.

By Sir JOHN ROSE CORMACK, Chevalier of the Legion of Honour; F.R.S.E., M.D. Edin., M.D. Paris;
Fellow of the Royal Colleges of Physicians of London and Edinburgh; Physician to the Hertford British Hospital of Paris.

I. Congenital Syphilis.

(*Concluded from page* 225.)

Although the symptoms during life and the appearances on dissection unequivocally marked the case as a typical example of congenital constitutional syphilis, the origin of the disease required investigation. As the father of the infant did not come to me, as I had expected, I had to go to him. Some days after the death of the infant I called at the residence of the parents. I repeated to the father the statement I had made to the mother, to the effect that the infant had died from congenital syphilis, and that I wished to discover the source of its infection. He saucily replied that he was "enough of a doctor" to know that I was entirely mistaken. The infant, he said, was healthy at birth, and had died from the mother's milk having yielded imperfect alimentation. He willingly allowed me to examine him. I found that he had ulcerative pharyngeal gummata, a profusion of copper-coloured blotches on both legs, and nodes accompanied by tenderness over the spine of the tibiæ. After I explained to him the significance of these phenomena he considerably modified his denial of having had syphilis. He said that he must have had it without knowing the nature of his disease—a circumstance which he said arose from the reticence of his doctor. It was satisfactory to have been able to trace the poison from the infant to the father. The mother—who had no external manifestation of venereal disease—was evidently suffering from a cachectic condition, exhibiting itself in loss of appetite, sleeplessness, and progressive emaciation. This train of symptoms had set in shortly before delivery, which, as I have already mentioned, occurred a month before the natural term. The mother, in fact, had been contaminated by circulation in her system of the paternally poisoned fœtal blood.

In this case, from the extreme severity of the syphilitic explosion, the rapid evolution of the morbid changes, and the neglect of early treatment, it is probable that for some time before the infant was brought to the hospital no treatment could have availed. In such rapid and severe cases complete recoveries are rare; and when an apparent cure is accomplished, the ultimate issue is generally very unsatisfactory. It too often happens in such cases that the saved syphilitic infant either succumbs under the dangers normally incident to childhood and adolescence, or dies an early death from phthisis or some form of scrofula. Unless treatment is commenced before morbid structure-changes take place in the lungs, liver, and other organs, an absolute cure cannot be hoped for.

In other cases, however, in which the syphilitic explosion is more moderate, and the treatment is prompt, skilfully adapted, and vigilantly pursued, complete cures are obtained. In every case a persistent mild mercurial treatment is essential, alternated or supplemented by the administration of small doses of a ferruginous phosphate of lime and cod-liver oil. The preparations of mercury which I generally employ in infantile syphilis are calomel and hydrargyrum cum cretâ. I prefer the former, not because I believe in its superiority, but because I have generally obtained excellent results from its use. It requires, as a rule, to be given together with cretâ preparata, to prevent its acting too much as a purgative or intestinal irritant. This was the practice successfully pursued by the late Dr. William Campbell, of Edinburgh. He was in the habit of commencing with doses of a quarter of a grain of calomel and two grains of cretâ preparata once daily for the first ten days. He afterwards progressively increased the calomel to a quarter of a grain twice each day. Of course the age, strength, and general state of the patient must in each case determine the amount and frequency of the dose. An infant six weeks old will generally bear well Dr. William Campbell's doses. It sometimes happens that the infant's irritability of stomach is so great as hardly to bear any calomel. In such cases, one of two other simple plans may be tried—viz., the administration of a solution of the bichloride of mercury, or swathing the thighs every alternate eight hours in flannel bands smeared

with a mild mercurial ointment. I usually prescribe a solution of half a grain of the bichloride in three ounces of distilled water and one ounce of syrup. Of this solution from one to two teaspoonfuls may be taken every six, eight, or twelve hours, according to the patient and the symptoms. When mercurial swathing of the thighs is adopted, the proportion of mercury in the ointment ought to be moderate—say from one to four drachms of the unguentum hydrargyri of the British Pharmacopœia to an ounce of lard. Two or three drops of the British Pharmacopœia syrup of the iodide of iron in water, three times in the twenty-four hours, is an admirable sequel to, or occasional change from, the mercurial course, which ought to be continued, if possible, for a month; then intermitted for a week or two; and resumed, with occasional short breaks, up to the period of dentition. This is of the utmost importance, for relapses are common, and remissions, to the great detriment of the patient, are apt to be mistaken for cures. Rhubarb, with carbonate of soda, when the bowels are confined, will be found a suitable laxative. The preparation of sulphur called compound powder of liquorice in the Berlin Pharmacopœia is also an excellent medicine in such circumstances. When purging or tendency to diarrhœa exists, prepared chalk will generally be found an efficient remedy; but it may be necessary to combine that medicine in a fluid mixture with a very small quantity of the British Pharmacopœia extract of logwood. The calomel sometimes suddenly induces severe and rapidly exhausting catharsis, which has to be promptly checked.

Tepid ablutions and warm baths are very useful; but the latter require care and judgment, both in prescribing and administering, particularly when the patient is weak. Ulcerated surfaces, cracks, chaps, and cuticular exfoliations must be treated with soothing and healing topical applications. Black wash and the glycerat of borax are both very suitable. Sometimes in the same case, and at the same time, I employ both. The black wash suits best for healing ill-conditioned ulcerated surfaces, and the glycerat of borax is useful when the soothing and healing of angry sores and large denuded surfaces is demanded. The glycerat possesses the great advantage of keeping the skin in a moist state, and of so preventing painful cracks. The soft, spongy ulcerations often met with around the anus and near the vulva may be very efficiently dressed with the glycerat of borax, to which there has been added a small quantity of Morson's creasote. The proportions I prescribe are from ten to fifteen drops of creasote to an ounce of glycerat.

Ought the lactation of syphilitic infants to be mammary or artificial? That is, but ought not to be, a vexed question. It is no doubt better for the infant, if strong enough to suck, to draw its nourishment from the breasts of a healthy woman; but is it justifiable to sacrifice a wholesome nurse to the chance of saving a syphilitic infant? Certainly not. The nurse who suckles a syphilitic infant incurs an enormous risk: many an unsuspecting woman has acquired syphilis from her nursling. Were the risk infinitely less than it is, I should still say that it is not right that it should be incurred, for, when well understood and carefully carried out, artificial lactation is an excellent substitute for the breast. This, however, is too large a subject for incidental discussion at the close of a paper already, perhaps, of more than sufficient length, though far too short for the satisfactory discussion of the topics which have been mooted.

I have here refrained from detailing any of the many cases of recovery, or of treatment more or less successful, which have occurred in my practice, for unless stated at great length they would be almost valueless to the reader in respect of diagnosis, which is the root of the matter. Trousseau correctly remarks that "in infantile syphilis the diagnosis can be established only by patient inquiry into minute circumstances, and in cases of this kind descriptions are good only when they are long."

GOA POWDER.

By J. F. DA SILVA LIMA, M.D.
(Translated and Annotated by J. L. Paterson, M.D.)

I have read with much interest a paper in the *Medical Times and Gazette* of October 24, by Dr. Fayrer, of Calcutta, on the treatment of Indian ringworm by Goa powder. In this valuable communication—one of many such that have justly made him an authority on subjects of tropical pathology—Dr. Fayrer makes especial mention of certain cutaneous diseases—herpes circinatus, chloasma, and intertrigo—equally common here in Brazil as in India. In reference to the treatment of these eruptions, Dr. Fayrer states that he has found no remedy so rapidly or so certainly effective as the solution in vinegar or lime-juice of a secret preparation, which he believes of vegetable origin, sold in small phials by the chemists of Calcutta and Bombay under the name of Goa powder. Dr. Fayrer speaks of another powder very similar to the former, and equally efficacious in the treatment of the same diseases, known as "Poh di Bahia"—a designation which the author believes may be of Malay derivation. Mr. D. S. Kemp, Dr. Fayrer adds, from the fact of orchella (*Lichen orcella*) being imported in large quantities from the coast of Africa, north of Mozambique, into India, considers that substance as the most probable source of the Goa powder. Mr. Hanbury, F.R.S., he says, on the contrary, alleges the Goa powder to be a secret remedy, whose composition and place of manufacture are alike unknown. It is with the view of calling attention to the employment in certain cutaneous diseases of this secret, and, as he believes, native remedy, that Dr. Fayrer at considerable length lays before the profession the results of his valuable experience.

Without pretending to unravel completely the mystery that has, doubtless for interested commercial purposes, been thrown around the nature, origin, and composition of the remedy or remedies so favourably spoken of by Dr. Fayrer, I am yet, I believe, in a position to furnish him and other medical men in India with such information as will lead to the establishment of the identity of the Goa powder and the Poh de Bahia with a popular remedy for many years employed in this and in other provinces of the Brazilian empire for the cure of various cutaneous affections, and more especially of herpes circinatus, chloasma, and intertrigo. The remedy I speak of is known in the province of Bahia under the name of Araroba powder, and in the other provinces of the empire, importing it as they do from Bahia, under that of Bahia powder (*po' de Bahia*).

Araroba, or, as some call it, Arariba, is the name of a tree belonging to the *Leguminosæ*, related perhaps to the tree of the same family furnishing the "Brazil wood" of commerce; several species of the Araroba, like Brazil wood, being employed as a dye. Araroba occurs in commerce either in the form of a rough powder or in small pieces of different sizes of a light yellow colour, becoming much darker on exposure to light and moisture. The part employed is said to be the medulla of the stem and branches. Reduced to a fine powder, it is in this country employed mixed with vinegar, just as the Goa powder and the Poh di Bahia in India, and produces exactly the same effects as, according to Dr. Fayrer, are produced by these—irritating and discolouring the skin, and producing more or less heat in the part, according to the strength employed. In the same manner, the dark colour left by its application disappears after a few days, as Dr. Fayrer says occurs after the application of the Indian remedies.

I may mention in passing that the irritating effects of the Araroba on the skin and mucous membranes are such that the manipulation of it is attended with much inconvenience. The workmen employed in cutting up and pounding it are obliged to cover up very carefully their heads in order to protect their face, eyes, mouth, nostrils, and throat against its irritating effects.

The efficacy of Araroba for the cure of certain cutaneous diseases is here well known—a thing neither questioned nor questionable; and I have myself had innumerable opportunities of verifying it in the case of the diseases cited by Dr. Fayrer, as also lately in a very obstinate case of mentagra that, having proved intractable to every variety of treatment, external and internal, yielded completely in a very short time to the application twice a day, by means of a camel-hair pencil, to the roots of the affected hairs of a pomade of Araroba consisting of twenty grains of the Araroba powder, ten drops of acetic acid, and an ounce of the unguentum benzoini. Long before reading Dr. Fayrer's paper I had already suspected that the remedy which I had heard was in some parts of India used so advantageously for the treatment of herpes circinatus, and which was sold at a high price in the shops of Saigon and Singapore as the Poh Baia, was none other than our Araroba, more or less adulterated, perhaps, with other colouring matters. My chief reason for coming to this conclusion arose from my having had the good fortune in 1872 to make the acquaintance of Dr. Palasne de Champeaux, chief surgeon on board the French

war steamer *La Place*, during that vessel's visit to our port. Our conversation naturally turned on the more specially tropical diseases, and among other interesting communications he informed me that in Saigon, having on board many cases of herpes circinatus intractable to the usually employed remedies, he had been induced to try a native remedy much vaunted in such cases under the name of Poh Baia, procurable only in small quantities and at an exorbitant price (two francs a gramme). He had employed it as there recommended, mixed with vinegar, and with marvellously good result. Telling him in reply that in Brazil the popular remedy for the cure of such cutaneous affections was the araroba powder, known in the other provinces of the empire as the Po' de Bahia, mixed also with vinegar, the coincidence alike of the name, mode of application, and favourable results struck us both as suggesting the identity of the two remedies. On his leaving for Europe, I gave Dr. Champeaux some of the Araroba powder to take with him, and he afterwards employed it with exactly the same, only somewhat stronger, physiological and therapeutical effects as he had seen follow the use of the Poh Baia. These experiments and the conclusions come to by this distinguished member of our profession may be read, and will well repay the trouble, in the May number of the *Archives de Médecine Navale* for 1873.

I would add the following reflections, going far, I believe, to prove the identity of the Araroba powder with the Goa powder, the Poh di Bahia, and the Poh Baia:—

1. For a good many years back an old and well-known firm in this place has been in the habit of executing orders for large quantities of Araroba for Portugal.

2. Araroba (at all events, under that name), so far as I am aware, is unknown alike to the chemists and the medical men of Portugal.

3. It is therefore highly probable that the Araroba is from Portugal re-exported to its colonies on the coasts of Asia and Africa.

4. This probability will appear all the more, when we learn from Dr. Fayrer, on the authority of Mr. Kemp, that from the north of Mozambique, a Portuguese settlement, there is exported for India a large quantity of urzella (*Lichen orcellis*); leading him to the inference of its being the chief constituent of the Goa powder.

5. Goa, importing Araroba from Lisbon, would have given its own name to the product over the rest of India, just as Bahia has given it its name in other parts of the Brazilian empire.

6. Thus the terms Goa powder and Po' de Bahia (the *poh di Bahia* of Dr. Fayrer, the *poh Baia* of Dr. Champeaux) would designate all of them the same original substance, more or less altered, it may be, by adulteration in India; the name Poh di Bahia coming from the name of the Brazilian province of which it is a native, and not, as Dr. Fayrer supposes, from any Malay origin.

7. Mr. Kemp's idea that the urzella is a chief constituent of the Goa powder may arise from the circumstance of their colouring, the one and the other alike, any object, such as the skin or clothes brought in contact with them.

8. As the perfect similarity of the *modus operandi* of all three remedies would seem to point to their intrinsic identity, so would their unvarying mode of application for therapeutical purposes appear to point to a common centre whence their use had sprung.

If the preceding considerations do not fully prove the identity of the three remedies, there can, at all events, be no doubt that the Araroba powder is as effective, or even more so, than either the Goa powder or the Poh di Bahia for the cure of those cutaneous affections for which these latter have been employed. Of this opinion is also Dr. Champeaux, who in the article already quoted says—"La poudre d'araroba est un ante-herpétique aussi puissant au moins que la poudre de poh Baia, si elle ne lui est identique." To corroborate still more the Brazilian origin of the remedy, Dr. Champeaux further remarks that on questioning the person who supplied the hospital at Saigon with medicines, he, with much equivocation, confessed nevertheless that the Poh Baia was not indigenous, but came from America.

I am sorry to have occupied so much of your space, but the interest of the subject, not only to practitioners within the tropics, but to all more especially engaged in the study and treatment of cutaneous diseases, induced me to bring as fully as possible the Brazilian remedy under the notice of the Profession as well worthy of a trial in those diseases indicated by Dr. Fayrer, as well as in others that analogy or experience may point out. I am, &c.,

J. F. da Silva Lima, M.D.,
Physician to the Caridade Hospital.

Bahia, Brazil, December 10, 1874.

As an appendix to Dr. Silva Lima's admirable letter, to which I fear I may have done but indifferent justice in this translation, I may state that from my own experience I can fully bear out all he asserts as to the beneficial effects of the Araroba powder in the treatment of the cases indicated in his paper. During a short visit which in the beginning of last year I paid to Bahia (I had formerly been twenty-five years in practice there), I learned from Dr. Bomfim, the distinguished professor of botany, that the names *araroba* and *arariba* are of Indian—that is, South American Indian—origin, and come from a stem signifying "tawny coloured," and that the name is by the native Indians applied to a great variety of trees, some of which are described by Martius in his Botany of Brazil; none of these, however, at all corresponding with the plant from which the Araroba powder is procured. That this plant has not, as far as he is aware, been as yet described by any botanist; that he himself had had some of the leaves and the wood sent him, but had never seen a specimen of the tree, growing as it does in a distant part of the province. On my return in June I brought with me a small quantity of the powder, a portion of which I shall be very glad to give to anyone desirous of affording it a trial, which I am sure it will well repay; and in a few weeks any amount of it can be obtained, as in Brazil, if secret there be in the matter, it is the "open secret," whose only keepers are ignorance and indifference. I brought with me also, in default of the seed—the seed-bearing season having already passed,—two small Araroba plants from cuttings. These are now in the Royal Botanical Gardens of Edinburgh, for transmission to Dr. Little, of Singapore, who, during a short visit to Edinburgh a year or two ago, called on me, desirous to obtain some information in regard to the Po' de Bahia, which he, as well as other medical men in the East, had found by far the most effective remedy for the treatment of many cutaneous affections, and to ask me, if possible, to procure him some seeds of the plant producing it. He must therefore have discovered or surmised that the secret remedy sold as Po' de Bahia was of Brazilian origin. He was anxious to obtain some certain information in regard to the plant producing the powder, as one possibly, could they only know it, growing at their own door, and to free themselves at all events from the doubt, uncertainty, and humiliation attending the use of every quack medicine. If the Indian remedy is the Brazilian Araroba, how comes it that it is much better known to the profession (not the people) in India than in Brazil? This seeming paradox admits, perhaps, of the following explanation.

Brazil up to the present time has no official pharmacopœia of its own, being content to use those of France and Portugal. Brazilian medical men, therefore, with scarcely one exception (Dr. Silva Lima is, however, one), after the failure probably of the more classical remedies, are content to tell their patients (or accept, perhaps, the suggestion of these) to give the Araroba a trial, referring them to the apothecary for instructions as to the mode of applying it—looking down rather on the untitled *parvenu*—for the *idolum tribus* grows as rankly in Brazil as in Europe. To the people it has from time immemorial been as much a household god as brimstone and treacle are to Englishmen—though you never see them in a prescription.

But again, how did the Araroba powder reach India? Up to 1822, when Brazil achieved its independence, all its intercourse with foreign countries, according to the policy of those times, took place through the mother-country. This gave rise to a regularly organised intercolonial trade, now extinct, between the Brazilian and Asiatic colonies of Portugal. Hence, doubtless, the first introduction of the powder among the Portuguese residents of Goa, and its gradual spread over other parts of India; hence, too, the now roundabout mode of its transmission to India, and the consequent mystery there attending its origin—the chrysalis out of which the Brazilian grub emerges the butterfly of India.

The best mode of applying the remedy is, as Dr. Silva Lima recommends, in the form of ointment—twenty to forty grains of the powder with ten drops of acetic acid to an ounce of lard. As generally recommended it is much too irritating. I speak, of course, of the pure Araroba powder.

Boa Vista, Grange Loan, Edinburgh.

CASE OF

ACUTE BRONCHO-PNEUMONIA IN A CHILD, TERMINATING FATALLY WITHIN FOUR DAYS.

By WALTER ROBERT SPENCE JEFFERISS, M.D., C.M.

Katie J., aged three years and two months, was in her usual health on October 26, 1874; a stout, ruddy, fair-complexioned child. On the following day she appeared to be labouring under great prostration of body and mind; her breathing was somewhat hurried (30 per minute), pulse compressible and fast (100 per minute), temperature 100° Fahr.; loss of appetite, and thirst present; tongue clean and moist; gums hot and tender, owing to dentition (eye teeth). On examination of her chest, coarse mucous râles, rhonchus, and crepitation were heard over the base of both lungs posteriorly; in front, bronchial breathing; on percussion the lungs emitted a dull sound posteriorly. The pyrexia still continuing in the evening, and croupy breathing setting in, poultices were applied to the back and larynx, with the effect of rapidly (two hours) checking the croupy breathing, which never recurred throughout her illness. The bowels and stomach were rapidly relieved by a soap suppository, and by an emetic of ipecacuanha and antimony. The gums were also lanced, with relief. On the morning of the 28th (second day of illness) the child was no better. Pulse 120; respirations irregular and imperfect, 50 per minute; temperature at 10 a.m., 101° Fahr. Rusty sputa observed in the matters ejected from the stomach. The hot bath, vapour bath, and cold water sheet, and febrifuge doses of acetate of ammonia and spirits of nitric ether were all used to promote perspiration, but without effect. The child became restless as the evening advanced, and the temperature increased to 102·3° Fahr. at 5 p.m.; pulse 130; respirations 50 and 60 per minute. After the use of the cold water sheet the child got much quieter, and slept calmly for an hour; and between 5 and 10 p.m. the temperature had fallen four degrees, being 98·2° Fahr. at 10 p.m.; the pulse varying between 120 and 140; respirations 40 to 50 per minute. By 1 a.m. on the third day of illness the temperature again rose to 101° Fahr., and the pulse to 140, and respirations to 50 per minute; and the child not coughing, and so not expectorating, the mucus accumulated in the bronchial tubes, and caused great dyspnœa, and the large vessels at the root of the neck became much distended, and pulsated visibly. The heart's action was so fast as to be uncountable. The complexion became cyanotic, and the little patient could scarcely get breath in any position. Emetics of sulphate of zinc, antimony, and ipecacuanha, and tickling the larynx with a feather, were all had recourse to, but with no effect, *i.e.*, not producing the usual peristaltic action of the stomach. Turpentine epithems and poultices were applied to the chest at intervals, and pediluvia were frequently made use of, with relief for a short time. The hands were also held in hot water, with the same object, and with the same result. The temperature of the room was kept throughout the illness at 65° Fahr., and the atmosphere was moistened with steam from time to time. On this day the temperature gradually fell until 1 p.m., when it was at health, 98·2° Fahr.; it then gradually rose until 10.30 p.m., when it was 101·1° Fahr., the pulse being 150, and the respirations 60 per minute. From this time till midnight the temperature fell 5°, being 96° Fahr. at 12 p.m.; the extremities became cold and livid, more especially the points of the fingers. I then applied terebinth pediluvia and sinapisms to the calves, and gave a little warm whisky toddy, when the pulse and temperature again rose, the former being 140 at 4 a.m., and the latter 102·3° Fahr. The child now became greatly distressed with the suffocative symptoms, and became more and more comatose from this time to 6.20 a.m., when it expired from what appeared to be asphyxia and syncope, probably ultimately brought about by the comatose state.

The dyspnœa urgens was so great near the close of life that the use of a little chloroform vapour was, by the parent's request, had recourse to, and it overcame the spasmodic laryngeal action to a certain extent. The chloroform vapour (thirty or forty minims) was only used when death was inevitable, and was administered well diluted with fresh atmospheric air.

The therapeutic remedies used in this case consisted of local measures, such as poultices, epithems, sinapisms, baths, wet sheet; and general remedies, such as emetics, febrifuges, expectorants, stimulants, inhalations. A mixture of carbonate of ammonia, squills, and senega was given on the second and third days. The dietetic measures were beef-tea, chicken-soup, and milk the whole time of illness; and two ounces of port wine daily, in small doses, during the second, third, and last days of illness.

Remarks.—The points of interest in a case such as I have now narrated are many—such as the great prostration in acute broncho-pneumonia of children; the induction of sleep by the use of the wet sheet; the difficulty (actual impossibility) of exciting vomiting in some cases; the distension and pulsation of the large veins at the root of the neck in cases of arrested pulmonary circulation; the rapid but compressible pulse; the urgent dyspnœa, and modes of relieving the same by pediluvia, sinapisms, epithems, and inhalations; the sudden rises and falls in the temperature throughout the illness; the reduction of temperature following upon the use of the cold sheet; the early crisis in this case (third day), preceded or accompanied by a great fall in the temperature, and the equally great post-critical rise in temperature culminating in death. The case illustrates the value of frequent and careful thermometric observations in the chest affections of children; and lastly, the fatality of such a disease as broncho-pneumonia in young children, notwithstanding the most constant care on the part of the physician.

Badcall, Scourie, N.B.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

UNIVERSITY COLLEGE HOSPITAL.

CYSTIC GOÎTRE—TAPPED—INJECTED WITH TINCTURE OF IODINE—RELIEVED.

(Under the care of Mr. ERICHSEN.)

Lucy S., aged twenty-two, servant, was admitted May 5, 1874 Patient is a native of Suffolk; has lived in London four years. Six years ago she noticed a small lump, about the size of a nut, rather hard to the touch, at the anterior edge of the sterno-mastoid muscle of the right side. She cannot say whether it came gradually or suddenly, nor whether it was at all movable, but it was quite painless. This continued to increase. A year after she first noticed it, she saw a surgeon, who painted it with iodine, but this had no effect at all, and it still went on increasing. Two years ago she attended St. Mary's Hospital as an out-patient, and stayed there three months, and used iodine ointment twice a week; but this had no effect either.

In April last she saw Mr. Erichsen in the ward, and he tapped the tumour, drawing off a quantity of dark fluid made up of broken-down blood corpuscles and cholesterin. After this it went down, and the remains of it were quite soft. Next day, however, it filled up again almost as large as ever, and became as hard as before. In her native place the water drank comes from a well, and the country is flat; but she never heard of anyone near having goître; none in the family have ever had it. Patient is a healthy-looking girl, well nourished, with a high complexion. On the right side of the neck is a tumour, which is hard to the touch and fluctuating in all directions, moving up and down during deglutition; it can be moved up and down and from side to side. Its measurement round the neck over the most prominent part is thirteen inches and seven-eighths.

May 9.—Yesterday afternoon patient was put under chloroform, and Mr. Erichsen tapped the cyst again, drawing off about an ounce and a half of dark fluid of the same consistence as before, and then injected through the canula two drachms of tincture of iodine. To-day patient complains of pain and soreness about the throat on speaking and on deglutition. She did not sleep well. The measurement over the bandage was fifteen inches. The cyst swelled up again last night, but is less now than it was then. Temperature 101·4°; pulse 116.

11th.—To-day patient feels better. She has less headache, and the sore throat is less. She can now swallow milk and beef-tea with less pain. The tumour itself is less painful. Yesterday the swelling seemed to have gone higher up the neck, reaching to the angle of the jaw. Evaporating lotion. Temperature 100·2°; pulse 116.

12th.—To-day patient is much better. The throat is not so sore, and the swelling externally does not seem to reach so high; it feels hot, and is tender to the touch. Temperature 100·4°; pulse 108. Deglutition is performed with more ease.

13th.—The tumour is less painful on touching to-day; it is very firm. Patient says that the throat is not so sore, and that she can swallow with more ease. Temperature 99°; pulse 96. Keep lint on the mass soaked in evaporating lotion. She says that it throbs. Temperature 99°; pulse 96.

14th.—Feels much better this morning. The swelling appears to be less, and it is less painful on pressure. She says the throat is not so sore. The swelling occasionally throbs. Temperature 99°; pulse 104.

15th.—Patient says that the tumour is more painful to-day; it feels very hard, and is not very tender on pressure. Can swallow with more ease. Temperature 99·2°; pulse 104.

16th.—The tumour seems to be rather larger and to have extended higher up. The throat is not so sore. The mass is still very hard, and it also seems to have approached the mid line more. Temperature 99·6°; pulse 108.

19th.—The tumour has been rather more painful, but patient thinks that is from lying on that side; there is not any alteration in size noticeable. Throat still sore, and there is throbbing in the tumour. Temperature 99·6°; pulse 100.

23rd.—The tumour seems to be getting softer, and does not extend up so high; it is smaller, and less painful. Temperature 99°; pulse 92.

26th.—The tumour is much less painful, and softer.

When the patient left the hospital, a few days later, the measurement over the tumour was thirteen inches and one-eighth, as compared with thirteen inches and seven-eighths before the injection. During the last few days in hospital the tumour was becoming softer and smaller.

CYSTIC MAMMA, MISTAKEN FOR CANCER—REMOVAL OF BREAST—RELIEVED.

(Under the care of Mr. ERICHSEN and Mr. BECK.)

Keziah K., aged forty-eight, laundress, admitted May 25, 1874. Patient says that six years ago a small lump about the size of a nut formed at the upper part of the right breast. It came gradually. It caused no pain whatever, and remained three months. She went to a herbalist, and he gave her some ointment, and it all disappeared. Six months ago a similar tumour formed in the same breast, and of about the same size as on the previous occasion. With this tumour she has pain, slight shooting in character, and she says that she also had pain in the right elbow and in the back of the neck. The pain was not at all increased by pressure. She saw a medical man, and iodine ointment was used. This had no effect beyond blistering the skin. Since then the tumour has been getting larger, and she went to another surgeon, who gave her lotion. Lately the tumour has altered in form—is becoming smaller and more compact, whereas formerly it was more diffused over the breast. During the last fortnight she has been freer from pain, which in the previous week was very severe, and the pain in the elbow and neck have gone. Patient has only had one child, a girl, who is still living, aged twenty-eight. This she suckled three months, and then she went out as a wet-nurse. She used both breasts alike, and without trouble. There is no history of carcinoma in the family on either side. The right breast is considerably larger than the left, and the other is knotty. There is no retraction of the nipple. The outer part of the right breast is a mass of two lobules running into one another, and the one runs into the gland tissue; it is hard, lobulated, and indefinite; the skin over it is freely movable, not painful to touch. Size of inner mass, about half an orange; and size of outer, about a walnut. No glands enlarged in axilla or above clavicle.

May 27.—Operation: The breast was removed by the usual half-elliptical incision. No glands were involved, and so none were removed. After removal an incision into the largest of the masses described was made, and a spurt of yellowish-grey fluid took place. This fluid apparently contained cholesterin; the mass was, in fact, one large cyst. The outer smaller mass consisted of breast-tissue packed full of small cysts resembling the larger one, and containing similar fluid. The lining of the cysts was white and glistening. There were no intra-cystic growths. The inner mass was comparatively healthy gland-tissue.

A good deal of suppuration and some gaping of the edges of the wound occurred; otherwise the patient made a good recovery, and left the hospital on June 25.

NORTH-EASTERN HOSPITAL FOR CHILDREN.

CASE OF MITRAL STENOSIS—PRESYSTOLIC MURMUR—HYPERTROPHY OF LEFT AURICLE.

[Under the care of Dr. SANSOM.]

ARTHUR V., aged nine, was brought to the out-patient department of the North-Eastern Hospital for Children on November 25, 1874, suffering from troublesome spasmodic cough. He had always been delicate; his mother stated that he had suffered occasionally from palpitation all his life, and after exertion he was short of breath and could scarcely speak. He had measles when four years of age, but never rheumatic fever. Parents both healthy; mother's sister died of heart disease consequent on rheumatic fever, at the age of twenty-two.

Palpation over the heart-region detected a very well-marked thrill, situated below the sixth rib and rather internal to the vertical line of the nipple; the area over which it was felt was very limited, about a quarter of an inch; in rhythm it was decidedly before the impulse. In the third interspace a distinct pulsation was manifest, and it was rendered evident that this pulsation occurred before the impulse of the heart's apex. On auscultation, a loud churning or rolling murmur of very low pitch was heard over the region of the apex; it was most distinct at a point just internal to the apex; was heard in the axilla, but lost at the back, and faded and became extinct over the right cavities; in rhythm it was strictly before the first sound, commencing shortly after the second sound, and terminated by the thrill of the apex. The moment of impulse of the apex was quite uncomplicated by murmur.

The diagnosis was congenital mitral stenosis, with marked hypertrophy of the left auricle and slight hypertrophy of the left ventricle.

The child was admitted for a few weeks as an in-patient, and improved under the rest and quiet, and by treatment with tonics and digitalis, the cardiac conditions continuing unchanged.

Remarks by Dr. Sansom.—The above may be regarded as a typical case presenting all the signs leading to the diagnosis of mitral constriction. These signs are, briefly—(*a*) thrill, (*b*) auricular effort, (*c*) before-first-sound murmur. As regards (*a*), thrill, although it may be noted in other valvular affections, it is agreed that mitral stenosis is the condition most frequently associated with it. It is not enough merely to notice the manifestation of a vibratile thrill to the touch; its *rhythm* should always be recorded. In our case, on placing one finger upon the vibratile area, and another a little to the left, it was easy to determine that the thrill just preceded the impulse of the apex. The evidence of (*b*) the contraction of the hypertrophied auricle was singularly well demonstrated. Pulsation in the third left intercostal space was evident to the eye, but how could we determine that this was auricular? I adopted a plan which I think has not been used for this particular purpose before. A small circle of adhesive plaster, about the size of a fourpenny-piece, is transfixed by a pin, the head of the pin being on the adhesive side of the plaster, and then applied over the pulsating area. The shaft and point of the pin consequently project from the chest wall, and constitute a vibrating lever, to which the movements of the heart are communicated. This lever is lengthened by the adaptation of a "spill" of rolled tissue-paper. A similar lever is adapted over the situation of the heart's apex, and the movements of the two levers are compared. By this means it was easy to observe that the movement in the third interspace distinctly preceded the movement at the apex; obviously the former was auricular, the latter ventricular. This observation afforded valuable evidence of hypertrophy of the left auricle. In a former case, in which the diagnosis was verified by an autopsy (see *Medical Times and Gazette*, January 10, 1874, p. 35), I found that the muscular wall of the left auricle varied in thickness from one-eighth to a quarter of an inch in a boy of nine, whereas the average thickness in adult life is somewhat more than one-twelfth of an inch (*vide* Flint on Diseases of the Heart, second edition, p. 21). The murmur (*c*) was distinctly *before* the first sound, and of the churning character so often observed in cases of mitral stenosis. There is no doubt some difficulty in demonstrating the time of this very characteristic murmur. The principal difficulties that I have found even expert auscultators to encounter are—(1) they realise the bruit as occurring *with* the first sound; (2) they think that, though occurring before the first sound, it is pro-

longed through the first sound,—that it is a combined murmur. To convince oneself of the exact rhythm of the murmur, I am persuaded of the value of the rule I have before given—to apply the fingers to the neighbourhood of the apex whilst auscultating, so as to *feel* the impulse whilst *hearing* the murmur. It will then be found that the sharp stroke of the impulse terminates the murmur, and is uncomplicated by abnormal sound. The systolic murmur continues through the first sound; the presystolic is abruptly terminated by it. I have been accustomed to illustrate the former by the syllable "fuff," the latter by "fupp" or "frupp." The above rule will serve also to correct the second error. No doubt, in some instances, a presystolic and a systolic murmur occur together, but there are many points besides the above which, in my opinion, serve to differentiate the *combined* murmurs. Situation is very important. The murmur of regurgitation is heard at the apex, outside the apex, and sometimes at the back; the direct murmur is taken up to the right of this murmur, commences before the regurgitant, and is heard over a limited area, disappearing very soon over the right cavities. A murmur such as is heard in our case is distinctly *sui generis*, is strictly previous to, and not accompanying, the systole of the ventricle, and is pathognomonic of mitral constriction. The condition was no doubt congenital.

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Medical Times and Gazette.

SATURDAY, MARCH 6, 1875.

THE INQUEST ON THE LATE SIR CHARLES LYELL.

We publish elsewhere in our pages a letter from the Coroner for Central Middlesex, explaining the circumstances relative to the inquest held by him on the late Sir Charles Lyell; but we regret to be obliged to say that it does not alter our opinion that in persisting in holding that inquest he committed a very grave and lamentable mistake. We had hoped that by this time the universal chorus of opinion against his proceedings in this matter had led Dr. Hardwicke to recognise and regret the error he had made, but the tone of his letter hardly seems to justify that hope at present. The occurrence of this inquest has created very great and general interest and disapprobation, and in commenting on it we may, we suppose, take the case as it was narrated in the House of Commons by Mr. Secretary Cross on Wednesday last, in answer to questions put to him on the subject by three members of the House. Dr. Hardwicke cannot take objection to this version of the facts, we imagine, as the facts had been "disclosed to the Home Secretary by Dr. Andrew Clark himself." The former said—"Dr. Clark had been in attendance upon Sir Charles Lyell for an affection of the brain for some time before the accident which befell him on December 9 last. At that time Dr. Clark recommended the family of Sir Charles Lyell to call in Sir James Paget, as the accident was a surgical one. For some time afterwards Sir Charles Lyell was attended by Sir James Paget, Dr. Andrew Clark, and the general practitioner who regularly attended the family, and to all appearance he recovered entirely from the effects of the accident. Afterwards the original affection from which he had been suffering increased upon him, and he was again attended by Dr. Clark and his own regular practitioner until the time of his death, which did not occur until some twelve weeks after the accident to which I have referred. When it was pressed upon the family by the Coroner that an inquest should be held, Dr. Clark expostulated with that official, to whom he presented a certificate of the cause of death, in, I believe, his own handwriting. The Coroner, however, insisted upon holding the inquest, and I believe the facts made known in the public press with regard to the inquiry are substantially true." Now, Dr. Hardwicke may not have been acquainted with all the facts above detailed, and he states, in his letter to us, that Dr. Clark "wrote simply (not a certificate) 'Meningitis ten weeks, serum six days,'"—but that was, to all intents and purposes, a certificate; and we suppose that Dr. Hardwicke's officer conveyed to him Dr. Clark's expressed opinion that an inquest would be unjustifiable. Dr. Hardwicke does not say anything about that. At any rate, we must hold that in such a case the Coroner should have made himself fully informed about *all* the circumstances before insisting on an inquest. It is said, indeed, that both law and custom require coroners to hold inquests upon all casualties by which death ensues, and that any death which may be traced to an injury which had occurred within a year and a day is a proper subject for inquiry; and that "the law which calls on coroners to hold inquests is very stringent, and attaches severe penalties to neglect of the duties which it prescribes, while coroners have, in reality, no sort of power to hold any extra-judicial inquiry, or to take evidence in any informal manner." Dr. Hardwicke may therefore plead that he was technically in the right; and this is his only excuse, so far as we can see. But it is a right which a coroner is expected to exercise with judgment and discretion in these days; and in his letter Dr. Hardwicke states that in his opinion a coroner "may personally dispose of inquiries in this and similar cases," though he does it at his peril. In such a case as this of the inquest on the late Sir Charles Lyell, we can conceive that a legal coroner who was possessed with a jealous reverence for the strict letter of the law, or a new and inexperienced medical coroner fired with zeal and the desire to magnify his office, might be inclined to think that an inquest ought to be held; but that a medical man, who had held the office of deputy coroner for twelve years, with such credit to himself that he was triumphantly elected coroner against a legal candidate, should insist on holding one does strike us as extremely astonishing. Mr. Secretary Cross stated that he had written to Dr. Hardwicke for an explanation of his reasons for holding the inquest, and that he had, in reply, received a letter from him in which, practically, no reason, so far as he could see, was stated for the course taken. We must confess that Dr. Hardwicke's letter to us is also not satisfactory, and it may be taken for granted that in both letters he has

stated his own case as ably as possible. No one will suspect us of any inclination to judge Dr. Hardwicke harshly: we fully acknowledge that his conduct as deputy-coroner for so many years, and as coroner, with this exception, has been highly creditable; but in this instance we must say that he has somehow been betrayed into a grievous error of judgment, and one which, if unhappily repeated, will go a long way towards gravely imperilling the cause for which we have so long and strenuously contended—the cause of medical *versus* legal coroners. The general condemnation his error has met with will, however, have given Dr. Hardwicke a severe lesson, and we do not doubt that in future he will always exercise the sounder judgment and discretion that had previously marked his public career. The Home Secretary said in his statement to the House that "if such acts of discretion or indiscretion were at all common among coroners, it would be quite necessary to clip their wings." If Dr. Hardwicke's error should lead to a reform of the machinery of the coroner's court; to a better mode of selecting the juries; to a reform of the means by which the coroner is informed of cases demanding or seeming to demand an inquiry; to the appointment of better educated and trained persons as coroners' officers; and to a reform in the mode of electing the coroners themselves,—then the mistake he made will be fully forgiven, and almost forgotten in the great benefits it will have produced.

THE ALLEGED MANSLAUGHTER BY A MIDWIFE.

Our readers will remember that a short while ago we noticed that Elizabeth Ingram, a midwife practising in Coventry, had been committed for trial for the manslaughter of the wife of John Johnson, by communicating to her puerperal fever. At the trial, which came on on February 27, it appeared that during the month of December Elizabeth Ingram had attended seven women, five of whom had puerperal fever, and of these five, four had died. An inquest was held on one of the deaths, and the coroner had directed that Ingram should be warned against undertaking any more cases for some time. This warning was duly conveyed to her, a police-sergeant giving evidence that "on December 18 he saw the prisoner, and told her he was directed by the coroner to warn her not to practise for two months, in consequence of the death of a woman whom she previously attended. The prisoner replied that a medical man had promised to see to her work for her, and had told her she might go into the patients' rooms, but was not to take any part in the delivery." On December 24, however, she delivered the poor woman Johnson, who died of puerperal fever on January 8. Dr. Middleship, a young man who had been in practice in Coventry for eighteen months, stated in his evidence that on December 10 he had agreed with Ingram to attend her cases, she telling him that she "had been stopped from attending by the inspector and the coroner, and was not to attend any more for two months." He was not sure that she told him what was the cause of her being stopped, but he "came to the conclusion, from what she said, that her patients had died from puerperal fever." And, in fact, Dr. Middleship had been attending, after her confinement, one of the women delivered by the prisoner, and this woman had had puerperal fever, and died of it on December 24, the very day on which the woman Johnson was delivered. Dr. Middleship stated that he offered to attend Ingram's cases, "in order to prevent the disease being spread," but he told her she might attend in a patient's room, but must abstain from contact. On December 24, the husband of the woman Johnson fetched Dr. Middleship, who went up about two o'clock in the day, and after a while left, saying that he would most likely be wanted again about six o'clock. About that time the husband went again for him, and urged him to come directly, and according to his evidence Dr. Middleship said, "You go back and tell her (the prisoner) from me she had better go on with the case," and this message he gave to the prisoner, who asked if that came from the doctor's own mouth, and the husband repeated it to her. The prisoner before then had not touched the patient, but after receiving this message she delivered the unfortunate woman, and she died on January 8 of puerperal fever. According to Dr. Middleship, however, his message was for the patient, not the midwife—"Tell her (the patient) that I am going to a case of my own, that she must send again if she gets worse; and that if she does so I will come to her as soon as I return." Dr. Middleship was back from his own case in three-quarters of an hour, but no message came from Johnson's, and he did not go again there. He did not know but what another medical man might have been sent for, and he stated that he had given the husband no instructions as to what he was to do in case his wife got worse, and he (Dr. Middleship) could not attend, and that he "did not interfere at all to prevent the woman (Ingram) from attending her." Ingram, receiving the message the husband brought her, thought herself released by medical authority from the coroner's interdict, and delivered the woman. On this evidence Mr. Commissioner Maule, Q.C., who tried the case, asked the prosecution whether the charge of manslaughter could be supported, and, the prosecuting council admitting that it could not be, the jury were directed to acquit the prisoner.

It is greatly to be regretted that Dr. Middleship did not give clear and special cautions against the woman Ingram's acting as midwife in the case; and many, if not most, medical men will hold that he erred in allowing her to be in the patient's room, or even in the house. But, even putting aside this, and the unfortunate misunderstanding about the message given to the husband, it must be held very doubtful whether a conviction could have been obtained. The scientific evidence given would hardly have justified a conviction. Dr. John Brown, of Coventry, stated that he also had told the prisoner that one of her patients, a Mrs. Williams, had died of puerperal fever, and that "she ought not to attend other patients for at least two months, for they would probably all die, as the fever was so contagious." But in cross-examination he admitted that "there was a question as to whether puerperal fever is contagious or not, though his own opinion was clear that it is so," and he had himself abstained from attending other cases for six or seven weeks after attending a case of puerperal fever. And he and Dr. Dewes, of Coventry, explained in their evidence that there are three forms of puerperal fever, in one of which, at any rate, there are "no inflammatory symptoms and no contagion"; and that a midwife would not know from which form of the fever a patient suffered; and, further, that "a medical man cannot tell in any particular case whether or not it arose originally or from contagion." These scientific niceties may be elicited by cross-examination in defence of a prisoner; but, for all practical purposes, what is called "puerperal fever" is an extremely contagious disease, and every medical man acts on this view. There may, perhaps, be here and there one who doubts "whether puerperal fever is contagious or not," but, according to the general opinion of the profession, any medical man who, while contaminated with the poison of puerperal fever, or with any poison likely to excite puerperal fever, attends a woman in labour, is morally guilty of a great crime. And we do not suppose that any man, whatever his individual opinion may be, will incur the risk of such an imputation as that. We have only said "morally guilty," because at present there is no direct law against a person who has been in contact with a contagious disease going about when and where he chooses among other persons, and so helping to spread that disease. But we may hope that the day will arrive when this will be a legal crime; and, in the meanwhile, this trial may

be useful to warn both midwives and medical men of the frightful evil they may cause by thoughtlessness or want of care and knowledge,—may help to promote a requirement that midwives shall be educated women,—and may assist in awakening the public mind to a sense of the necessity for a law to prevent the propagation of contagious diseases.

SALE OF FOOD AND DRUGS BILL.

Unanimity of opinion appears to prevail with regard to the defective condition of "The Sale of Food and Drugs Bill," and it is with satisfaction we observe that this almost universal expression of public disapprobation has induced the Government to declare its intention of abandoning some of those prominent and objectionable features which we were obliged to condemn in our criticism last week. The oft-repeated word "knowingly" is, we understand, to be erased in many places, the "usage of trade" is to be abolished, and the "warranty" of the wholesale dealer is to be taken into consideration. These resolutions have been arrived at by Mr. Sclater-Booth before his Bill has begun to pass through the ordeal of committee, where incisive and excisional treatment is no doubt in store for it. We may therefore hope that eventually something practicable and reasonable may be evolved from a measure so clumsily contrived that it will be a work of no small difficulty to make it assume a sensible and effective shape.

The part of the Bill which relates to drugs is of special importance to the medical practitioner; and it appears to us to have been a mistake altogether to amalgamate the question of food and drugs, as proposed by the Bill. A short Act relating to drugs alone would have been a much more simple and comprehensible method of dealing with a subject of such vital interest to the profession. The poisoning of food and drink is, of course, a very serious offence, and would deserve exemplary punishment; but it is not easy to understand the meaning of a "poisoned drug." Many—most, indeed, of the active—medicines are themselves poisonous, and nearly all the well-known poisons are powerful medicines. In morphia, belladonna, aconite, strychnia, and even the common arsenic, are combined the properties of terrible poisons and potent medicines.

The conviction of a drug-dealer for poisoning strychnine would be an unmeaning and anomalous proceeding. The greatest harm that a drug-dealer could do would be to substitute a harmless, inactive ingredient as a make-weight for the deficiency of the active agent required by the prescription of the physician, or for the supply of the general practitioner. If starch were substituted for strychnine, the consequences to the patient might indeed be serious by default—by the loss, that is, of the remedial effects of strychnine; but if a similarly acting and potent poison were substituted for strychnine, the result would be comparatively harmless. If morphia were "poisoned" with codeia it would be a matter of small significance; but if the prescribed quantity of morphia were replaced with flour, loss of life might even result from such replacement.

Instances might be multiplied; but the illustrations given will, we think, make it evident that poisoning has no more meaning when applied to drugs than colouring would have if applied to sound. We must strenuously urge upon the Legislature the necessity of empowering medical practitioners to purchase samples of drugs for the purpose of getting them analysed, and that proper provision be made for the punishment of the druggist who may now sell with impunity an inactive substance for a powerful medicine. It is difficult, indeed, to conjecture upon what grounds the drug consumer should be deprived of the remedy which the new Bill purports to provide for the purchaser of deteriorated food.

THE WEEK.

TOPICS OF THE DAY.

Some little disappointment is felt by the authorities that, after a lull of some weeks, the outbreak of diphtheria at the huts on Woolwich-common has not, as was hoped, been eradicated. Out of three fresh cases last week, two terminated fatally after a few hours' suffering.

The important question as to the rateability of public hospitals has now been determined. The appeal to the House of Lords by the Governors of St. Thomas's Hospital, in an action for rates brought by the churchwardens and overseers of St. Mary, Lambeth, has been decided in favour of the respondents.

It will be with extreme regret that our readers will hear of the conviction of Mr. Peacock, of Childers Coton, for the manslaughter of a woman under his charge. The disagreeable story of this charge, originating in mismanagement of the unfortunate women in childbed, and of the attempts at its suppression, has been already laid before our readers, and to it we do not care again to refer. Suffice it to say that from the first nothing less than a charge of criminal negligence could be brought against Mr. Peacock, and that we can only concur in the justice of the sentence imposed upon him, however sorry we may be that a member of our profession should by his own wilful act lay himself open to incur such punishment.

At a meeting of the Academical Council held on March 3, Mr. W. Colles, Surgeon to Madame Steevens's Hospital, Dublin, was elected Regius Professor of Surgery in the University of Dublin, in the room of Dr. Robert Adams, deceased.

THE REPORT ON RECRUITING FOR THE ARMY.

The report upon recruiting for the regular army for the year 1874 has lately been made public, but a careful perusal of it can scarcely be said to justify the gratulatory comments which have appeared in some of our contemporaries. The number of recruits who have joined the army during the past year is 20,640, as against 17,194 in the previous year, 1873. The number of desertions recorded during the year is given as 5572, and in the face of such a total the report actually congratulates the country upon being able to show an absolute diminution in this disgraceful drain on the service, as the numbers in 1873 were 5702. In turning to the remarks on the quality of the recruits obtained, we find in the Household Cavalry that the report is satisfactory, the men enlisted being fully equal to those who have joined in former years. In the Cavalry of the line, the recruits on the whole were of a very good class, and but few objections were made, the physique and general appearance being excellent. In the Royal Artillery the recruits are described as fairly good; although in some batteries complaints have been made that, on first joining, the men have been found to have scarcely sufficient physical development for the duties they are called upon to perform. The men enlisted for the Royal Engineers are of fair quality. In the brigade of Guards the class of recruits recently enlisted is satisfactory, but scarcely of the stature and general physique of those who joined that arm of the service in former years. In the Infantry of the line there is a great deal of difference to be reported as to the quality of recruits joining. In a large majority of regiments and depôts the quality is said to be satisfactory; a smaller proportion is fairly good; but in many instances complaints are made to a degree that is far from satisfactory. The chief ground of objection is on the score of youth and want of physical development, but frequently it is admitted that in some months, under the influence of good feeding, with military training and regular habits, these lads will grow into strong and efficient soldiers. Still, the Inspector-General of Recruiting remarks, the complaint is a serious one; and to prove that he considers it so, the report goes on to say that all officers charged with recruiting duties throughout the

country are instructed to be careful in their inspection of youths coming before them for approval, and to reject as unfit those whose youthful and immature appearance denotes that they are below the age stated on enlistment. It is further stated that, notwithstanding the want of age and bodily strength complained of, from a summary prepared of recruits enlisting into infantry corps serving in this country during the last nine months of 1874, the average age was 19 years 9·15 months, the average height 5 feet 6½ inches, and the average chest measurement 34½ inches—a result which the report considers by no means unsatisfactory. As connected with this average of chest measurement, it is rather singular that, since the report on recruiting was issued, the Secretary of State for War, in reply to a question asked by Colonel Mure in the House, admitted that a fourth and smaller size of braces for the valise equipments introduced into the army in 1868 had been added in October, 1874, as the smallest of the three regulation sizes was found to be too large for men of five feet five inches in height.

We last week briefly alluded to the suggestion put forward in the report, that, as all men should be vaccinated on joining the service, this operation might be performed in some special manner, by which means some check would be placed on the practice, now so general, of fraudulent enlistment. The sooner some method of this sort is perfected by the medical authorities of the army, the better it will be for the interests of the public, and the more reliable will be the returns of the Inspector-General of Recruiting.

The foregoing are the only points of this report that fall within our province to notice; but, regarding it from a general point of view, he must either be a very obstinate or a very sanguine man who would venture to assert that it is satisfactory. In a time of profound peace, with no abnormal requirements, instead of being able to pick and choose our recruits, rejecting those notoriously unfit, the utmost endeavours of those at the head of the several depôts leave two corps short of their proper complement at the end of the year—a result, moreover, only achieved by accepting almost anything that can be made to look like a soldier.

ROYAL COLLEGE OF SURGEONS.

At a meeting of the Council on the 25th ult., Mr. Edward Lawford, M.D. Aberd., of Leighton Buzzard, was admitted a Fellow of the College, his diploma of membership bearing date July 1, 1842; and Messrs. Alfred George Roper, L.S.A., of North End, Croydon, and Peter Broome Giles, L.S.A., of Staunton-on-Wye, Hereford, were elected Fellows, their diplomas of membership of the College bearing date respectively October 9 and December 14, 1840. The motion of which Mr. Gay had given notice—viz., "That a report from the Court of Examiners be annually laid before this Council at the quarterly meeting in July of the number of candidates who have presented themselves during the year for the professional examinations for the diploma of Fellow, showing the number who have passed and have been rejected from each medical school in the period; and that a similar report from the Court of the number of those passed and rejected during the past collegiate year (1873-74) be laid before this Council at the earliest convenient opportunity"—not being seconded, fell to the ground. It will be recollected that a similar return of rejected candidates at the primary and pass examinations for the diploma of *membership* of the College has been annually published for the last two or three years. At the same meeting of the Council, a letter was received and read from Mr. John Hilton, resigning his seat as a member of the Court of Examiners, to which he was elected in 1865. A special meeting of the Council will be held on the 17th inst., for the election of a Fellow of the College as his successor. Mr. Hilton, who is a Fellow of the Royal Society, and Surgeon-Extraordinary to her Majesty the Queen, has done "good suit and service" in the College, of which he was elected a Member so long ago as May 22, 1827, an Honorary Fellow on December 11, 1843, a Member of the Council in 1854, Professor of Human Anatomy and Surgery (Arris and Gale) in 1859, a member of the Court of Examiners in 1865, Chairman of the Boards of Examiners in Midwifery and Dental Surgery, Hunterian Orator and President in 1867. The valuable experience of Mr. Hilton will not be lost to the College, as he will retain his seat as a member of the Council, of which he is now the senior member.

AGED PATIENTS IN LUNATIC ASYLUMS.

Complaints have been very rife of late as to the crowded state of our county lunatic asylums and the difficulty experienced in obtaining sufficient accommodation for all the patients requiring admission. This difficulty is rendered very much more urgent in consequence of many cases being sent to asylums, that could be treated equally well, if not better, in workhouses. We allude especially to cases of imbecility in aged persons, numbers of which are packed off by workhouse officials for no other reason than the desire of being relieved from attending on them. From the reports of the Medical Superintendents of the Hanwell Asylum—Mr. J. Peeke Richards and Dr. Rayner,—which were presented to the Middlesex magistrates last week, we learn that no less than twenty-five patients were admitted to that establishment whose ages ranged between sixty and eighty-one years. In most of these cases the patients were simply feeble, requiring no attention other than good diet and nursing. Many of them were carried direct from the vehicle in which they were brought to the asylum to bed, where they remain until they die. Medical officers to workhouses ought to exercise their judgment in this matter, and not send aged, bedridden, and quiet patients to occupy beds in asylums which are urgently required for the reception of acute cases. We understand that the Local Government Board are about to introduce important changes in regard to the admission of pauper lunatics into asylums. For the future, new forms of certificate will be used by the medical officers, enforcing more stringent regulations in respect to these admissions into an asylum.

EXAMINATION IN STATE MEDICINE AT THE UNIVERSITY OF CAMBRIDGE.

An examination in so much of State Medicine as is comprised in the functions of officers of health will be held in Cambridge in October 1875, beginning on Tuesday, October 5. Any person whose name is on the Medical Register of the United Kingdom may present himself for this examination provided he is twenty-four years of age. The examination will be in two parts.

Part 1 will comprise:—Physics and Chemistry. The principles of chemistry, the methods of analysis with especial reference to analyses (microscopical as well as chemical) of air and water. The laws of heat, and the principles of pneumatics, hydrostatics and hydraulics, with especial reference to ventilation, water-supply, drainage, construction of dwellings, and sanitary engineering in general.

Part 2 will comprise:—Laws of the realm relating to public health. Sanitary statistics. Origin, propagation, pathology, and prevention of epidemic and infectious diseases. Effects of overcrowding, vitiated air, impure water and bad or insufficient food. Unhealthy occupations and the diseases to which they give rise. Water-supply, and disposal of sewage and refuse. Nuisances injurious to health. Distribution of diseases within the United Kingdom, and effects of soil, season, and climate.

Candidates may present themselves for either part separately or for both together, at their option. Every candidate will be required to pay a fee of four guineas before admission to each part of the examination. Every candidate who has passed

both parts of the examination to the satisfaction of the examiners will receive a certificate testifying to his competent knowledge of what is required for the duties of an officer of health. All applications for admission to this examination, or for information respecting it, should be addressed to Professor Liveing, Cambridge.

THE WATER-SUPPLY OF LONDON.

In the House of Lords, on Monday evening last, a question was asked by Earl Cadogan on the subject of the metropolitan water-supply, with a view of eliciting whether it was the intention of her Majesty's Government to take any steps or introduce any measure during the present session for obtaining a better and purer supply of water. His Lordship also adverted to the fact that the Chelsea Company was the principal offender, and suggested that, although this Company had introduced a measure for remedying the shortcomings complained of, it would be better to prevent the possibility of any recurrence of the supply of unwholesome water with as little delay as might be. The Duke of Richmond, in his reply, contented himself with observing that the question of the water-supply of the metropolis was a very large one. The Local Government Board had ascertained that the Chelsea Water Company's supply was not satisfactory, and had immediately communicated with them, the result being that the Company had now a Bill before Parliament to remedy the defects complained of. If the Bill was passed, the supply of water would be taken higher up in the River Thames, which would get rid of the polluting influence of the River Mole—a constant source of annoyance to the Company at their present in-take,—and would no doubt do away with a great part of the impure matter which at present flowed into the Company's reservoirs. It must not be forgotten that the Chelsea Company have before now endeavoured to remedy the evil complained of by means of a Bill; but this was thrown out, as the spot fixed upon for constructing the works was situate in one of the prettiest reaches of the Thames. In the present instance it is to be hoped there is no reason for opposition, and, in view of the great necessity which exists for improving the Chelsea Company's water-supply, the Bill should be passed at once.

BOERHAAVE ÆT. 70.

The following, which is copied from the *Academy* of February 20, 1875, seems worthy of a place in the columns of the *Medical Times and Gazette*. It is from a volume of original letters (recently placed in the British Museum) addressed by the Rev. Joseph Spence—the friend of Pope, and the author of "Polymetis," etc.—to his mother:—

"Hague, June 11, 1737.

"We first went to Leyden, where we saw ye famous Dr. Boerhave, and heard him give a lecture. I had heard he was an ugly, mean-looking man: but I can't think so. Nothing, indeed, can be plainer than his dress; but the dress with me has nothing to do with the man. His look is good-natur'd and open, and tho' he is within a year of 70, there's a freshness and clearness in his face that makes him appear almost a young man. There's a great simplicity in his prescriptions; the things he orders are plain and easy, and he's a great enemy to loading people with powders and vials. I suppose he has followed ye same method for himself, and by that means has preserved the youthfulness of his complexion to the last."

DISINFECTED SEWAGE.

It is no doubt very desirable, even necessary, and a prudent provision, that, where possible, all infected matter, especially from our hospitals and other similar institutions, should be rendered innocuous before it is carried off into the public drains. The Town Council of Edinburgh have resolved to petition Parliament against a Bill promoted by the managers of the Royal Infirmary for carrying the sewage of that institution into one of the city drains, with the view of securing such previous disinfection.

CULPABLE OPPOSITION TO VACCINATION.

The conduct of the Board of Guardians at Keighley (Yorkshire), in refusing to enforce the provisions of the Vaccination Acts, is calculated to gain for its members a certain amount of notoriety, but will scarcely add to their reputation as men of wisdom, or even of common sense. At the present time an epidemic of small-pox is raging in the town, and several cases have proved fatal among the unvaccinated. The Local Government Board have intimated their intention of applying to the Court of Queen's Bench for a *mandamus* to compel the Guardians to carry out the law; but at their meeting last week the Guardians disputed the authority of the Local Government Board, and resolved to set them at defiance. It is to be hoped that the Local Government Board will carry out their threat, even though it results in the contumacious Guardians being sent to prison for a period of five years—the possibility of which was suggested by their clerk; for it is intolerable that the health and lives of a whole community should be endangered and sacrificed through the obstinacy of two or three individuals.

THE ADMISSION OF WOMEN TO UNIVERSITY DEGREES.

It has been unanimously resolved by the Edinburgh University Court to petition Parliament against the Bill introduced by Mr. Cowper-Temple "to remove doubts as to the powers of the Universities of Scotland" to admit women as students, and permit them to graduate. The University Court contend that any "doubts" that may have existed on the subject have been removed by a late decision of the Court of Session, by which it was declared that the admission or graduation of women would be inconsistent with the charters of the universities. The Court also suggest that no legislation on the subject should take place until after the whole subject has been investigated by a Royal Commission. This was soon settled in the House: the Bill was promptly rejected.

BRITISH MEDICAL SERVICE.

The Director-General has forwarded for publication the following list of gentlemen who competed successfully for appointments in her Majesty's British Medical Service at the examination held at the University of London on February 15. The names are given in order of merit.

	Marks.		Marks.
1. Le Mottée, G. H. .	1989	5. Mapleton, E. A. .	1895
2. Dorman, J. C. . .	1985	8. O'Sullivan, D. . .	1840
3. Kellsall, E. W. . .	1980	7. Charlesworth, H. .	1805
4. Chester, W. L. . .	1979	8. Sharpe, C. E. . .	1615

INDIAN MEDICAL SERVICE.

The Military Secretary, India Office, has forwarded to us for publication the following list (in order of merit) of candidates for her Majesty's Indian Medical Service who were successful at the competitive examination held at the University of London on February 15. Forty candidates competed for twenty appointments. All were reported qualified.

	Marks.		Marks.
1. Murray, R. D. . .	2590	11. Simmonds, W. A. .	2130
2. Ranking, G. S. A.	2477	12. Macrae, R. . . .	2095
3. Comins, D. W. D.	2339	13. Adams, A. . . .	2070
4. Moran, J. . . .	2271	14. Borah Shibram .	2050
5. O'Connor, P. F. .	2250	15. Sturmer, A. J. . .	1998
6. Smith, H. H. . .	2180	16. Dane, A. H. C. .	1960
7. Thomas, G. T. . .	2174	17. Greany, J. P. . .	1930
8. Beatson, W. . .	2173	18. Ferguson, J. C. }	1920
9. Bate, T. E. L. . .	2165	19. Williams, B. H. }	
10. Warburton, G. A. .	2145	20. McCloghey, J. . .	1905

HOSPITAL FOR CONSUMPTION AT BROMPTON.

A very satisfactory report was read at the Quarterly Court of the Governors of the Hospital for Consumption and Diseases of the Chest, at Brompton, held last week. A fifth house in the south wing had been opened, which had increased the total number of beds in the Hospital to 257.

THE ARTISANS' DWELLINGS BILL.

Mr. Secretary Cross's Artisans' Dwellings Bill is evidently highly approved in Ireland, although it is not intended that it should apply to that country. The King and Queen's College of Physicians have memorialised the House of Commons to extend the principle of the Bill to the Irish towns, and the Dublin Sanitary Association has adopted a like course. We trust that the House and the Government will accede to this most reasonable request made by the two bodies most competent to give an opinion on sanitary matters in the sister island. If the extension of the Bill to Ireland is conceded, we understand that Mr. Edward Gibson, Q.C., the recently elected member for the University of Dublin, will move certain amendments rendered necessary by the peculiar circumstances under which Irish towns are placed as regards population, rates, etc.

ACCIDENTAL DEATH FROM BURNING.

From communications which have been addressed to the Local Government Board, subsequently to the inquest touching the circumstances attending the death of a girl named Rustingworth in Clayton Workhouse, the Board has been induced to order a further inquiry to be made. It will be remembered that the girl was admitted into the workhouse insane through disappointment in love, and was left in a ward without a fireguard. She accidentally fell in the fire, was severely burned, and died from the injuries. After burial her body was exhumed, and an inquest held, when a verdict exculpating the workhouse officials from blame was given.

REMOVAL OF TROOPS IN WINTER.

The practice of bringing troops home from hot climates and landing them in England in mid-winter is open to serious objections. It causes much sickness, and even death, which could, no doubt, be obviated by a more considerate system of transport. A good deal of sickness and a high rate of mortality, we understand, prevail among the men of the 18th Brigade, Royal Artillery, which returned from India about two months ago. A great many of the men are in hospital from illness brought on by the severe weather which they have had suddenly to encounter in this country.

THE ST. JOHN'S HOUSE NURSES AND KING'S COLLEGE HOSPITAL.

We are glad to perceive that the difficulties which arose some time since between the lady superior and nurses of St. John's House and the governors of King's College Hospital have been satisfactorily adjusted. A resolution was carried at the annual meeting of the governors, held last week, expressing the grateful thanks of the governors and committee to these ladies for the kindness and devotion they had shown in the Hospital. Lord Hatherley, who presided, stated that the recent differences had been entirely removed.

PARLIAMENTARY.—WATER SUPPLY—PUBLIC HEALTH—POLLUTION OF RIVERS—SCOTCH UNIVERSITIES (ADMISSION OF WOMEN)—ARTISANS' DWELLINGS—SALE OF FOOD AND DRUGS.

In the House of Lords, on Monday, March 1,

The Duke of Richmond, replying to Lord Cadogan's inquiry respecting the metropolitan water-supply, stated that it certainly was not the intention of the Government to introduce any measure for the purpose of acquiring all the waterworks in the metropolis; and with regard to Chelsea, a Bill was now before Parliament for the improvement of the supply of water there, and it would therefore be premature to introduce at present any compulsory measure with respect to that district.

In the House of Commons, on Monday,

In reply to Mr. Stevenson, Mr. Sclater-Booth said he hoped the Public Health Bill would be in the hands of hon. members at the end of the present or the beginning of the coming week,—it was not ready for the second reading on Thursday, February 25 (as announced in the Parliamentary notice quoted last week); and he hoped to be able to introduce the Pollution of Rivers Bill before Easter.

On Wednesday, March 3,

Mr. Cowper-Temple moved the second reading of a Bill, the object of which was to give power to the Universities of Scotland to grant degrees to female students. There were, he thought, no grounds for the objection that the admission of women would introduce unfair and unequal competition. He considered it an erroneous idea that women were naturally and intellectually incapacitated for the ordinary duties of a medical practitioner. The movement, he thought, is popular among women, as evidenced by the numerously signed petitions in its favour, one being signed by 16,000 women of England.

Mr. Maitland moved, as an amendment, the rejection of the Bill, and said that the wording of the preamble was misleading, as it asserted that doubts existed as to the admission of women. The highest courts of law had decided that for Universities to admit women to degrees was *ultra vires*. Besides, it would necessitate an enormous outlay for separate rooms, special courses of lectures, etc.

Sir Wm. Anstruther seconded the amendment. If women wanted university instruction they could get it on the Continent, or by establishing extra-academic teaching at home for themselves exclusively.

Dr. Cameron explained that the Bill, if passed, would not compel any university to admit women; it only proposed to remove special restrictions upon women.

Mr. Forsyth maintained that—not only for the medical, but for all the learned professions—women were fitted. He also alluded to the fact that some few women have distinguished themselves in the medical profession in Russia and elsewhere.

Mr. Beresford Hope said that this was a question about the graduation of women in all or any branches of the learned professions. It was equally a grievance that they were not allowed to be barristers or attorneys-at-law, as also to preach occasional sermons at Westminster Abbey. Why should not the faculty of nursing, for which women were so admirably adapted, be developed in colleges for nurses in London, Edinburgh, or anywhere else? This attempt to make woman an antagonist of man in the battle of life, on the plea of opening an independent career to women, was based on a fallacy. It ignored the eternal difference between man and woman. Were the promoters of this Bill prepared to say that women should be allowed to plead in courts of law, to draw conveyances, and what not? He was utterly opposed to this epicene policy, which would break down the distinction between man and woman, and would give his decided vote against the Bill.

Dr. Lyon Playfair and the Lord Advocate also spoke against the Bill, although both these gentlemen have on various occasions proved themselves to be able champions of woman's rights.

Dr. Playfair informed the House that the universities were not asking for the change, and did not want the powers it proposed to confer. The Bill would alter the constitution of the Scotch universities in the most complete manner, and, although he was in favour of legislating for the higher education of women, he thought this Bill too fragmentary, as it should have included all British universities.

The Lord Advocate refuted the idea of a trades-union spirit of opposition, and explained that the movement had its origin in the medical faculty. This Bill proposed to give instruction to women either in mixed or separate classes, and the House was asked to sanction that. Lord Ardmillan and others who were in favour of medical education for women were entirely opposed to those mixed classes, as indelicate and destructive of the purity of the female mind. He was a member of the University Court when it was found that women would not get private instruction. Intimation was given to them to that effect, but they claimed to have instruction in the public classes of the University. That being so, the question arose whether, if the point was tried in a court of law, there was a power in the University Court, or in any other body, to give the right of graduation to ladies. All the judges, without exception, were of opinion that there was no such power. The legal advisers of the ladies then said that they must rest their case upon the resolutions passed in 1869, but the Court, by a large majority, held that ladies could not be admitted to graduate, because no power to admit them was given under the original charter.

The second reading of the Bill was negatived by 194 against, and 151 in favour of it.

The Committees on the Artisans' Dwellings Bill and on the Sale of Food and Drugs Bill were in the orders of the day for Thursday, March 4. Mr. James Barclay was to ask the Home Secretary whether he intends to extend the Artisans'

Dwellings Bill to Scotland; Mr. Pemberton to ask whether any special provision with respect to the adulteration of beer would be introduced into the Adulteration of Food Act.

LETTERS FROM MADRAS.

No. XII.

MADRAS AS A WINTER RESIDENCE FOR INVALIDS—DIFFERENCE BETWEEN MITIGATED WINTER AND REAL SUMMER—WINTER IN ENGLAND AND IN INDIA—DRAWBACKS ENUMERATED—RISKS OF SEA AND OF LAND TRAVEL—A CYCLONE—RISKS ON SHORE—COLD WIND—BALANCE OF THE "PRO" AND "CON."

MADRAS, February 4, 1875.—It is nearly a year since I last wrote to you from this place, where I am spending my third winter. Before taking up the thread of my last letter let me say a few words as to my further experience of Madras as a winter residence for the invalid. Of course we start with the assumption that we have a weak man to deal with, whom the cold affects injuriously. Cold deranges the circulation of the blood; shuts off the current which flows to that great aërating and purifying organ, the skin; drives the blood to accumulate in lungs or kidneys—possibly to oozo out from these organs in some form of hæmorrhage. These organs are not only thus embarrassed, but have supplementary work to do, through the inaction of the skin; cough is set up by the access of cold air; heart and brain, if already enfeebled, may fail in function or suffer hæmorrhage. Then, supposing your weak man to be in London, and that his house is well warmed, what light has he during the heart of winter but yellow gas or candle-light? What air can be admitted that is not defiled with ammoniacal smoke or sewage vapours? What exercise can he take? And, supposing him to have the blessings of a comfortable home, of affectionate friends around him, and of all that is called English comfort, yet what privations of warmth, of light, of purity of air, he must endure!

I read in the newspapers that the Empress of Russia has been spending this winter at St. Remo, and that even there the windows have been doubled, and every precaution taken against the severity of the cold indoors.

In fact, the physician who prescribes a South of France, or an Italian, or Algerine climate for the winter, gives his patient a much warmer and brighter atmosphere than could be found in England. Especially, the patient is able to get out into the open air and sunshine at midday, and to walk or drive in places sheltered from the cold winds; but yet he is obliged to have recourse to the dear and scanty warmth of a wood fire in the mornings and evenings, and may be confined to the house for days together by spells of cold weather.

Therefore I would say to the invalid, If you have strength enough for the undertaking, and if you would enjoy a veritable summer instead of a mitigated winter, come on to India. The moment that you have passed through that marvellous Suez Canal ("the canal" *par excellence*), and have fairly got into the Red Sea, you find yourself in a balmy summer air, in which you can enjoy the utmost freedom of respiration without the embarrassment of heavy clothing or the thought of a fire.

The thermometer in your cabin will probably be found from 70° or a little below in the morning, to 80° or a little above at midday. But, as I shall show presently, a mere crude reading of the thermometer is no sort of test of the effect of air on the human body, unless the rate of movement of the air, its moisture, and consequently its power of abstracting neither too much nor too little moisture and heat from the skin, be duly considered. It would be easy to construct a climate—perfect as regards temperature—on paper, and to find it a place that no one could live in. But during the voyage in November from Suez to Aden in one of the Peninsular and Oriental steamers, covering 1308 miles in five or six days, thence to Galle (2134 miles) in nine days, and thence to Madras (545 miles) in three more days, the invalid breathes the balmiest air; he can take exercise on the spacious deck, protected from the sun; he has no cares about railway fares, hack coaches, and the risks of hotel accommodation and trouble of bills; can get up or lie down when he likes; can get a warm bath at any time except when the ship, being in harbour motionless, has no steam up; is sure of a good and abundant diet, and is well looked after by civil stewards. Then supposing him landed and settled at Madras,—I cannot do better than put on paper the actual reflections which passed through my mind one Sunday morning. Here am I, out of doors in a brilliant sunshine at half-past seven in the morning; the air light, bright, wonderfully transparent to sight and sound; birds singing; beautiful flowers in profusion; the country unusually verdant from abundance of rain: power to go to church at any time, and to go out and pay visits or transact business, if duly protected from the midday sun; the country and people full of objects of interest for anyone who chooses to look at them; to say nothing of the princely hospitality with which one is treated. Now, in London how many of these blessings could I have met with?

It will be said, You are an enthusiast: and so I ought to be. But is there nothing to be said on the other side? Can all voyages be expected to be so smooth and tranquil as yours? Certainly not: so let me quietly put down some of the items on the adverse side.

I will not speak of the unusually cold winds we encountered in the Mediterranean, because I am advising the invalid to go through and out of that sea, so smiling in summer and so treacherous in winter. But as amongst disagreeable incidents of our sea voyage, which an invalid may fairly balance against those of railway travelling, I must mention first of all a collision at sea. We left Suez on Sunday, November 22, in the P. and O. ss. *Khedive*, at the same time as the P. and O. ss. *Gwalior*, which, like ourselves, was to go to Aden, whence we were to go to Galle, and she to Bombay. The ships followed the same course, alongside of each other, till, for some reason or other, the *Gwalior* crossed right in front of the *Khedive*. By the mercy of God, our captain, who saw a frightful collision imminent, had the steam shut off; otherwise it is thought that the bows of the *Khedive* would have hit the side of the *Gwalior*, and smashed it, and sent her to the bottom right out. As it was, the blow was oblique; but the shock on board the *Khedive* was such as to make us think we had got upon a rock, whilst the noise of the crashing of the boats of the *Gwalior*, and the tearing off her port covers was alarming enough. I shall be glad when I see in the newspapers that this collision in the wide open sea, between two of their largest vessels, each freighted with treasure and life beyond calculation, has been well investigated by the Peninsular and Oriental Company.

A second disagreeable which one was not prepared for was the nauseating effect of the screw, when worked above its average rate, to urge the ship forward at a prodigious pace, and make up for time lost by waiting at Suez.

But the grandest of all was a storm; and to have been in such a conflict of winds and waters is a real addition to one's experience of sensations. We arrived off Madras on December 10, but the wind and waves soon became so boisterous that no boat could pass between ship and shore, and even some persons who had come on board early in the morning were unable to get back. So there we lay at anchor all the day, tossing about. The next day (Friday) things were worse rather than better; there we were at anchor within what seemed a few hundred yards of the shore, and not even one of the boats manned by the hardy natives could reach us. Saturday things looked so much more threatening that the captain hoisted anchor and steamed out to sea, and it was not long before we got into the course of a cyclone; and anything grander than the howling of the wind, and the air thick with spray swept off the crest of the waves, can't be conceived. The *Khedive* behaved beautifully, seemed to quiver or stagger under the shock of the elements, but made no water; and by five in the afternoon she had passed through the cyclone into a comparatively halcyon region. Here she remained all night, and next day (Sunday) steamed slowly back to Madras, where we landed thankfully with dry skins in the evening. Curiously enough, no one seemed to have been made sea-sick by the storm: the mental excitement, though latent, was too great.

To go on with my catalogue of drawbacks. When safely landed, do not be surprised if I say that the greatest enemy still in this hot climate is cold wind. Not *absolutely* cold—for, of course, that cannot be in the warm climate we have come so far to find—but *relatively* cold; that is to say, there are winds which, though what we should call warm at home (say 70°), yet, from their velocity and their state of moisture, are felt to be chilly, and to be liable to "give cold" to anyone who exposes himself to them without sufficiently warm

clothing. Such winds may give petty attacks of neuralgia or muscular rheumatism with fever; they may give "cold" in any of the forms familiar to us at home, and in one form in particular, which is much commoner here than at home,—cold in the colon. A person, for example, is constipated. He takes a stiffish dose of medicine, which acts too much; he drives out lightly clad at sunset; feels the cold wind strike him uncomfortably across the stomach; and then, if he does not manage himself aright, may find himself next day laid up with a dysenterie attack.

So that I must not be accused of underrating the possible risks of the climate, or of setting it forth as a place where human beings can live without care and clothing. Wear flannel, and do not sit in draughts or expose yourself needlessly to the night air, are maxims useful everywhere. I must ask my readers to balance the disagreeables and dangers of a long sea voyage against the possibility of accidents on land like that at Shipton. But when every deduction is made, I believe Madras, from November to March, to be one of the healthiest and most agreeable residences under the sun, from the generally equable climate (70° to 80°) in which we live, and from the possibility of enjoying the grand air and out-door exercise almost as in an English summer. In looking over the death-lists of the newspapers, one sees with grief, this winter, many an honoured name which might have been spared, could the black cold of England have been exchanged for the bright warmth here. But locomotion is yet in its infancy; *the* canal is as yet an infant in years; and some of us may live to hear people talking of a European home for summer and a tropical home for winter.

ABSTRACT OF THE

GOULSTONIAN LECTURES ON PUERPERAL FEVER.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS, LONDON.

By ROBERT J. LEE, M.D., F.R.C.P.,
Assistant-Physician at the Hospital for Sick Children, Great Ormond-street.

Lecture I.

Mr. President,—The disease generally known as puerperal fever is distinguished by characters which render it peculiarly suitable as a subject for the consideration of such an audience as I have the honour of addressing on the present occasion.

We can trace its history in the literature of medical science more or less continuously from the present time, to periods so remote that we possess now only scanty records of them.

There is a particular mental attitude, if I may use the expression, which we must assume in order to arrive at just conclusions regarding the value of the contributions of others to our stores of knowledge of any particular branch of science. It is not easy to avoid a tendency to become partisans of a theory under the influence of evidence which rests upon data beyond our immediate power of verification. To observe and record with accuracy the phenomena of disease, both clinical and pathological, requires much more than ordinary caution and patience when those observations are made for the express purpose of testing the credibility of the opinions of others. It is desirable to keep in view the general principle that these facts are most valuable which contribute to the practical treatment of any malady, including of course in the term treatment the knowledge of etiology and the best means of prevention. It may be necessary to mention some of the various methods of treatment which have been at times in general repute, though, with few exceptions I shall omit, those were of empirical character and ephemeral duration, and cannot be classed with remedies rationally suggested by etiological and pathological considerations, and fairly tested by experience.

It shall be my aim, therefore, when perusing the history of this fever, to prefer those records which contain practical information, and which tend to the elucidation of the origin and real nature of the disease.

I shall attempt to place before you such evidence as is necessary to show that puerperal fever existed very much in the same form as in the present day, at that period which we generally term "classical," when nosological distinctions were based upon symptoms, and the modern science of pathology had not been developed, or was entirely unknown.

I may assume, for the sake of convenience, the date of the foundation of this College (A.D. 1518) as the commencement of the modern era, through which we shall trace the successive additions which were made to the general and special knowledge of our subject.

Within the last few years, very considerable modifications have been brought about in our views of contagious agents, in which, of course, those on puerperal fever have to some extent participated. It is to the chemical investigator and the scientific physiologist that we are chiefly indebted for a series of observations and suggestions which have thrown more light upon the real nature of the fever than we should ever have obtained from ordinary clinical and pathological methods. In fact, it may be said that these sources of information were exhausted. As the conclusions deduced from the observations alluded to are of great practical value, it will be necessary for us to examine with patient care the facts presented by the most reliable authorities.

There is one point which must be noticed when we compare in detail the descriptions which we possess of the fever, as given by some authors, with the general symptoms which it usually presents in the routine of daily practice. It is the fact that the disease has often appeared in a more acute form, and has been attended by more serious results, than we observe now. Those epidemics, as they were called, which occurred in some of the large cities of Europe and in this country, particularly in the middle and latter part of last century, afford us considerable assistance in explaining these apparent discrepancies, though a complete solution is only to be supplied by an accurate determination of the etiology of the fever. It may seem paradoxical to assert that the disease is a definite one, and yet that we are to be prepared to meet with various descriptions by authors of its symptomatic and pathological characters. If it were not for the fact that many have formed their own ideas of its nature from personal experience alone, and have obtained only a limited view of the many phenomena which it exhibits, it would have been unnecessary for me to direct attention to the reason why we should make some allowance for the difference in details and in opinions which I allude to.

The Hippocratic treatise known as the Περὶ Γυναικείων contains a general description of puerperal fever. We may supplement it by references to the "De Morbis Vulgaribus," or "Epidemics," in which a few cases are related with much clearness and detail.

Hippocrates says: "If the lochia do not occur in the puerperal condition, it is very probable that fever and abdominal swelling will supervene. The whole system, but particularly the abdomen, will be highly sensitive to touch. Sometimes there will be intense abdominal and lumbar pain, dislike of food, insomnolence, and irritation of the surface of the body. On the fifth or seventh day after these symptoms, the patient will be attacked with disturbance of the alvine and urinary secretions. If the lochial discharge return, the patient may with proper care soon recover; but, if not, there is great danger that diarrhœa will ensue, and the lochia be arrested. The arterial pulse is weak, though sometimes quick and varying in force. Thus the early stage of this disease is characterised. After a time, the hollows of the face become flushed. In this condition the diet must be light. If there be delirium, laxatives must be given to drink, and other remedies, according to the indications of bilious or mucous secretions. Fomentations and poultices are to be applied daily. If, however, the lochial purgation appear to affect the head, thorax, and lungs,—for that may happen,—the patient always very soon succumbs."(a)

This general description applies, as we see, to one particular form of fever, and, though it is followed by an account of some other forms of disease which we know to be nearly allied to it and to depend upon the same cause, yet there is no strong indication that they were associated for any reason of that kind in the treatise referred to.

To illustrate the above, in the first book of the "Epidemics," the history is related of the case of the wife of Philinus, who was seized on the fourteenth day after delivery with pain in the hypogastric and pubic regions, consequent on the cessation of the lochia. The first symptom mentioned is rigor, or in the original—"She was seized with fever attended with rigors." On the eighth day after this the rigor returned; on the fourteenth day she had subsultus and incoherent wanderings, and on the twentieth day she died.(b)

(a) Hippocratis *Opera*, Ed. Foes., p. 603, secs. 40 *et seq.*
(b) *Op. cit.*, p. 976.

This case is followed by one still more accurately described. "The wife of Dromeades, having been delivered of a female child, and all other matters progressing favourably, on the second day after was seized with rigor and acute fever. She began to have pain in the hypochondrium and nausea; was incoherent and sleepless for many hours; respiration was long and irregular, and she suffered from thirst, cold sweats, and epistaxis. On the sixth day she expired." The third case is that of a woman who "was seized with fever soon after the birth of a son. At first there was thirst, nausea, and cardialgia; the tongue was dry, the bowels disordered; she had slight rigor, acute fever, and a faint cold sweat about the head. On the third day she was in great pain, and there was diarrhœa; on the fourth day she had rigors again, and all the symptoms were increased in severity. They continued with slight variation till she died with epistaxis on the fourteenth day."(c)

Some remarks on the conditions of the atmosphere which existed at the time of the occurrence of this case contain the observation that erysipelas, in a malignant and non-malignant form, was prevalent.

There is another important case which is compared by the commentators with that of the wife of Philinus. The symptoms are regarded as very typical in both instances of the consequences of arrested lochia—a theory, I need hardly mention, which satisfied the minds of the physicians of that day, and indeed for centuries later.

But I do not mention this case, which commences *ἐν Θάσῳ τὴν κατακειμένην*, etc.,(d) for any other reason beyond the fact that, during the period of eighty days of illness terminating in death, we have those symptoms detailed which clearly mark the case as one of phlebitis or inflammation of the cellular tissue of the right limb. The woman was attacked on the third day after delivery with the usual symptoms of puerperal fever, such as were mentioned in the other cases I have related. On or a little after the twentieth day, the symptoms of phlebitis commenced, and the febrile variations which are so commonly met with in this form of disease are simply and clearly stated; they were of a wandering and paroxysmal character (*πεπλανημένως δὲ παροξύνομενοι*), which exactly describes them.

Before disposing of the Hippocratic works, it may be allowable to refer briefly to two cases of abortion,(e)—cases at least in which febrile symptoms followed immediately on that occurrence. It is right to mention that they are referred to in the annotations of the edition of Foesius as instances of fever producing abortion. There is, however, this peculiarity in the account of the cases which we can hardly regard as without intention: it is, that they both commence somewhat thus:—"This is a case in which acute fever attacked a woman immediately after abortion," etc.; or, "This is another case in which acute fever followed abortion at the fifth month," etc.; and both cases terminated fatally on the seventh day. As it is not the purpose of Hippocrates, in his clinical histories, to connect cause and effect, but to leave the simple facts to speak for themselves, we are not obliged to submit to the conclusions of commentators who have looked at them through the medium of a theory. We are told of the events and symptoms in order of time, and we are permitted to consider the occurrence of abortion related in those cases as certainly presenting a different aspect in connexion with the symptoms than if it had been mentioned later in the history.

Independently of these cases, we have the distinct statement that abortion might be followed by puerperal fever; for we find, in the treatise "De Morbis Mulierum," such remarks as the following:—"This (puerperal fever) may happen after abortion"; or, again, "Abortions are more dangerous than ordinary parturition, for the uterus is liable to ulceration or inflammation—a condition most serious." It is from such extracts as these and others that most modern authors satisfy themselves of the existence of puerperal fever among the maladies of ancient times.

We may assume, then, that there is no great difficulty in establishing the first question of identity in all important particulars. There are one or two points deserving of further notice. It may be observed that Hippocrates omits all mention of treatment in his clinical examples, so that we are unable to determine the extent to which he practised the instructions contained in his general treatise, nor do we feel at all certain that we understand the views which were taken of the essential nature of this fever. It is asserted by his commentators that Hippocrates referred puerperal fever to an arrest of the lochia, the grounds for that assertion being his statement that this is the first symptom of the disease in the puerperal state. There is no doubt that he did entertain some such idea; for he remarks that "if they"—that is, the lochia—"return, it is a favourable symptom." But the question of the cause on which the local and general disturbances depend is not limited by any means, as some suppose, to the arrest of the lochia alone. There are distinct pathological conditions assigned as causes in a certain number of cases—namely, inflammation and ulceration of the uterus, and retention of placental structures. There is no point more carefully set forth than this, and there is no hesitation in referring the symptoms which follow such retention to the effects of decomposition. "There may be ulcerations in the uterus from the decomposition of the lochia (*Γίνεται δὲ καὶ ἕλκεα ἐν τῇσι μήτρῃσιν οἷα τῶν λοχείων σαπέντων*") certainly implies this. The word here used we have found necessary to introduce into our own language when we wish to indicate in a special manner the process of decomposition, though it appears to have been commonly used by the Greeks. As, for example, when Hermes reported of Hector's corpse:—

δωδεκάτη δὲ οἱ ἠὼς
Κείμενῳ οὐδέ τι οἱ χρὼς σήπεται, οὐδέ μιν εὖλαι
Ἔσθουσι.
"This the twelfth evening since he rested there,
Untouched by worms, untainted by the air."(f)

We shall see that the principle involved in our modern term "septic," though clearly appreciated by the Ancients, was to some extent lost sight of till almost the present day.

So far as the arrest of the lochia was considered one principal cause of puerperal fever, the theory was naturally applied to the explanation of the various constitutional symptoms noticed in the disease; that is to say, they were simply regarded as of metastatic origin, and their cessation on the return of the lochia was explained by and supported that idea.

Only one other circumstance remains to be mentioned under which the symptoms of puerperal fever may occur; and that is the possibility of inflammation at the ordinary period of menstruation. From what has been extracted thus briefly from the Hippocratic works, we may conclude that several causes were recognised by Hippocrates as capable of producing the series of symptoms which we term puerperal fever, and that amongst those there is evidently a clearly conceived notion of infective agency.

It is not probable, it is quite certain, that the more carefully we scrutinise the classic authors, the more they appear to have known of the symptoms of disease; and their accuracy and acuteness of observation, and, above all, their singular simplicity and truth, command our attention and respect.

It is clear, then, that, so far as symptoms are concerned, all the important phases of puerperal fever were so well described by Hippocrates as to admit of no considerable addition or improvement. It is to the progress of morbid anatomy and pathology that we are chiefly indebted for recent information on the value of symptoms, and their relation to, or origin in, pathological processes. As examples of this, we are able to explain the various local and constitutional symptoms which occur in those particular forms of the disease and their occasional complications, which we are accustomed to designate by distinct terms—*e.g.*, phlegmasia dolens, phlebitis, metritis, thrombosis, and others. When I said that we might assume the date of the institution of this College as an approximately correct and convenient starting-point of the modern era, it was intended to fix the attention upon one or two illustrious names which will always in this country be associated with anatomical and physiological science, and which retain their influence in the preservation of our national character of scientific thought and practical purpose.

For the present, we may limit our inquiries to the gradual evolution of the theory now daily gaining ground, that there is a particular cause for the various forms of puerperal fever—viz., the existence of a specific poison in the human system, either introduced or self-developed. It matters not for our purpose what the nature of the evidence was which first led to this belief, provided only that, so far as they went, the data were strictly true, and the deductions logical. In this question of the origin of the belief that puerperal fever depends on a specific poison, we find that the idea is by no means so

(c) *Op. cit.*, p. 987. (d) *Op. cit.*, p. 1096. (e) *Op. cit.*, pp. 1078-79.

(f) "Iliad," xxiv., 414, Pope's Translation.

recent as might be imagined; but, as it was regarded in such a doubtful way as not to influence treatment to any beneficial extent, we cannot admit that it deserves such serious notice as when we meet with those who have entertained the belief so strongly as to have used every endeavour in their power to arrest the influence of the poison, and to prevent its contagious effects. Time has proved that many explanations of the cause of puerperal fever have been erroneous, and that the belief in a specific poison is entitled to general acceptance. If we limit ourselves to tracing its development, which has been sufficiently gradual, we shall be better occupied than in the criticism of erroneous doctrine.

In its present form, our idea of the specific nature of the poison which produces puerperal fever is somewhat different from that which was involved in the *σήψις* of the Greeks; but to what extent it differs, and why, depends of course on our knowledge of the properties of the poison, and that point we need not consider at present. We are not obliged to meet the request to define what we mean by "contagious"; we should not allow an argument on the meaning of words to interrupt our attention to facts.

I now propose to examine how far the contagious theory of puerperal fever is supported, or contradicted, or neglected by the authorities of the seventeenth century. The theory of a poison generated in the process of the decomposition of organic matter involves the assumption that, *pari passu* with the process of decomposition, there is a simultaneous and equivalent one of generation. This, perhaps, may be going a little too far; but there is no doubt that decomposition and disintegration have always been clearly distinguished. To those who do not reflect upon such questions, the contrast would not seem so striking as to the mind of the scientific inquirer. It is the one, however, which called forth such a request as the following from the pen of Harvey, whom we may regard as the exponent of the most advanced opinions of his day:—

"What shall we say of the animalcules which are engendered in our bodies, and which no one doubts are ruled and made to vegetate by a peculiar vital principle? Of this kind are lumbrici, ascarides, lice, mites, syrones, acari," etc.; and then, quoting from Aristotle: "For in almost all dry things growing moist, or moist things becoming dry, an animal is engendered."(g)

In another place he exclaims: "Let physicians, therefore, cease to wonder at what always excites their astonishment—namely, the manner in which epidemic, contagious, and pestilential diseases scatter their seeds, and are propagated to a distance through the air, or by some *fomes* producing diseases like themselves in bodies of a different nature, and, in a hidden fashion, silently multiplying themselves by a kind of generation until they become so fatal, and, with the permission of the Deity, spread destruction far and wide among man and beast."(h) There can be no doubt of the views of the author of these passages regarding the development of minute independent organisms in the human body.

There is all the proof which we require of Harvey's belief in the effects of a poison generated by decomposition to be found in a subsequent passage in his work on "Generation"; and, as it is an important one in many ways, particularly in a practical point of view, I shall with your permission quote it at length.

"Women, as they alone have a menstruous, so have they alone a lochial, discharge; added to which, they are exposed to disorders and perils immediately after birth, either from the uterus through feebleness contracting too soon, or from the lochia becoming vitiated or suppressed. For it often happens, especially in delicate women, that foul and putrid lochia set up fevers and other violent symptoms; because the uterus, torn and injured by the separation of the placenta, especially if any violence have been used, resembles a vast internal ulcer, and is cleansed and purified by the free discharge of the lochia. Therefore do we conclude as to the favourable or unfavourable state of the puerperal woman from the character of these excretions.

"For, if any part of the placenta adhere to the uterus, the lochial discharge becomes fetid, green, and putrid; and sometimes the powers of the uterus are so reduced, that gangrene is the result, and the woman is destroyed. If clots of blood or any other foreign matter remains in the uterine cavity after delivery, the uterus does not retract nor close its orifice, but the cervix is found soft and open. This I ascertained in a woman, who, when labouring under a malignant fever, with great prostration of strength, miscarried of a fœtus exhibiting no marks of decomposition, and who afterwards lay in an apparently dying state, with a pulse scarcely to be counted, and cold sweats. Finding the uterine orifice soft and open, and the lochia very offensive, I suspected that something was undergoing decomposition within. Whereupon I introduced the fingers and brought away a mole. . . The woman was immediately freed from her symptoms, and in a short time recovered."(i)

In order to ascertain how far the ideas of Harvey on the connexion between puerperal fever and decomposition were entertained generally, we cannot refer to a better authority than the celebrated French obstetrician François Mauriceau. In his remarks on the suppression of the lochia, and the symptoms which are produced by it, he says that "those putrefying humours, by reason of their prolonged detention in the cavity of the uterus, produce for certain considerable inflammation, so that the suppression of the lochia may be one of the most dangerous symptoms which can happen in the puerperal condition."(k)

The most important pathological effects of inflammation are described by Mauriceau, nor does he omit to mention the symptoms of puerperal phlebitis, attributing that also to the suppression of the lochia. This idea led him to depend upon bleeding as the chief remedy for the disease; so that we can hardly say he had any conception of the existence of a poison generated in the process of decomposition as the prime cause of these symptoms. As a clinical observer, however, he mentions in detail the most minute as well as the leading symptoms of nearly all the forms of puerperal fever with which we are acquainted; at least, of those which occur in the puerperal condition, properly speaking. It is rather in his character of a practical physician that we must regard him than in that of a scientific pathologist.

I have already indicated to what extent simple clinical observation is able to explain the etiology of puerperal fever; and, for the reason that pathological analysis has not been brought to bear upon it till a century or more after Mauriceau's time, we have no important addition to notice in the works of intervening authors.

Important changes had taken place, however, in the general doctrines of medical science during that period, and these necessarily more or less influenced general opinion on the etiology of our subject.

As far as puerperal fever is concerned, we have only to notice in Cullen's works certain views which he entertained on the general question of the difference of fevers and their causes, and which were intended to apply to puerperal fever amongst others of contagious nature. It is his theory of contagion that we are induced to examine. The term *fomes* was used by Harvey to describe a minute organic particle, one of the products of decomposition, possessing very active properties, though certainly indefinite in its character. This term is also used by Cullen in much the same sense. He assumes the existence of different kinds of fomites, of different specific nature, and suggests the employment of the term effluvia "rather than the general ones of contagion and miasma." By effluvia he meant the products of the decomposition of any animal matter, as distinguished from contagion and miasma; miasma being the product of the decomposition of vegetable matter, and "contagious" being a term used to distinguish such diseases as scarlet fever, measles, and others not originating in a decomposing process. Such I conceive to have been the meaning of effluvia, contagion, and miasma: "Substances," in his own words, "thus imbued with an active and infectious matter may be called fomites; and it appears to me probable that contagious, as they arise from fomites, are more powerful than as they arise immediately from the human body.

"The miasma," he says, "so universally the cause of fever is that which arises from marshes or moist ground acted upon by heat:" the word fever, as arising from miasmata, being restricted to the intermittent species. He defines "contagions as arising directly or originally from the body of a man under a particular disease, and exciting the same kind of disease in the body of the person to whom they are applied."(l) From these passages, it is not difficult to understand Cullen's idea

(g) Page 282, Trans. Harvey: "On Generation" (Sydenham Society's Works).
(h) Page 322, *op. cit.*
(i) *Op. cit.*, p. 544.
(k) Ed. 1681, p. 284.
(l) "Practice," vol. i., p. 80 *et seq.*

of fomites, though, as far as having proved the existence of such particles, he was not the least more advanced than his predecessors; that is to say, his reasons for believing in such germs of disease rested entirely upon clinical observation.

He found some difficulty, however, in dealing with a class of fevers or pyrexia known as "continued," gaol, or hospital fevers, and in this class he included puerperal fever. He attributes their origin to a common cause. On this point, it will be seen that there was a definite opinion regarding the effects which may be produced by the effluvia from the living human body, which, "if long retained in the same place without being diffused in the atmosphere, acquire a singular virulence, and, in that state being applied to the bodies of men, become the cause of a fever which is highly contagious. The existence of such a cause is proved by the late observations on gaol and hospital fevers, and that the same virulent matter may be produced in many other places must be sufficiently obvious." With respect to these contagions, Cullen observes in another place—'Though we have spoken of them as a matter floating in the atmosphere, it is proper to observe that they are never found to act but when they are near to the sources from whence they arise—that is, either near to the bodies of men, from which they immediately issue, or near to some substances which, as having been near to the bodies of men, are imbued with their effluvia, and in which substances these effluvia are sometimes retained in an active state for a very long time."

Thus far I have advanced by rather rapid strides in the history of the most important part of our subject, and have arrived at a time when our modern system of medical science was beginning to develope itself; when attention was being directed to those new and unexplored regions which the researches of the morbid anatomist and pathologist have since exposed to our view. To what extent those new methods of inquiry modified the general ideas concerning the etiology of puerperal fever, we may now proceed to consider.

UNIVERSITY OF CAMBRIDGE.

Scholarships and Examinations for Natural Science.

The following is a list of the scholarships and exhibitions for proficiency in Natural Science to be offered at the several colleges and for non-collegiate students in Cambridge during the present year:—

Trinity College.—One or more scholarships of £100, and one exhibition of £50. The examination for these will commence on March 30. The scholarships are open to all members of the University of Cambridge who have passed the Previous Examination. The exhibition is open to persons under twenty who have not yet commenced residence at the University. Further information may be obtained from the Rev. E. Blore, Tutor of Trinity College.

St. John's College.—One of the value of £50 per annum. The examination (in chemistry, physics, and physiology, with geology, comparative anatomy, and botany) will commence on April 3, and will be open to all persons who have not completed a term of residence at the University, as well as to all who have entered and have not completed one term of residence. There is a separate examination in natural science at the time of the annual College examination at the end of the academical year in May; and exhibitions and foundation scholarships will be awarded to students who show an amount of knowledge equivalent to that which in classics or mathematics usually gains an exhibition or scholarship in the College. In short, natural science is on the same footing with classics and mathematics, both as regards teaching and rewards.

Christ's College.—One or more in value from £30 to £70, according to the number and merits of the candidates, tenable for three years and a half, and for three years longer by those who reside during that period at the College. The examination will be on April 6, and will be open to the undergraduates of the College; to non-collegiate undergraduates of Cambridge; to all undergraduates of Oxford; and to any students who are not members of either university. The candidates may select their own subjects for examination. There are other exhibitions which are distributed annually among the most deserving students of the College. Further information may be obtained of John Peile, Esq., Tutor of the College.

Gonville and Caius College.—One of the value of £60 per annum. The examination will be on March 18, in chemistry and physics, zoology with comparative anatomy and physiology, and botany with vegetable anatomy and physiology; it will be open to students who have not commenced residence in the University. There is no limitation as to age. Further information may be obtained from the tutors. Scholarships of the value of £20 each or more are offered annually, for anatomy and physiology, to members of the College. Gentlemen elected to the Tancred Medical Studentships are required to enter at this College; these studentships are five in number, and the annual value of each is £100. Information respecting these may be obtained from B. J. L. Frere, Esq., 28, Lincoln's-inn-fields, London.

Clare College.—One of the value of £60 per annum, tenable for two years at least. The examination (in chemistry, chemical physics, zoology with comparative anatomy and physiology, botany with vegetable anatomy and physiology, and geology) will be on March 16, and will be open to students intending to begin residence in October.

Downing College.— One or more of the value of £60 per annum. The examination (in chemistry, comparative anatomy, and physiology) will be on April 6, and will be open to all students not members of the University, as well as to all undergraduates in their first term.

Sidney College.—One of the value of £60 and one of the value of £40 per annum. The examination (in heat, electricity, chemistry, geology, zoology and physiology, and botany), will be on April 6, and will be open to all students who intend to commence residence in October.

Emmanuel College.—One of the value of £70. The examination, on March 24, will be open to students who have not commenced residence.

St. Peter's College.—One scholarship of the value of from £40 to £80, according to the attainments of the candidate. The examination, on April 6, will be in botany, chemistry and chemical physics, geology, and comparative anatomy and physiology, but no candidate will be allowed to be examined in more than two of these subjects. It will be open to all students under twenty-one years of age who can obtain permission to become members of the College. Application must be made before March 20 to the Tutor.

Non-Collegiate Students.

An exhibition each year is given by the Clothworkers' Company, value £50 per annum, tenable for three years. Examination about Christmas, open to non-collegiate students who have commenced residence in the October Term and to any who have not commenced residence. Information to be obtained from the Rev. R. B. Somerset, Cambridge.

Although several subjects for examination are in each instance given, this is rather to afford the option of one or more to the candidates than to induce them to present a superficial knowledge of several. Indeed, it is expressly stated by some of the colleges that good clear knowledge of one or two subjects will be more esteemed than a general knowledge of several.

Candidates, especially those who are not members of the University, will, in most instances, be required to show a fair knowledge of classics and mathematics, such, for example, as would enable them to pass the Previous Examination.

There is no restriction on the ground of religious denominations in the case of these or any of the scholarships or exhibitions in the colleges or in the University.

Further information may be obtained from the tutors of the respective colleges; and the names, with certificates of character, date of birth, etc., must be sent to the tutor of the college, in each case, several days before the examination.

It will be observed that in several instances the time of the examination is the same: certain of the colleges have combined together so as to hold one or two examinations instead of each college holding a separate examination.

Some of the colleges do not restrict themselves to the number of scholarships here mentioned, but will give additional scholarships if candidates of superior merit present themselves; and other colleges than those here mentioned, though they do not offer scholarships, are in the habit of rewarding deserving students of natural science.

It may be added that Trinity College will give a fellowship for natural science, once, at least, in three years; and that most of the colleges are understood to be willing to award fellowships for merit in natural science equivalent to that for which they are in the habit of giving them for classics and mathematics.

ABSTRACT OF

CLINICAL LECTURES ON DISEASES OF THE HEART.

By GEORGE W. BALFOUR, M.D., F.R.C.P.E.,
Physician to the Royal Infirmary.

We are much pleased to be able to present to our readers, nearly in its entirety, a lecture by Dr. George Balfour, of Edinburgh, on aortic regurgitation. In another article, already published in the *Edinburgh Medical Journal*, the same author deals with the natural history of the affection; here he speaks more of its pathology and treatment. The lecture originally appeared in the above-mentioned journal, but we republish it here because we do not remember having read an article on the subject of aortic disease that was so good, or contained so full a knowledge of it.

On Incompetence of the Aortic Valves, with Special Reference to the Progress of the Disease, its Prognosis, and Treatment.

When regurgitation takes place through the aortic valves, the left ventricle, during its diastole, fills from two sources instead of one—from the aorta as well as from the auricle. The first and most immediate effect of this is a sudden diminution of the arterial tension, which impresses its character on the pulse in exact proportion to the amount of regurgitation present—a fact which shall be presently more particularly referred to. The second effect of this diastolic filling of the ventricle from two sources is, that when the systole of the auricle takes place, there is produced, first, a greater or less over-distension of the left ventricle; and, second, an incomplete emptying of the left auricle. The result of the latter is a greater or less amount of passive congestion of the lungs, revealed—as I have already pointed out, every obstruction to the onward flow of the blood through the heart, that is, every passive congestion of the lungs from a cardiac cause, is revealed—by an accentuated pulmonary second sound. Once started, this passive congestion of the lungs must, of course—if no compensating change were possible—go on increasing with each cardiac pulsation, until at length it affected the right ventricle, over-distended it, opened up the tricuspid valve, and ended by producing passive congestion of the general systemic veins, terminating in general dropsy, and a gradual transference of the blood-pressure from the arteries to the veins, till the arterial blood-pressure became reduced below that compatible with life, and death ensued under symptoms of a gradually increasing asthenia. This is, in fact, a very common mode of death in other forms of cardiac disease; but it is a very rare one in aortic incompetence, because in it the lesion which obstructs the onward flow is of such a character, as already mentioned, as to produce, directly and at once, such a fall in the arterial blood-pressure as is only brought about by other lesions indirectly, and after a long lapse of time.

In all cardiac lesions, however, there is a tendency to postpone this ultimate result for a longer or shorter time by the production of secondary changes in the heart itself, which more or less perfectly compensate these lesions; and it is the object of treatment so to further or to regulate these changes as to procure as perfect a compensation as is practicable, and to maintain its efficiency as long as possible.

In aortic incompetence the overloaded condition of the heart gives rise to various distressing sensations, revealed by uneasiness or pain in the cardiac region, with irritability of the organ, evinced by palpitation on the slightest provocation, direct or reflex, as the most trifling exertion, or the mere ingestion of food; and the first step in the relief of these phenomena is the accommodation of the left ventricle to the increased supply of blood it is required to contain. This is usually readily brought about by the elasticity of the muscular structure of which it is composed. The first step towards compensation is therefore dilatation of the left ventricle. Inasmuch, however, as simple dilatation of the ventricle can only provide a receptacle for the blood delayed, and not a means of restoring it to the circulation, this first step would postpone the inevitable end only for a very short period, and must itself be compensated before the balance of the circulation can be so efficiently restored as to render the lesion mute. To this end the dilated ventricle hypertrophies; *pari passu* with the dilatation of its cavity, its walls become thicker and more powerful. The mechanism by which this is brought about may not be very clear, but the fact is patent to all; and the result is, that as the left ventricle dilates it also hypertrophies, and that in cases of disease in which regurgitation is only comparatively slowly developed, this all takes place with so little disturbance of the cardiac or of the general circulation, that it is often only after the lapse of many years—frequently passed in strenuous labour—that the patient learns to his astonishment that he has in all probability been for so long the subject of heart complaint. On the other hand, when regurgitation has been suddenly developed in an extreme degree, as in cases of accidental rupture of one or more of the segments of the aortic valves, the immediate effect has been great disturbance of the cardiac circulation, and complete compensation has never been perfectly developed, the patient continuing to suffer till in no long time death has ensued.

When aortic incompetence has been developed as the result of local disease in a moderately healthy subject, in whom dilatation and hypertrophy of the left ventricle have gone on, *pari passu*, in such a way as to develope and maintain what is called a perfect compensation for the existing lesion, a time at length arrives when this is no longer possible. I may be unconsciously doing injustice to those who have already written on this subject, but it seems to me that they have assumed that when this so-called perfect compensation is once attained—it may be after a longer or shorter period of cardiac perturbation—it is maintained, accidents excepted, till nutritional changes in the heart-walls render its longer continuance impossible. If this view, however, be correct, too much attention has been bestowed upon what we may call the vital forces, and too little upon the simple mechanical agencies involved in aortic regurgitation—agencies which are, however, of vast importance in producing injury, and which must be duly attended to and counteracted in our therapeutical attempts to alleviate the mischief produced by them. Thus, when a leakage, however trifling, has once been established through the segments of the aortic valve, the effect of this—with the patient in the erect position—is, according to Pascal's law, that the interior of the left ventricle is being constantly dilated by a force equivalent to the weight of a column of blood the height of the cranium above the heart, and of the diameter of the ventricular lumen. From the moment that leakage is once established till the cessation of life, this hydrostatic pressure never ceases, though it may be modified by position; its action is not only continuous, but it increases, in accordance with the law referred to, *pari passu* with the gradual dilatation of the ventricle; while all that the organism has to oppose to this powerful dilating force is the practical exercise of that well-known but inexplicable law, whereby all hollow involuntary muscles hypertrophy and increase in strength in proportion to the amount of any obstacle preventing the exercise of their function (Paget). A due consideration of what has just been said will sufficiently explain the danger to which such patients are subjected, as well as the manner in which nutritional derangements, either general or local, may increase that danger. For instance, if, at the moment that aortic leakage is established, the system is in a depressed condition of nutrition, there may be a difficulty, or even an impossibility, of establishing compensatory hypertrophy, and the result may either be a more or less prolonged period of cardiac disturbance, or sudden death from asystole. And similar results may arise from a similar cause at any moment—even long after compensation has been established—during the persistence of the leakage; that is, at any after-period of the patient's existence. It is, however, in the history of this lesion subsequent to the establishment of compensatory hypertrophy that a great part of its interest lies, especially in regard to the influence of local nutrition. If we regard the compensation, once established, as perfect and complete, then it is obvious that, apart from accidental disturbances, we must wait the development of local nutritional changes before we can have any disturbance of the compensation. If, however, we look upon the compensation as always incomplete, though practically sufficient for the carrying on of the circulation, then a time must at length arrive when the compensation is ruptured from purely physical causes, and that quite independent of either general or local disturbances of nutrition; and it seems to me that this is the most usual case.

In aortic regurgitation there are three possible conditions of the left ventricle, for it is to the state of that cavity that our inquiry in this matter is practically limited.

1st. We may have a condition of over-compensation, in which the left ventricle is hypertrophied in excess of its requirements, and which is said to give rise to many disagreeable and possibly dangerous symptoms. This is a state of matters which is constantly referred to by all recent writers on the subject. It must, however, be one of extreme rarity, if it occur at all. In my own experience I can only recall one case of aortic regurgitation in which I ever had even a suspicion of such a state of matters, and that occurred so long ago that I am by no means certain that, were a precisely similar case to come before me now, I would acknowledge it as a definite example of over-compensation. At all events, I know not where to find recorded any well-authenticated case of the kind; and I am persuaded that for all practical purposes we can well afford to discard all consideration of such a condition.

2nd. The balance of compensation may be perfect; the amount of hypertrophy may be just sufficient to counterbalance the dilating effect of the regurgitation, and with a slightly dilated and hypertrophied heart the circulation may go on as before, till, from accidental or inevitable nutritional changes, the compensation is ruptured, and disturbance of the circulation sets in.

3rd. We may have, from the moment that aortic leakage sets in, a dilating power acting on the left ventricle, which, from physical causes, must gradually increase. This dilating force acts as a hindrance to the onward current of the blood; the muscularity of the left ventricle reacts against this obstacle, and for a time successfully, so far as the maintaining of the circulation is concerned, but always at a disadvantage. The dilatation which commenced the organic disturbance continues ever in advance, the compensating hypertrophy which followed continues ever to lag behind, till, apart from any nutritional disturbance whatever, a point is reached when asystole is threatened, because the weight of the dilating fluid is in excess of the contractile force of the ventricle. At this moment it is fortunate for the patient that the increased weight of blood is, from physical causes, always accompanied by increase of dilating power, so that just at the moment that ventricular paralysis is threatened, a way of escape is prepared, the segments of the mitral valve give way, and, by regurgitation into the left auricle, the overburdened ventricle is relieved and the inevitable end postponed. Everyone must recognise in this latter sequence of events the ordinary history of a case of aortic regurgitation, and must also be fully aware that, long after the occurrence referred to, a patient may die with his ventricular muscle in a state of comparative health. We must all, therefore, be fully prepared to acknowledge the paramount importance of Pascal's law in the sequential production of the organic changes consequent on aortic regurgitation, quite apart from nutritional changes.

But though the hydrostatic influence developed by the imperfect condition of the aortic valve inevitably gives rise to the conditions referred to, these may be precipitated by any general or local disturbance of nutrition. Whenever from general debility the hypertrophy of the left ventricle is interfered with, asystole and sudden death may occur at a very early period of the affection, or over-dilatation and mitral regurgitation may take place at a similarly unusually early period. This may be afterwards compensated, but is probably always followed by an exceptionally early fatal termination. Similar results are threatened at any period of the disease when general nutrition is accidentally interfered with by privation, overwork, or any febrile condition so slight even as an ordinary catarrh. It is under these circumstances that the disease, if it have ever been mute, ceases any longer to be so; cardiac disturbance sets in, and the patient comes under treatment. In these cases the ruptured compensation may still be restored by appropriate management, and the patient may be reinstated in comparative health. It is otherwise, however, when the nutritional disturbance is local. Judicious treatment may still prolong life, but efficient compensation can no longer be restored, and though the end may be postponed, it is inevitable. To understand why this must be so, we must glance cursorily at the mode in which the heart is nourished, and consider the influence of aortic regurgitation upon it. The importance of the heart as the central organ of circulation, and the amount of work which, as such, it is needful for it to perform, coupled with our knowledge of the paramount importance of food in relation to work with respect to organic frames and their constituent organs, enable us readily to understand how any defect in the nutritional qualities of the blood, however brought about—by old age, cachexia, or disease,—may impair the working power of the

heart; and when we know that this impaired contractile force is opposed to an obstacle which from physical laws must, if uncompensated, still further endanger the physical means by which that force is applied, we can easily understand the evils to which a patient in this condition may be exposed. But all the ills of spanæmia, or a general defect in the nutritional qualities of the blood, may be emulated or surpassed by any positive interference with the local supply of blood even of good quality, and these are, of course, still more readily produced when, as in this affection, both these causes are at work.

The heart receives its supply of arterial blood from the coronary arteries. During the systole of the left ventricle, however, two causes conspire to prevent arterial repletion: 1st, The blood-current flows at right angles to the orifices of these arteries, so that only a small portion of the systolic wave can be supposed to enter them; 2nd, The ventricular tissue is at this time so firmly contracted as still further to limit this systolic wave-supply. And to these hindrances we have to add the anatomical fact that in a considerable proportion of individuals the coronary arteries open so far within the valvular zone that, at the moment of ventricular systole, their orifices are closed by the segments of the aortic valve thrown back on the wall of the artery, so that any possible systolic supply is completely shut off, and in them the whole, as in all cases the most abundant, supply of nutritional blood to the heart must take place at the moment of ventricular diastole, when the closed semilunar valves direct the aortic systolic blood-current into the cardiac tissue already prepared to receive it by its diastolic relaxation. But when the semilunar valves have given way, and ventricular regurgitation has been established, the aortic systolic wave entering the coronary arteries is not only diminished by the amount of regurgitation present, but has its tension correspondingly lowered, the result being an imperfect flushing of the heart's tissue with arterial blood at a pressure below the normal, so that we have not only a defective supply of the nutritive material, but an imperfect application of it, from the persistent maintenance of an increased venous tension of local origin, which produces a stasis of venous blood in the radicles of the veins and in the capillaries, and thus shackles the cardiac nutrition in its final act as effectually as the regurgitation does in its initial one—the mere admission of the nutrient blood. To this we must add the additional hindrance opposed to the entrance of arterial blood into the cardiac muscle by the dilating force applied to its interior. The result of all these causes combined is that the cardiac muscular tissue is in a state of persistent venous congestion with defective arterial supply, both being in exact proportion to the freedom of the regurgitation, and, as already seen, specially so when the mitral segment of the aortic valve is traumatically affected, so that the branch of the coronary artery lying behind it is almost wholly deprived of its blood-current. Of course, any spanæmic condition of the blood generally, or any atheromatous obstacle at the mouth of one or other of the coronary arteries, renders these causes doubly effective. Under these conditions, brown atrophy of the cardiac muscle may occur; but the most frequent alteration of all is yellow atrophy (fatty degeneration), affecting chiefly that part of the ventricle where its nutrition is most effectively shackled by the pressure of the dilating force—viz., the sub-endocardial layer of the muscular substance both of the ventricular wall and of the musculi papillares. Along with these changes there is usually found in such hearts an unusual predominance of fibrous tissue. This by some is regarded as also the result of muscular degeneration; but, inasmuch as it is found in other organs—the liver, spleen, and kidney—where no muscular tissue is present, but which have been subjected to similar venous congestion, it is possible that the true pathological cause of this form of cardiac fibrosis has yet to be discovered.

We can readily understand the important influence which these changes in the ventricular muscle exercise upon the prognosis of the disease; and as these changes depend upon imperfect nutrition, and that, again, upon the amount of regurgitation present, we see how important a matter it is to recognise this accurately. The means of doing this I have already pointed out.

(To be continued.)

FROM ABROAD.

Pleurisy and the Use of "Croton-Oil Paint."

Under the above title Dr. Corson read an excellent paper (reported in the *Medical Record*, December 1) before the New York Medical Library and Journal Association, the chief points of which we lay before our readers.

Dr. Corson's experience of the disease (dating back more than twenty years) has been on a very large scale in the New York large dispensaries much frequented by the poor and emigrants. In such subjects he soon learned to dread the exhaustion produced by large "fly-blisters." Even in the more hardy these had to be reduced in size and only employed at intervals of several days. After a while their use was abandoned altogether, the alternate application of iodine and croton oil having been found to be far better as a substitute. These were resorted to "when the tape-line showed slight bulging, when inspection proved that the intercostal spaces were beginning to flatten, and when the dulness on percussion was more completely 'deadened.'" Several coats of the tincture of iodine were then painted, in patches five or six inches square, every second or third day over the ribs opposite the seat of effusion, moderate pustulation being also kept up by rubbing over the stains two or three drops of croton oil about once a week. When the spot thus gently irritated had healed, the procedure was repeated or the locality changed; the painting and rubbing being thus continued until the effusion had disappeared. This counter-irritation was only employed as an auxiliary to internal treatment. This latter was always mild, all bleeding and purging in the case of poor emigrants having been discarded from the first; while of late years, following in the footsteps of Skoda, antimony, mercury, veratrum, and aconite have been avoided, although these medicines are valuable substitutes for blood-letting in stronger patients and in private practice. The first effort in the acute stage in impoverished subjects has been to make the patient "thoroughly comfortable," and, prior to the discovery of hypodermic injections, a safe anodyne, added to a diaphoretic or diuretic, or both, was resorted to. In these painful chest affections there is little or no risk from a mild narcotic, when the face is not livid and there is a warm glow on the surface of the body. The following combination is one which has often been employed in later times by Dr. Corson:—℞. Pulv. Doveri, pot. nit. āā gr. xx., pulv. opii gr. ij., sacch. alb. ʒj., ol. anis. gtt. ij., ol. cinnam. gtt. iij.—m. f. pulv. vj.; one in moistened sugar every four waking hours until quiet. In milder cases, or perhaps later in the disease, the following may be given:—℞. Liq. ammon. acet. ʒiij., spt. eth. nit. ʒiij., tinct. hyosey. ʒij. ad ʒiv., ol. gaultheriæ (or other essential oil) gtt. xij.; a dessertspoonful in sweetened water every four hours. When convenient, this has been given with some grateful fruit-juice or with lumps of ice dissolved upon the tongue. When fever is very high, half a drachm or more nitrate of potash may be substituted for the ammonia, and when the hyoscyamus fails to quiet the pain a little morphia may be administered.

Within the last few years Dr. Corson has employed milder external applications at first, reddening the skin by a poultice between cloths, formed half of mustard and half of flour. This has been followed by a piece of flannel wet with laudanum or spirits of camphor, which has been pressed on the ribs by means of a comfortably hot bag of three or four quarts of meal, oats, or, better still, wheat-bran—dry heat being safer than moist. This bran-bag may be kept warm by covering it with cotton-wool, and especially with oiled silk. "This sort of domestic Turkish bath is commonly used for several hours at the onset of the disease—first to quiet pain, and next to excite a gentle perspiration, and thus relieve congestion. (Applied to the loins at bedtime, two or three times a week, this bran-bag has, by increasing cutaneous action, proved of material use in some affections of the kidney.) The object of this milder form of application is to save strength, a blister not being applied until the early acute symptoms had passed away. The diet allowed is rather liberal—as bread and butter, eggs, milk, plain vegetables, fruit, and the lighter kinds of animal food,—as otherwise prostration soon follows.

"In the chronic stage it was found convenient to compare the good effects of squill, digitalis, acetate of potass, and other diuretics by the following test, available for the first fortnight or more of the effusion. It was to listen directly over the upper border of the fluid, while the patient distinctly counted, for that piercing, trembling echo of the voice—ægophony. In its absence there was usually marked bronchophony without the vibration. One or other was commonly audible at this period, if carefully sought for, at a point nearly opposite the middle of the scapula, or upwards or downwards about two inches from the spinal column behind. A black mark, an inch long, was at once made over this penetrating line of voice with a moistened stick of nitrate of silver. And this dark stain remained perhaps for ten days or more as a fixed landmark for daily careful observations, to measure the rise or fall of the fluid within; for these changes corresponded with the shiftings of the intensified sound of voice. This mark was also a useful guide in estimating any variations in the respiratory murmur, or dulness on percussion; and it told the story, when fortunate, of gradual cure.

"These physical signs were all made more clear by another simple expedient. The patient was directed to cross both arms, and grasp, not these, but the *highest points on the shoulders as far back as he could reach*. He then pulled them steadily and firmly forwards, so as to separate the shoulder-blades and hold them *fixed as widely apart as possible behind*. This procedure might be aptly termed *uncovering*, for it partly laid bare the ribs under both scapulæ, and stretched and thinned the muscles in their rear. . . . In consumptive patients it is also a great assistance in searching for obscure groups of tubercles at the apex of the lungs behind."

As the result of employing the nitrate of silver stain and the "uncovering" procedure, the author found reason to prefer the iodide of potassium in steady moderate doses as the most uniformly successful tonic diuretic. It seemed to liberate the compressed lung most effectually, while it preserved and

sometimes increased the appetite. While using mild counter-irritation for weeks together, the iodide was simultaneously given in doses of five grains or less three times a day. Like some of the preparations of iron, this salt will in sensitive subjects produce a slight amount of "worry," but this is relieved by the addition of hyoscyamus or conium. The following is a favourite mild diuretic in chronic pleurisy:—℞. Pot. iod. ʒj.—ℨiv., tinct. hyoscy. ʒij., tinct. cort. aurant. ʒj., ol. cinnam. gtt. xij., aquæ ad ℥iv.; a dessert-spoonful in sweetened water three times a day between meals. The mixture may be rendered more diuretic by adding three or four scruples of extract of taraxacum, or more laxative and tonic by combining a fluid drachm of the tincture of nux vomica. In tedious recovery the appetite may be encouraged by the addition of two or three drachms of tincture of calumba or an ounce of the tincture of calisaya bark. Speaking of the tonic treatment required at a still later stage, Dr. Corson observes that "the *ears* were closely inspected to see if they needed iron. Like the pulse, they were examined while quite free from excitement; and we have never seen a surer sign of the want of iron in the blood of a calm patient than a pale, waxy ear." With regard to the administration of medicines in this and other diseases, Dr. Corson lays great stress on rendering drugs as palatable as possible, and especially on the advantage of combining them with essential oils and aromatics—the stomach of the invalid being best pleased with the more delicate compound flavours. His latest improvement in cod-liver oil consists in adding to a bottle of this a teaspoonful of a mixture of one part of the oil of pimento, one of the essence of cinnamon, and two parts of the tincture of orange-peel. This has proved a great success, especially with children.

The producing counter-irritation by the alternate use of iodine and croton oil, already adverted to, having been found inconvenient in application, Dr. Corson has succeeded in devising a preparation, which, he says, after many trials has proved the most successful counter-irritant that he has ever used. This he terms "croton-oil paint," and he employs two formulæ. 1. Mild croton-oil paint—℞. Ol. croton. ʒj., ether sulph. fort. ʒij., tinct. iod. ʒv.; m. Two or three coats are to be applied at a time with a camel-hair pencil over a small surface once a week. It is indicated in children, females, and sensitive persons. 2. Strong croton-oil paint—℞. Ol. croton. ʒij., ether sulph. fort. ʒiv., tinct. iod. ʒij., pot. iod. ℈j., iod. gtt. x.; m. For the last three years these combinations have in his practice for the most part superseded blisters; and they may be used within forty-eight hours after the effusion. This croton-oil paint has proved highly useful as a counter-irritant in a great variety of affections, of which Dr. Corson purposes to publish an account. He has especially found it serviceable in aid of gentle expectorants in mild bronchitis; and with the aid of tonics, nourishing diet, and double flannels, it often alleviates the winter-cough of the aged. From two to four coats are applied at a time, and if these do not pustulate within forty-eight hours, the surface should be thoroughly rubbed with the finger until well reddened, and the paint reapplied. When it spreads uncomfortably, or more than usual pain is produced, the eruption should be brushed over with a mixture of equal parts of glycerine and laudanum, and then covered with a soft piece of linen moistened with olive oil.

Delay in the Coming Away of Ligatures.

M. Guéniot, at a recent meeting of the Société de Chirurgie (*Union Méd.*, February 23), exhibited a boy, six years of age, for whom he had performed amputation of the arm by the flap operation, on account of a white swelling of the elbow. The wound united by first intention almost throughout its entire course, but, although sixty-six days had elapsed, the ligature which was passed around the brachial artery had not come away, notwithstanding even energetic traction. However, as M. Guéniot, wishing to demonstrate the fact to his colleagues, drew upon the ligature rather forcibly, it to his surprise became at once detached. Having asked his colleagues for an explanation of this delay, M. Dubrueil suggested that the ligature had become imprisoned in the cicatricial tissue. M. Verneuil observed that he had not infrequently met with analogous cases, and had remarked that the adhesion of the ligatures bore an inverse relation to the amount of inflammation which existed in the wound: the less the inflammation, the longer the adhesion of the ligature. He had seen ligatures applied after the removal of the breast, that could not be detached a month or six weeks after the operation. So, too, metallic sutures may persist for an indefinite time, owing to the little irritation they excite in the tissues. Several surgeons, indeed, have renounced their employment in consequence of these interminable delays. In M. Guéniot's case, immediate union of the wound had taken place at once, and the absence of inflammation explains the difficulty in removing the ligature. M. Perrin, while agreeing with M. Verneuil's opinion, believed that there may have been more than one cause at work, experience having shown him that delay in the fall of ligatures depends, in some cases, on the fact that fibrous tissue has been included in the ligature. M. Desprès agreed in this view, and had also observed in some cases that the ligatures have been detained amidst cicatricial tissue, or within a mass of granulations. M. Guéniot remarked that, if M. Perrin's explanation held good, we ought, in applying a ligature, to endeavour to include with it some of the adjoining tissues, in order to prevent its premature detachment, and the occurrence of secondary hæmorrhage. This, M. Trélat considered, would be to return to the principle of the mediate ligature, which has been condemned in modern practice. When ligatures are slow in coming away, they are often retained by fibrous tissue, and, in some cases, by small fragments of the bone of the stump in the vicinity of the artery. M. Verneuil observed that the premature discharge of ligatures usually depends upon excess of inflammation in the stump. When the wound goes on well, the ligatures may persist for a long time. He had never known them arrested by granulations. M. Marjolin had, however, met with cases in which the granulations had caused the delay; and it had been necessary to remove the ligature at its knotted end, because the exuberant granulations had covered it in a kind of tunnel, whence its removal became difficult without lacerating the granulations and causing them to bleed.

FOREIGN AND COLONIAL CORRESPONDENCE.

SWITZERLAND.

Zürich, February.

Cremation in Zürich.

It may be of some interest to your readers to hear that the Cremation Society of this town has taken the step to ask a vote in this matter of the Medical Society of Zürich. The Society was addressed on the subject by Dr. Goll, a member of the Cremation Society, in a very able manner, and he recommended the assembly to give a vote in favour of cremation on sanitary reasons. A discussion was then opened, and Dr. Cloetta, Professor of Forensic Medicine, gave his opinion as follows:—He thought that the principal question to decide was whether burying the dead be dangerous to health or not. All scientific experience on the process which the buried undergo, and also the experience with respect to the living, so far as facts were collected in literature, showed one great fact—viz., that it was not. The two processes of mouldering and of putrefaction, so often confounded, were entirely different from the chemical point of view. The process of putrefaction was characterised by the formation of hydrogen compounds—chiefly, that is, of hydro-carburates, hydro-sulphuric acid gas, and ammonia and its derivatives. In the process of mouldering the oxygen of the air played the first part; it was a slow burning process at a low temperature and in presence of water. The chief products were carbonic acid, water, and the oxides of nitrogen. Stenhouse saw in two experiments that of the bodies of animals embedded in wood-coal, and preserved in an ordinary room, only the bones were left at the end of half a year, and that no smell whatever arose during the whole time. In such a case the oxygen of the air was ozonised by the condensing power of the coal, and proved far more effective in oxidising power than ordinary oxygen. If soil were as perfectly dry and porous as coal—as in the experiments of Stenhouse,—we should see quite the same process with the bodies of the buried. In fact, the two processes described were working together at the same time on the buried, but the oxidising process was always the stronger, and was in direct proportion with the free access of air and water through the soil. When, on the contrary, the soil was clayey, then we got saponification or putrefaction of the bodies. So there existed a possibility that a contamination of drinking-water, of ground-water, and of the air might take place in the

neighbourhood of churchyards; but no real fact of water-poisoning by churchyards was known up to the present date. Pettenkofer found that every analysis of the water taken from wells in the neighbourhood of churchyards had given a negative result; and Dr. Taasch found fifty wells near twenty-four churchyards in Berlin quite pure.

The other assertion, that the air could be contaminated in the neighbourhood of graveyards, had not been proved, for grave-diggers had not to suffer under ordinary circumstances, and the air surrounding tanneries, slaughter-houses, etc., was often far more offensive to the smell, and nobody there thought of danger.

Professor Cloetta, therefore, arrived at the conclusion that burying the dead is not obnoxious to health if churchyards are properly constructed.

Accordingly, it could be only an exaggerated fear, and not a real danger, that would induce us to burn the dead instead of burying them. But there is one great objection to cremation—viz., that from a forensic point of view. There was no possibility whatever of detecting crime after death if cremation were introduced. There existed no practicable means for preventing this evil. If (what was no easy task) post-mortem examination before burning were to be made compulsory, even that would not prove a real preventive. Professor Cloetta therefore asked the Society to pass the following resolution:—"The Society returns its thanks to Dr. Goll for his address on the subject of cremation of the dead, but has found by discussion that the method of removing bodies after death in general use at the present time has no consequences whatever obnoxious to the health of the living, inasmuch as the churchyards are well constructed and suitable houses are provided for the dead bodies; and it therefore sees no reason to promote the introduction of cremation."

After some other discussion, in which Professor Cloetta's view was chiefly supported by Dr. Zehnder, formerly Medical Officer of Health in Zürich, and Swiss delegate to the International Cholera Congress at Vienna, the meeting voted the resolution of Professor Cloetta by a large majority.

PROVINCIAL CORRESPONDENCE.

BIRMINGHAM.

February 24.

"Justices" Fletcher and Heslop—Proposed Medical Institute—Resignation of Mr. Clay and the Board of Guardians—Health of the Town—Contemplated Improvements.

The Bench of Magistrates has had its dignity elevated by the addition of two members who belong to the medical profession—Drs. Bell Fletcher and Heslop are the gentlemen who have been so honoured, and who by their talents and sterling professional merit fairly deserve the distinction. Dr. Bell Fletcher is one of the oldest and most respected physicians of the town, and his courtesy, urbanity, and friendly bearing towards all ranks in the profession have made him a general favourite, and won for him golden opinions on all sides. Dr. Heslop is also a man of great mark, and, if one may use the expression, of sterner character than his colleague. He thoroughly deserves the token of approbation conferred upon him by the citizens of his town, for he has accomplished much good sterling work both in and out of the profession,—not only has he been connected with both of the hospitals of the town, which have benefited largely by his skill and experience, but he is the founder of the Children's Hospital, which has become, under his tutoring care, a most thriving and prosperous institution. Dr. Heslop is one of the medical notabilities of the place, and whatever he does, the impress of his clever and skilful handling is sure to be recognised.

A sum of money having been left by the late Dr. Evans for a philanthropic object, has become, in the hands of far-seeing and benevolent persons, the nucleus of a fund towards the promotion of a Medical Institute for Birmingham. Already several large donations have been given, and, from the favourable manner in which the scheme has been received, and the successful and happy way in which it has been launched, there is every reason to think that it will be fully carried out. Success is insured if only its promoters and supporters are well backed up by the whole of the profession. The largeness of some of the donations must not deter the less wealthy from giving their mite, for the truth of the adage that "Many a mickle makes a muckle" will be none the less forcibly felt when the "muckle" is handed over in an aggregate lump to the Finance Treasurer of the Institute.

The Board of Guardians have lately lost by resignation a most zealous and useful member—one whose place they will find it difficult again to fill. We allude to Mr. John Clay, a member of our profession. Mr. Clay has worked early and late with untiring energy, and with much ability, in the service of the Board of Guardians; and we are only sorry to record the fact that in the performance of his duties he has got more kicks than halfpence. To him, however, the medical officers are indebted for the establishment of a central dispensary, which has considerably raised the status of the Poor-law Surgeon, and made the exercise of his duties a little more pleasant and respectable. For this measure alone the warmest thanks of the profession are richly due to him. We understand that it was on a question connected with the interests of the medical officers that a dispute arose between Mr. Clay and the committee of which he was chairman, which led to his retirement. If this be the case, so much more credit is due to him. We feel sure that, by his manly and upright conduct at the Board of Guardians, Mr. Clay carries away with him the best wishes and thanks of the whole of the parochial medical officers.

The sanitary condition of the town has very much improved of late. The epidemics of small-pox and scarlet fever which prevailed to an alarming extent some months back have declined, and there are fewer startling announcements of another and another crop of infectious diseases than there were. Dr. Hill's sick and mortality tables keep us fully acquainted with the state of the public health, and from the careful and accurate manner in which his statistics are compiled they are most useful and trustworthy.

Birmingham will owe a great debt of gratitude to our model Mayor if he can carry out the scheme of sanitary reform in its entirety, to which he appears to be pledged. The organisation of a sanitary conference and its subsequent operations have been most wise and useful, and the information and facts which its members have collected will be made, no doubt, available for the benefit of the health of the community. Under the *régime* of Mr. Chamberlain much has been done in the way of house and street improvement, extension of sewage works, and a better and purer supply of water, etc. We have therefore much to be thankful for, and we may expect, from what we have already witnessed, more extended benefits to accrue from his administration of municipal affairs.

GENERAL CORRESPONDENCE.

CORONERS' INQUESTS.

Letter from Dr. Hardwicke.

[To the Editor of the Medical Times and Gazette.]

Sir,—As I think you will be asked to express some opinion upon the circumstances relative to the inquest held by me on the late Sir C. Lyell, permit me to place before you some few facts. The information-paper returned to me as the basis of an inquiry stated, in answer to printed questions, that the deceased was "found helpless from supposed injuries," and that he was "attended by Dr. Clark for two months for an accident by a fall downstairs." The friends of the deceased withheld the information, and referred to Dr. Clark, who wrote simply (not a certificate) "Meningitis, ten weeks; serum, six days." I considered this the usual information for holding an inquest on a death from an accidental cause, and it was fixed at the residence of the deceased in Harley-street. My surprise was great to find the coffin had been soldered and screwed down *after* the notice was given by the authorised officer. You will therefore observe that the Coroner and jury were placed in the unfortunate dilemma by the friends of the deceased. We had no alternative but either to see the Coroner's functions quite frustrated, or, what would be equally objectionable, to omit the view of the body. The jury, as well as myself, were thus in a difficulty brought about by the family themselves. I regret the circumstance, and the subsequent opening of the coffin to comply with the legal form; but there was, however, nothing so revolting as described in the reports,—nothing being used but the tools of the undertaker.

As to whether the Coroner may personally dispose of inquiries in this and similar cases, I, for one, think he may do

so: but he does it at his peril; and such a procedure is illegal, and not at present generally adopted, either in the cases of hospitals or private persons, even where there may be no blame, neglect, or accusation. I am, &c.,

Park-place, Paddington, March 3. Wm. Hardwicke.

P.S.—I trust this letter, with the details already before the public, will cause you to take a fair and impartial view of the case.

ARMY REORGANISATION.

[To the Editor of the Medical Times and Gazette.]

Sir,—In the event of a satisfactory "unification" of the Medical Department being effected, and the sick and wounded of the army committed to the care of medical officers in thoroughly organised hospitals, which shall be wholly under their control and authority, it would perhaps be desirable to advert to the other important duties which devolve upon them as the advisers of commanding officers on all questions relative to the maintenance of the health of the effective force. Here, again, the recognition of the principle of the division of labour is of importance. Instead of occupying the invidious position of merely tendering to officers in responsible military command advice which, for excellent reasons, they might be unable to follow, and yet from prudential motives be unwilling to disregard, it would, we think, be preferable that such duties should be performed by the Military Department responsible for those conditions of camps or quarters on which the health of the troops mainly depends. It might therefore be advisable to incorporate with the Quartermaster-General's department a certain number of medical officers, selected on account of their intelligence, energy, and special acquirements, who would exercise executive authority as sanitary officers in complete subordination to military requirements. Such officers need not necessarily belong to the Medical Department, but might be men of proved competency from every arm of the service; and nothing, we believe, would give the military executive more satisfaction than being relieved by trustworthy and responsible individuals of the obligation of scrutinising every requisition, and of deciding upon every sanitary recommendation placed before them. More leisure would then be afforded them for pursuing their own special studies in strategy and tactics, the want of which, from their time being so taken up with details, we have heard many deplore. It would call forth the energies of many medical officers of military tastes, who would be found much more useful in the above capacity than at the bedside; and the sense of direct responsibility would prompt them to study carefully every question relative to military hygiene.

One word on the social status which so many seem afraid of forfeiting by the proposed change. We never hear officers of the general staff, or of the Engineers, chaplains, or controllers ever complaining of want of consideration from their regimental brethren, or of any other social disability,—nearly all regimental messes in the army welcoming those associated with them in their common duties as honorary members; and there is no reason to apprehend any exception being made to the prejudice of the medical officer. As troops of all arms are, however, now being brought together in considerable numbers in camps and garrisons, it might be advisable to merge the much-cherished but somewhat exclusive regimental messes in one general station club, of which all officers doing duty with the force in any capacity would be *ex-officio* members.

March 1. I am, &c., X.

The Verdict of Manslaughter against Elizabeth Ingram, the Midwife.—Several of the French journals have referred to the finding of the coroner's jury in this case, and, not being aware of the nature of the tribunal, have naturally felt desirous of knowing what punishment has been awarded. We may, therefore, inform them that the sole business of the coroner's court is to ascertain the cause of the death of the individual whose unusual mode of decease it is summoned to investigate. If it finds reason to suspect that this has arisen from the culpable or criminal conduct of some person, it commits that person to prison, for trial at the next assize, when it becomes the function of another jury to determine whether the individual so accused is guilty or not. It is essentially a preliminary procedure, and in the present case the accused has been found not guilty at the Warwick Assizes.

REPORTS OF SOCIETIES.

ASSOCIATION OF MEDICAL OFFICERS OF HEALTH.

Saturday, February 20.

Dr. Letheby, President, in the Chair.

The Artisans' Dwellings Improvement Bill, 1875.

A paper was read by Dr. George Ross on the above subject. After a few preliminary remarks, he stated that in his own district there are courts where the death-rate for a year has amounted to 70 per 1000, and there are courts and alleys in other districts where the mortality is as high. This high mortality is not uncommon in the worst places of this metropolis. Houses are built on ground sodden with sewage from old cesspools; the walls too are soaked with excremental filth. Many houses are built back to back, and have no through ventilation; others have narrow and dark staircases, or staircases inside the rooms, not allowing of a direct passage of the outer air. Rooms are often miserably small and low; roofs dilapidated, causing flooding of the attics on a heavy rainfall; the plaster on ceilings and walls crumbling and peeling; and the dirt of ages grained into floors and staircase walls. Yards are often too small for the necessary domestic conveniences; and the water-closet and water-butt are necessarily put together in a dark, damp, noisome cellar, where is brewed a poison which ascends the staircase, or is absorbed by the drinking-water, and infects every family in a house. The death-striking malaria never leaves these houses,—it is everywhere, in the water, in the air, in the food, in the clothes, in the foundations, walls, and ceilings. In proof that we may have crowding without overcrowding, the lodging-houses of the Metropolitan Association lodge at the rate of 1140 to an acre, including recreation yards; and it is reported that in Sir Sydney Waterlow's Buildings the rate is 1600 to an acre. Whilst we have this excessive density, the death-rate in the houses of the Metropolitan Association is observed to have been during a long series of years not more than 16 per 1000, and for the last eight years only 14 per 1000. It is obvious, therefore, that the mere density of the population in houses better constructed and adapted for human existence need not be a source of alarm. When the "Artisans and Labourers' Dwellings Act" was introduced into the House of Commons it included powers for compensation and rebuilding, but the sections conferring these powers were struck out in the House of Lords. The Peers did not appear to think it right either that the State should provide a fund or require the ratepayers to raise one to compensate owners who had allowed their property to fall into so ruinous and unwholesome a state as to be dangerous to health and life, and who might be regarded as having been already compensated over and over again in the large rentals they exacted for their wretched property. Besides, a house proved to be unfit for human habitation has thereby lost its value, except for its old timber, slate, and bricks, and no compensation should be allowed for an occupancy that might at any moment be declared to be unlawful. The operation of the Act has been limited to exceptional cases. Dr. Ross did not consider, at present, or until the need had been shown, that any public bodies should, except under unusual circumstances, build houses out of the rates for the occupation of the poorer classes, as he thought the time had come when these classes should be taught rather to help themselves than to rely upon the assistance of their neighbours. In a paper read by Dr. Trench at the Birmingham Sanitary Conference, "On the Liverpool Sanitary Amendment Act, 1864, and its Operation," that gentleman stated, in reference to the spirit and working of the Act—"The houses or premises ordered to be demolished are not themselves necessarily injurious to health and unfit for human habitation by reason of their state or condition; on the contrary, they may be well built, airy, and habitable, with a street frontage; yet their demolition is required because, by reason of position or situation, they block up the entrance of courts, and impede the circulation of air to blocks of buildings. No indictment would lie against them either under the Nuisances Removal Act or under the Artisans and Labourers' Dwellings Act, 1868; and yet it is easy to conceive that without their removal no efficient remedy could be applied to a fever-stricken district."

The defects in the details of the Artisans and Labourers' Dwellings Act are chiefly these:—1. That the medical officer of health is empowered to condemn property without giving any reasons, the duty being cast upon the surveyor of stating the causes of unhealthiness. Now, as the surveyor looks at a house from a different point of view from that of the medical officer, he may fail to appreciate the causes that influence the judgment of the medical officer, and may thereupon recommend improvements quite inadequate to remove the evils on account of which the property was condemned. 2. The medical officer is at present unsupported, and possibly, in some instances, does not like the sole responsibility of condemning property on a large scale, having in view the fact that the Act gives no compensation. It would be better if the medical officer's report were forwarded to a central authority, who should be empowered to send a medical referee to inspect the premises. 3. When buildings are demolished, the site may continue vacant, either owing to the need, the wilfulness, or the legal difficulties of tenure of the owners. This should be corrected by giving power to a local authority to require owners to sell the land by arbitration to any persons or companies willing to buy with the view of erecting buildings for the working classes on the sites, or, if considered necessary, the local authority might be enabled to purchase the site, to keep it vacant for the purpose of ventilation or recreation. We conclude from the review of past legislation that failure has happened from the following causes:—1. That the incidence of taxation for the purchasing and reconstruction of old buildings or the building of new ones adapted for the residence of the poorer classes, as provided for in the Labouring Classes' Lodging-houses Act, fell upon too limited an area, and upon those who, in the metropolis, were least able to bear the burden. 2. Because property for the required improvements could be purchased only by agreement; and in the case of several owners possessing a block of houses or street, the difficulties of coming to an agreement with each and all would be so great and costly that local boards were deterred from undertaking the work. 3. Because in the Artisans and Labourers' Dwellings Act, 1868, the absence of provisions for compensation made that a penal Act, and therefore unpopular; and a similar absence of provisions for reconstruction deprived it of its full measure of usefulness; in fact, if carried out extensively, it might have succeeded in making London a waste, but not a place for habitation. 4. Because of the absence of any "standard of habitability." He next proceeded to consider the sections of Mr. Cross's Artisans' Dwellings Improvement Bill, 1875. Local authorities are not allowed the option to do as they like, which usually ends in doing nothing. When the local authority has received a representation, it "shall" take it into consideration, and it "shall" proceed to make an improvement scheme. The board or vestry "shall" send the medical officer's report to the local authority, and the local authority "shall" petition the confirming authority. All this is in the right spirit, and gives us an assurance that this is intended to be an effective measure. For example, the original Lodging-houses Act failed because property was to be purchased by agreement, and because the incidence of cost fell upon single parishes; in the new Bill compulsory powers of purchase are given to the local authority; and the local authority is not a vestry, but in London the Metropolitan Board of Works and the Corporation of the City, whilst in the provinces it is the urban sanitary authority or the town council; and these bodies can raise rates from the entire community, who will be charged with the cost of the works. Again, Mr. Torrens's Act failed because it did not include a power of giving compensation. This Bill contains the power, although guarded in such a way, by the use of the term a "fair market value," as to cut down the claims to their lowest point of those who might hope to make a profit out of their property proportionate to their own scandalous neglect of it. Further, the legal expenses incidental to the prosecution of large schemes of improvements have hitherto been so great as to deter enterprise in this direction; but the Home Secretary proposes to give a provisional order to authorise the carrying out of the proposed scheme. This order will have to be sanctioned by Parliament; but a large proportion of the expenses of a private Bill will be obviated—unless, indeed, it should happen that the Bill be opposed, which is scarcely likely. Even this liability may be guarded against by some new provision as to costs. In the Artisans and Labourers' Dwellings Act, 1868, the sole responsibility of declaring a house unfit for human habitation is thrown upon the medical officer of health for the district. In this Bill there is provision made for the appointment of a medical officer by the local authority—meaning thereby the Metropolitan Board of Works for the parts of London outside the City. The medical officer of the local authority may act independently, but will doubtless, in the practical execution of the Act, aid and support the district medical officer with his advice. As regards a "standard of habitability," this is not so important in the new measure as it is in relation to the duties arising out of Mr. Torrens's Act, because the two measures proceed upon different bases—the Artisans' Dwellings Improvement Bill being constructed in relation to *areas*, and Mr. Torrens's Act in relation to *houses*. Yet if this Bill should be so amended as to embrace the unsanitary structural condition of houses as well as of areas, it would be advisable that a standard of habitability should be recognised. It has been remarked that the enacting sections take no cognisance of overcrowded *houses*, and there is therefore a discrepancy between the preamble and the sections of the Bill. The district medical officer of health will be required to make an official representation that in a certain area in his district diseases indicating a generally low condition of health have been from time to time prevalent, owing to the narrowness, closeness, and bad arrangement of the streets and houses, and that these defects cannot be amended otherwise than by proceeding in the terms of the Act. This is a duty that cannot be very difficult: the mortality tables would prove the low condition of health of the inhabitants, and the narrowness, closeness, and bad arrangement of the streets and houses must be obvious on inspection. The duty of making this report would be less onerous than a similar one under Torrens's Act, because in the present case fair compensation would be awarded, whilst in Torrens's Act there was none. It has been thought that it would be desirable and more consistent with the preamble if, after the words "to closeness, narrowness, and bad arrangement of the streets and houses," the words "or to the defective construction and unwholesome condition of the houses" were introduced. It is supposed that these words would remove doubts in the mind of the medical officer as to the propriety of reporting upon small, ill-built, and unhealthy houses in an area otherwise properly laid out and provided with sufficiently wide thoroughfares. Supposing that a district medical officer should be deterred from discharging his duty, the Home Secretary has provided an alternative, by giving power to the local authority in Section 9 to appoint a medical officer of health, whose duty it will be to make "a special inquiry into the sanitary condition of any part of the metropolis," and he must make "an official representation" to the Board in the same manner and with the same incidents as if he were a medical officer of health of a local authority. Dr. Ross would suggest that after the words "sees cause" should be added, "or whenever he is required by the local authority or the Local Government Board."

Mr. MICHAEL, barrister-at-law, and joint-author of a "Manual of Public Health," being requested to open the discussion, stated that, in his opinion, no worse Bill could have been devised, and no more complicated, inconvenient, and expensive measure have been proposed to the House. He considered it a mistake to give the medical officer of health power to compel the local authority to carry out its scheme without a power to veto his proposal. The Government seemed to be unaware that the holding of a provisional order of inquiry entailed great expense, as it would be necessary to inquire into the nature of the complaint and the actual condition of the condemned district. Although individual houses may be healthy, yet the situation, construction, and agglomeration of them without a sufficient provision for ventilation would render them unhealthy, and yet no provision was made for condemning these. Practically, too, it was found that the Local Government Board permitted great delay in executing provisional orders as sent up to them by the local authority. Under existing Acts of Parliament you might now take out a provisional order for the compulsory acquisition of property. The public are not at present ready or willing to incur a large outlay for sanitary improvements, and the Bill under consideration would undoubtedly necessitate a very large expenditure of public money for a class of persons not by any means needing charitable or Government help. It must not be forgotten that the parish rates are collected from a class of people very little better off than the inhabitants of the condemned districts. He failed to see any real power of compulsion in the Bill—nothing to oblige the local authority to pull down a house. Were it to happen that the local

authority obtained three years' delay, the whole thing would fall through, and no central authority could then compel them to move in the matter. Unless we have an intermediate powerful body in counties and towns to superintend and compel the local authority to carry out the necessary improvements, the central authority will fail to keep an eye upon the inaction of a local authority. He could not see that a single penny would be saved in litigation, as under the provisions of the Bill the opponents would be able to carry it to a jury. Nothing could be more demoralising than for the State to buy up houses inhabited by the working classes, to provide them with something better at the expense of the State, when they are already too much helped to squander their spare money in the public-house.

Mr. Liddle considered that if the Metropolitan Board of Works could spend twenty millions in the purchase of gas-works, and other millions to free bridges, they could certainly provide healthy dwellings for the poorer classes.

Dr. Gibbon considered "Torrens's Act" much better than this "communistic Bill." Owners of poor houses would be only too glad to have them condemned, because they were sure to be fully compensated for worthless property. It should rather be called a towns improvement Bill, as it was easy to pull down, but little was said about the rebuilding.

Dr. Ross, in reply, stated that the Vestry Clerk of his district objected to the medical officer giving "reasons of unhealthiness," as this should, he thought, be stated by the surveyor. There were no powers in Torrens's Act for compensation. If a landlord turns crusty and says "I won't rebuild," under Torrens's Act he need not; but this Bill compels the rebuilding. Provisional Acts are, as a rule, not opposed; therefore, subsequent litigation was not likely to happen. The filthy courts of our large towns are a scandal to our civilisation.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Annual Meeting, March 1, 1875.

C. J. B. Williams, M.D., F.R.S., President, in the Chair.

The annual meeting of the Society was held on Monday, March 1 last, at 8 p.m., the President, Charles J. B. Williams, M.D., F.R.S., being in the chair. Dr. Samuel Gee and Mr. Fairlie Clarke were appointed scrutineers of the ballot for the new officers and Council. The abstract of the income and expenditure of the year 1874 was read, followed by the report of the President and Council, which gave an account of the present state of the Society as to the number of its Fellows and the condition of its finances. The total number of Fellows is 654—the same as last year. The deaths among them have not been so numerous as in the previous year; they include two Honorary Fellows—Jean Cruveilhier and Sir Charles Lyell, —eight Resident and five Non-resident Fellows. The number of new elections to the Fellowship has been twenty-one. The ordinary income (£1363 15s. 7d.) has been slightly, and the expenditure (£1174 4s. 2d.) considerably below that of 1873, the latter decrease being chiefly in the cost of the library and *Transactions*. The report referred to the funded property of the Society and to the state of the investment for the Marshall Hall Fund, and also congratulated the Society on the success of the second *conversazione* held last June. The library has been increased this year, by purchase and donations, to the extent of nearly 500 works.

The adoption of the report was moved by Mr. George Pollock, seconded by Mr. Oliver Chalk, and carried unanimously.

The President then addressed the meeting, and, after congratulating the Society on its even prosperity, with a deduction on account of the scanty attendance of the Fellows at its meetings, and, on the other hand, a creditable reference to the great success of the biennial *conversazione*, proceeded to give brief biographical notices of fifteen Fellows deceased in the past year, acknowledging his obligations to the medical journals, from which much information was derived:—1. Professor Cruveilhier, of Paris, Foreign Hon. Fellow, who, by his illustrations of pathological anatomy, had done more for that study than any other author during the last half-century. 2. Sir Charles Lyell, Hon. Fellow, also foremost, not only as an author in his department—geology,—but likewise as one of those who have done most to place geology on a scientific foundation. 3. Surgeon-Major John Wyatt, C.B., distinguished by his services in the Crimean War, and also as British Medical Commissioner to the head-quarters of the French army during the siege of Paris by the Germans, where his humane attentions to the wounded were acknowledged by his being made Knight of the Legion of Honour. 4. Richard William Tamplin, F.R.C.S., Surgeon to the Royal Orthopædic Hospital, and author of works on orthopædic surgery. 5. John Burford Carlill, M.D., early distinguished as a student, and well known as an intelligent general practitioner, whose life was barely saved by tracheotomy in diphtheria caught from a patient, his voice and health suffering during his surviving years from his zeal in the performance of his professional duties. 6. Thomas Ballard, M.D., M.R.C.S., another respectable general practitioner, who was remarkable for his earnest advocacy of a theory that most of the diseases of infancy arose from "fruitless sucking." 7. Edward W. Duffin, M.D., F.R.C.S., many years practised medicine and surgery (especially orthopædic), and introduced an important improvement in ovariotomy. 8. Richard T. Traey, M.D., practised medicine with success many years in Melbourne, Australia, especially the obstetric branch, and was Lecturer on Obstetric Medicine at the University there. 9. James Dawson, F.R.C.S., who began to practise in Liverpool nearly seventy years ago, was concerned in the famous trial of Mr. Angus for the murder of Miss Burns in 1808, and, retiring twelve years ago to a large castle on Windermere, attained the age of ninety-six years—a prosperity and longevity rare in the medical profession. 10. James H. Pickford, M.D., long in practice in Brighton, attended especially to diseases of the eye. 11. George Ford Copeland, M.R.C.S., who died at Cheltenham on July 1, aged sixty-three. 12. Archibald Douglas, M.D., who died June 25, aged fifty-seven. 13. Alexander Halley, M.D., whose death occurred within the last few days, at the comparatively early age of fifty-one. 14 and 15. The notices of Dr. Anstie and Sir Ranald Martin were taken last, as subjects of concluding remarks. The energies and abilities of Dr. Anstie did not display themselves until he reached man's estate, and found incentives to do battle in the world. The innovations in the practice of medicine introduced by Dr. Todd aroused his interest, and soon enlisted his powers, and the favourite subjects of the same teacher directed his attention especially to the nervous system and its maladies. His connexion with the editorial staff of the *Lancet* developed his taste for measures of reform, which the benevolence of his disposition directed towards the relief of the helpless and the mitigation of distress. The precocious exercise of a spirit of criticism gave a somewhat censorious bias to his mind, and a tendency to distrust and disparage the views and practices of the past. Yet he was no mere dogmatist, but also a diligent worker, and although his labours were unremunerative to himself they were beneficial to others, and would have laid the foundation of his future success, had he lived to build on it. An eloquent eulogium extracted from the *Lancet* closed the notice. Sir Ranald Martin, throughout his long and busy life, both in India and after his return to England, was quite as much occupied in honorary and gratuitous employment as in making provision for his large family; but though his numerous and eminent services were acknowledged by honorary distinctions, there was little substantial return for the devotion of nearly sixty years of his life to increasing and anxious toil, with great and frequent danger and injury to his health. Merchants, planters, and civil officials of high rank return from India with large fortunes, after much less labour and shorter terms; but the most distinguished military medical officer, when obliged by ill-health to return after twenty-three years of active service, finds himself obliged to resume practice for thirty-four years more, without any enjoyment of that *otium cum dignitate* to which he was so fully entitled. Yet his services, far beyond those of routine, included a work of sanitary reform, initiated in India, and carried on by himself and others in England, the effect of which has been to preserve many thousands of lives and to save millions of money. The honour of having been an instrument in this noble work has been his only earthly reward. Sir Ranald Martin was also loyal to his profession in successfully exerting his influence to obtain for the medical officers of the army and navy their share in the distinctions of the Bath, which had hitherto been withheld from them. Thus do the lives of Anstie and Martin reflect honour on their profession by their noble and unselfish exertions in the cause of humanity. Nor

are their histories singular; nay, do they not represent the general character of the lives of medical men, who find themselves called on, and refuse not, to toil night and day—often sacrificing their health, and sometimes their lives—for the relief of suffering, without, or with very inadequate, remuneration? Doubtless it is a noble and a godlike work, and assuredly they have their reward; but this comes not from the gratitude of the public, nor from the appreciation of their services by the upper ranks of society. Because, unfortunately, the numbers and needs of medical men are commonly so great that some are ready to proffer their services at any or at no price, the public expects from them gratuitous work, which would not be thought of in any other profession or trade. Against such injustice we cannot too strongly or persistently protest. The recent proposition from the Royal Society for the Prevention of Cruelty to Animals also implies something like an indignity to our profession. They ask that their secretary, with two others, may be present whenever we have to perform experiments on living animals. You know the explicit reply of the Council—"That if the Society should undertake any scientific investigations rendering such processes necessary, they would certainly decline the presence or interference of any unqualified witnesses." Those only profoundly acquainted with physiology can be competent judges of the necessity of making experiments on living animals, and of the most merciful modes of conducting them: and such experts being also practitioners of the healing art—a great aim and constant object of which is to relieve pain and to mitigate suffering—may be implicitly trusted without the espionage and surveillance of impulsive and unqualified observers. In justification of vivisection for strictly humane and scientific ends, it has been fairly argued that if whole hecatombs of animals are habitually and ruthlessly sacrificed, not only for food, but for luxury and for sport, and often with little or no consideration for their individual tortures, there is a much more rational and cogent plea for the use of a few for instructive investigations which have intimate bearings on the relief of suffering humanity. But there is a warrant on higher grounds. Long before the divine permission to use animals for food (which was after the flood, Genesis ix.), to man was given "dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth." (Genesis i., 26, 28.) What is this "dominion" but the subserviency of animals to man's use, for all proper purposes, and for all time? And as the preceding mandate to subdue the earth (replenish the earth and subdue it) has had its continual fulfilment through the development of physical art and science in all ages, down to their last great achievements in making servants of the great earthly powers—heat and electricity—in the steam-engine and electric telegraph; so does the primeval command to have dominion over animals, coupled with the Christian injunction "heal the sick," show that we are not merely permitted, but absolutely enjoined, to make such use of animals as science points out for the advancement of the healing art. And to whom can the "dominion" be so safely and beneficially confided as to the members of that profession of whom our late Fellows, Ranald Martin and Francis Anstie, were types?—the one having devoted the greater part of a long life to the public good; the other cut off in his prime, in full career of usefulness, a sacrifice to his beneficent labours. In conclusion, the President expressed his obligations to the Council and Secretaries for their aid, and to the Fellows for their kindly support, and heartily thanked them for the honour conferred on him by making him their President—an honour which he prized above all others in his professional career.

Votes of thanks were moved and carried by acclamation to the President by Mr. Fairlie Clarke, seconded by Dr. Althaus, and to the retiring Secretary, Dr. Symes Thompson, and the retiring Vice-Presidents and other members of Council, by Mr. John Birkett and Mr. William M. Ord.

Dr. C. J. B. Williams and Dr. Symes Thompson returned thanks, and, after the declaration of the ballot for officers and Council for the ensuing year, as follows, the meeting adjourned:—*President:* *Sir James Paget, Bart., D.C.L., F.R.S. *Vice-Presidents:* *Edward Ballard, M.D.; *Sir William Jenner, Bart., M.D., K.C.B., D.C.L., F.R.S.; *Charles Brooke, M.A., F.R.S.; *John Marshall, F.R.S. *Treasurers:* William Wegg, M.D.; John Birkett. *Secretaries:* *John Harley, M.D., F.L.S.; John Cooper Forster. *Librarians:* Francis Sibson, M.D., F.R.S.; Timothy Holmes. *Other Members of Council:* *Andrew Clark, M.D.; William Howship Dickinson, M.D.; *Wilson Fox, M.D., F.R.S.; William Overend Priestley, M.D.; Hermann Weber, M.D.; George William Callender, F.R.S.; *George Gaskoin; John Gay; *Thomas Smith; John Fremlyn Streatfeild. (Those gentlemen to whose names an asterisk is prefixed were not on the Council last year.)

MEDICAL NEWS.

Apothecaries' Hall.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, February 25:—

Evans, Frederick William, Crockherbtown, Cardiff.
Kyngdon, Frederick Henry, Croydon, Surrey.
Miller, Frederic Daniell, Streatham, Surrey.

The following gentlemen also on the same day passed their primary professional examination:—

Bass, Charles William, University College.
Richards, Thomas, Guy's Hospital.
Wilson, George, Charing-cross Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

Cook, John, M.D.—Physician to Out-patients at the Great Northern Hospital.

Ellis, John Lloyd, L.K.Q.C.P., L.M.—Assistant Medical Officer to the North Wales Counties Lunatic Asylum, Denbigh.

Mackellar, John, M.D., L.F.P.S. Glasg.—Surgeon and Public Vaccinator to the Parochial Board of Harris, Inverness-shire, N.B.

BIRTHS.

Eversheb.—On February 26, at 3, Belle Vue, Hampstead, the wife of Arthur Evershed, M.R.C.P., of a daughter.

Fiddian.—On February 28, at 6, Brighton-terrace, Cardiff, the wife of Alex. P. Fiddian, M.B., of a son.

Ingoldby.—On February 22, at 32, Canonbury-square, N., the wife of J. T. Ingoldby, M.B., of a daughter.

Mumford.—On March 1, the wife of William Lugar Mumford, M.D., of a son.

Weathers.—On February 21, the wife of G. Weathers, M.R.C.S. Eng., L.S.A., of Hampstead-road, of a daughter.

MARRIAGES.

Hooke—Fenton.—On February 25, at St. Luke's, Charlton, Thomas Hooke, Esq., of The Grange, Norton, near Worcester, to Gertrude Augusta, eldest daughter of Charles D. Fenton, M.D., of Doncaster.

Thomson—Hannah.—On February 4, at Roorkee, N.W.P., India, Murray Thomson, M.D., F.R.S.E., to Gertrude, second daughter of the late John Hannah, Esq., and niece of Robert Hannah, Esq., of Craven House, Brompton, London.

Welch—Grundy.—On February 23, at St. John's Church, Lytham, Francis H. Welch, F.R.C.S., Surgeon Army Medical Department, Royal Victoria Hospital, Netley, to Agnes, third daughter of Frederick Grundy, Esq., of Cheetham-hill, and granddaughter of the late James Beardoe, Esq., of Ardwick-green, Manchester.

DEATHS.

Baker, Lydia, widow of the late John Baker, Esq., Bengal Medical Service, of Noakolly, Bengal, at Eton, on February 24, aged 77.

Barnes, Christopher Hewetson, F.R.C.S., L.R.C.P. Edin., formerly of Babergh Hall, Suffolk, and of Belle Vue House, Notting-hill, at 6, Colcherne-terrace, South Kensington, on February 25, aged 73.

Barter, Thomas, M.R.C.S. Eng., L.S.A., at his residence, 13, Gay-street, Bath, on February 27, aged 70.

Baxter, Elizabeth, wife of John Lea Baxter, Esq., and third daughter of Wm. Eaton, M.D., of Stamford, formerly of Grantham, at Cottingham, Yorkshire, on February 23, in her 40th year.

Collinson, Alfred Cockburn, M.R.C.S., L.S.A., eldest son of the late Dr. A. Collinson, of 19, Oxford-terrace, Hyde-park, at Darenth House, Sandgate, on February 26, aged 25.

Halley, Alexander, M.D., M.R.C.P., M.R.C.S. Eng., F.G.S., after a few hours' illness, at his residence, 16, Harley-street, Cavendish-square, W., on February 25, aged 51.

Swain, Isaac Howard, beloved and affectionate stepson of the Rev. Alfred Povah, M.A., Rector of St. Olave, Hart-street, and All Hallows Staining, London, at his residence, Brindley Ford, Congleton, Staffordshire, on February 23, aged 36.

Tyley, Elizabeth, the dearly beloved wife of R. P. Tyley, M.D., M.R.C.S. Eng., L.S.A., and last surviving daughter of Joseph Wollen, Esq., J.P., at Southbank, Wedmore, Somerset, after a few days' illness, on February 28, aged 38.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

Coventry and Warwickshire Hospital, Coventry.—House-Surgeon and Dispenser. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before March 25.

Central London Ophthalmic Hospital.—Assistant-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before March 10.

City of London Union Infirmary.—Assistant Medical Officer and Dispenser. Candidates must be duly qualified. Applications, with testimonials, to Mr. Crane, Clerk to the Guardians, 61, Bartholomew-close, on or before March 9.

Devon and Exeter Hospital.—House-Surgeon and Apothecary. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before March 13.

Hailsham Union.—Medical Officer for the Parish of Heathfield. Candidates must be duly qualified. Applications, with testimonials, to the Chairman of the Board of Guardians, Board Room, Union Workhouse, Hellingly, before March 8.

Hospital for Sick Children, 49, Great Ormond-street.—Physician and Assistant-Physician. Candidates must be F. or M.R.C.P. London. Applications, with testimonials, to the Secretary, on or before March 18.

Kilburn Dispensary.—Senior Resident Medical Officer. Candidates must possess a double qualification and be registered. Applications, with testimonials, to the Honorary Secretary, 33, Boundary-road, Finchley-road, N.W., on or before March 8.

London Fever Hospital.—Resident Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, at the Hospital, Liverpool-road, Islington, N., on or before March 6.

Newmarket Union.—Medical Officer and Public Vaccinator. Candidates must be duly qualified. Applications, with testimonials, to the Clerk to the Guardians, on or before March 8.

Queen's Hospital, Birmingham.—House-Surgeon and Dispenser. Candidates must be duly qualified. Applications, with testimonials, to Captain Fosbroke, at the Hospital, on or before March 25.

Royal Edinburgh Asylum.—Assistant-Physician. Applications, with testimonials, to Dr. Clouston.

St. Thomas's Hospital.—Assistant Obstetric Physician. Candidates must be medical graduates of a University in the United Kingdom. Applications, with testimonials, to the Treasurer, at St. Thomas's Hospital, Westminster-bridge.

Sheffield Public Hospital and Dispensary.—Assistant House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to Dr. J. C. Hall, Honorary Secretary.

Southport Infirmary and Local Dispensary.—Resident House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before March 8.

Torbay Infirmary, Toaquay.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Honorary Secretary, Hemsworth, Torquay.

University College, London.—Curator for the Museums of Anatomy and Comparative Anatomy. Applications, with testimonials and full particulars of qualifications, to John Robson, B.A., Secretary to the Council, on or before March 6.

Worcester County and City Lunatic Asylum, Powick, near Worcester.—Second Assistant Medical Officer. Candidates must be unmarried, qualified, and registered. Applications, with testimonials, to Dr. Sherlock, at the Asylum, on or before April 5.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Clifton Union.—Mr. R. G. Fendick has resigned the Third District; area 2199; population 26,037; salary £25 per annum.

Stratton Union.—Mr. J. S. Tuke has resigned the South District; area 27,430; population 3065; salary £60 per annum.

Wycombe Union.—Dr. Bowstead has resigned the Third District; area 7518; population 2879; salary £40 15s. per annum. Also the Workhouse; salary £60 per annum.

APPOINTMENTS.

Alston-with-Garrigill Parish.—Stewart Carson, L.R.C.S. Edin., to the Second District.

Axminster Union.—Richard G. Wollastone, L.R.C.P. Edin., M.R.C.S. Eng., L.S.A., to the Lyme Regis District.

Bedford Union.—Algernon N. Watts, L.R.C.P. Edin., M.R.C.S. Eng., L.S.A., to the Northern District.

Chorlton Union.—John Davy, B.M. and M.C. Aber., as Assistant Medical Officer at the Workhouse.

Grantham Union.—George Grewcock, M.R.C.S. Eng., L.S.A., to the Ropsley District.

Gravesend and Milton Union.—Franz W. E. R. Goedicke, L.F.P. and S. Glasg., L.S.A., to the Milton District.

Hendon Union.—John King, M.D. St. And., M.R.C.S. Eng., L.S.A., to the Willesden District.

Increase of Insanity in Edinburgh.—It appears from the annual report of Dr. Clouston, Medical Superintendent of the Royal Edinburgh Asylum for the Insane, that insanity is on the increase in that city. During the past year the admissions had been 14 per cent. above the average for the previous ten years. The increase is due to a very large excess in the number of cases of melancholia that were admitted.

Simpson's Hospital, Dublin.—On Monday, the 22nd ult., Dr. Henry Kennedy was elected Physician to this institution, in room of Dr. Robert Law, resigned through ill-health. The Hospital, which is situated in Great Britain-street, Dublin, was founded, in the year 1781, by the late George Simpson, Esq., of that city. It is intended for the reception of reduced but respectable men of good character, who are permanently disabled through either the effects of gout or want of sight. There are eighty-seven beds.

Medical Women in Belgium.—A proposition was recently brought forward in the Belgian Chamber of Deputies, to allow women, holding the necessary diplomas, to practise medicine in Belgium. No decision was arrived at, as the Minister of the Interior said that he was not prepared to give an opinion on the merits of the question.

Female Longevity.—The obituary of our contemporary the *Times* of the 2nd inst. contained some remarkable illustrations of prolonged existence in thirty persons of both sexes, but more especially in the case of females, half a score of whom averaged eighty-seven years and exactly six months. Their ages ranged from eighty to ninety-nine years. Another half-score of the same sex were septuagenarians, who averaged exactly seventy-five years each: the youngest was seventy, and the oldest seventy-nine. The remaining half-score were gentlemen, who turned the scale at seventy-six years each: the youngest was seventy, and the oldest eighty-four years of age.

The French Railways and the Learned Societies.—On the occasion of the annual meeting at the Sorbonne of the delegates of the local learned societies from all parts of France, the railway companies are in the habit of placing at the disposal of the Minister of Public Instruction a certain number of tickets at reduced prices. This year, however, they have stipulated the following condition:—Those to whom the tickets are given will have to pay the full price of the journey to Paris, and for their return will receive a gratuitous pass, providing they have regularly attended the meetings at the Sorbonne.—*Lyon Méd.*, Feb. 21. [How the regularity of the attendance is to be ascertained is not stated.]

Paris Exhibition, 1875.—An International Exhibition, in which great prominence will be given to all matters connected with marine and river industries, is to be held in Paris, under high patronage, from July to November next. The building selected is the well-known Palais de l'Industrie, in the Champs Elysées, where the Exhibition of 1855 took place. The Lord Mayor has accepted the presidency of the London Committee for promoting the due representation of the United Kingdom at the Exhibition. The first meeting of this committee will shortly be held at the Mansion-house, and meanwhile the regulations affecting British and Colonial exhibitors, and all other particulars, may be obtained of Mr. Edmund Johnson, Commissaire Délégué, at 3, Castle-street, Holborn, the London offices of the Exhibition.

Revaccination.—M. Blot, in his annual report to the Académie de Médecine, expressed his regret that revaccination was not rendered compulsory, and observed that it should always be practised with lymph taken from first vaccinations, M. Leduc having shown that the power of the lymph becomes completely worn out after the sixth revaccination. The fact that small-pox has been already passed through should not prevent revaccination; for instances are becoming more and more common in which variola has occurred twice, or even thrice, in the same subject; while vaccination often succeeds very well in individuals disfigured by small-pox. M. Revillout, commenting on the report, observes that the Académie has received so many complaints of the want of success of the lymph procured by animal vaccination, that it has entirely ceased supplying it, owing to the far greater preferability of human lymph as respects its power of conservation.—*Gaz. des Hôp.*, February 25.

Health of Nottingham.—Mr. Edward Seaton, Medical Officer of Health for Nottingham, in his second annual report shows that the deaths during the past year were 2208, and the death-rate 24 per 1000, the same as the average for the past four years. The increase in the gross death-rate upon that of last year (23) was due, to a comparatively small extent, to an increased mortality from zymotic, especially preventable diseases. As to the latter, the mortality for 1874 was much less than the average for the antecedent five years, though greater than in the preceding year. Taking the diseases separately, the mortality from fever was much less, and that from diarrhœa greater than the average for the five preceding years, while the number of deaths from scarlet fever, though less than the average, was a considerable increase on that of last year. Infantile diarrhœa, which prevailed during the early part of the autumn quarter, was fatal in a larger number of cases than the average. Mr. Seaton finds it difficult to say to what extent this mortality was due to well-known insanitary conditions, or how far it was the result of some other causes at present not clearly ascertained.

FISTULA IN ANO.—This affection is very common. A native doctor presented himself one day, and related to me for my benefit his mode of cure. For thirteen days he applied some compound powder to the fistula, assisting the virtue of the medicine occasionally by a few incisions. Finally the whole fistula or tube came away, and all that remained was for the parts to cicatrise. Being sceptical of the cure, I requested him to bring his patient for examination. He brought me the extracted fistula, which was a dried mass of flesh and medicines four inches and a half long. I insisted on seeing his patient. On examination it was found that a large slice had been removed on the right side of the anus, over an inch in depth. The sore had existed for nearly two months, and was far from being healed. I pointed out to the native doctor that the fistula still existed, and that the operation had been performed in vain. He asserted stoutly that the whole tube had been removed. The patient, however, corroborated my view by stating that fæces did still pass by the wound. The terms of cure were three dollars on undertaking the case, and as much more when the cure was completed. Both patient and doctor have since asked me to take the case in hand. The patient has been much reduced by the copious discharge and long-continued diarrhœa. A few days afterwards another patient with a similar affection, and having been similarly treated by another native doctor, appeared at the hospital, with the fistula also still existing.—*Dr. John Dudgeon, in the Report of the Peking Hospital for* 1873.

COMPOSITION AND QUALITY OF THE METROPOLITAN WATERS IN FEBRUARY, 1875.—The following are the returns (by Dr. Letheby) of the Society of Medical Officers of Health:—

Names of Water Companies.	Total Solid Matter per Gallon.	Oxygen required by Organic Matter, &c.	Nitrogen.		Hardness.	
			As Nitrates &c.	As Ammonia.	Before Boiling.	After Boiling.
Thames Water Companies.	Grains.	Grains.	Grains.	Grains.	Degs.	Degs.
Grand Junction .	21·30	0·092	0·147	0·003	15·2	4·2
West Middlesex .	20·93	0·052	0·162	0·001	14·8	4·2
Southwark & Vauxhall . . .	21·07	0·119	0·167	0·003	15·0	4·2
Chelsea . . .	20·63	0·088	0·131	0·003	15·3	4·0
Lambeth . . .	20·67	0·118	0·144	0·003	15·2	4·0
Other Companies.						
Kent	28·13	0·008	0·245	0·000	20·6	6·0
New River . .	21·23	0·049	0·151	0·001	14·9	4·0
East London . .	23·83	0·045	0·180	0·003	15·9	4·6

Note.—The amount of oxygen required to oxidise the organic matter, nitrites, etc., is determined by a standard solution of permanganate of potash acting for three hours; and in the case of the metropolitan waters the quantity of organic matter is about eight times the amount of oxygen required by it.

The water was found to be clear and nearly colourless in all cases but the following, when it was more or less turbid—namely, in those of the Grand Junction, the Southwark and Vauxhall, the Chelsea, and the Lambeth Companies. The turbidity was caused by a very minute proportion of the finely divided matters which are common to all rivers when in flood.

The average quantity of water supplied daily to the metropolis during the preceding month was, according to the returns of the Water Companies to the Society of Medical Officers of Health, 109,406,261 gallons; and the number of houses supplied was 515,250. This is at the rate of 32·2 gallons per head of the population daily. The last official return from Paris stated that the average daily supply per head of the population was 30·7 gallons; but this includes the water used for the public fountains, and for the ornamental waters in the Bois de Vincennes and the Bois de Boulogne.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

Dr. R. B. Taylor.—We fear that any answer we could give to our esteemed correspondent would be of necessity probably misleading. The distinctions between merging forms of lung disease are but slight, and often overlooked.

Civo.—Dr. Johnson's remark was, that the necessity of complying with the times and of sparing persons is the great impediment of biography.

G. W., Yorkshire.—The Emperor Joseph II. founded and endowed the College of Medicine in Vienna.

Woden.—Dr. Bryson, when he held the post of Deputy Inspector-General of Naval Hospitals, was, we believe, the first, or one of the first, to represent the healthy or unhealthy nature of any given district by a coloured or shaded map.

A Fourth Year's Man.—"Lectures on Epilepsy, Pain, Paralysis, and certain other Disorders of the Nervous System," delivered at the Royal College of Physicians, by Dr. C. B. Radcliffe. London: Churchill and Sons; 1864.

Quintus.—1. August, 1870. 2. The Local Government Board is constituted the ultimate authority in sanitary matters.

W. P., Salford.—"Truth can never be confirmed enough,
Though doubts did ever sleep."—*Shakespeare.*

F.R.C.S., Manchester.—The annual election of Fellows into the Council of the College of Surgeons will take place in July. The following is the information you request; but let us add that by investing one shilling for the "Calendar" you might have obtained it yourself. Taking the members of Council by seniority, you will see when they were admitted Members and Fellows respectively, viz.:—Mr. Hilton, Member, May 22, 1827; Fellow, Dec. 11, 1843. Sir W. Fergusson, Bart., M., Nov. 13, 1840; F., Aug. 26, 1844. Mr. Busk, M., Nov. 19, 1830; F., Dec. 11, 1843. Mr. Hancock, M., June 16, 1834; F., Dec. 11, 1843. Mr. Curling, M., Dec. 7, 1832; F., Dec. 11, 1843. Mr. Clark, M., Feb. 15, 1833; F., Dec. 11, 1843. Sir James Paget, Bart., M., May 13, 1836; F., Dec. 11, 1843. Mr. Hewett, M., July 15, 1836; F., Dec. 11, 1843. Mr. Smith, M., March 31, 1837; F., Dec. 11, 1843. Mr. Birkett, M., Oct. 6, 1837; F., Aug. 26, 1844. Mr. Simon, M., Aug. 24, 1838; F., Aug. 26, 1844. Dr. Humphry, M., Nov. 19, 1841; F., Aug. 26, 1844. Mr. Holden, M., Jan. 19, 1838; F., Dec. 24, 1844 (ex.). Mr. Gay, M., July 11, 1834; F., Dec. 11, 1843. Mr. Erichsen, M., Jan. 11, 1839; F., April 17, 1845 (ex.). Mr. Wilson, M., Nov. 25, 1831; F., Dec. 11, 1843. Mr. Henry Lee, M., Feb. 22, 1839; F., Dec. 24, 1844 (ex.). Mr. Wells, M., April 26, 1841; F., Aug. 26, 1844. Mr. Critchett, M., Oct. 11, 1839; F., Dec. 24, 1844 (ex.). Mr. Holt, M., May 3, 1839; F., Aug. 12, 1847 (ex.). Mr. Walton, M., Nov. 8, 1839; F., Aug. 10, 1848 (ex.). Mr. Marshall, M., Aug. 9, 1844; F., Dec. 7, 1849 (ex.). Mr. Southam, M., July 20, 1838; F., Oct. 13, 1853; Mr. Baker, M., May 10, 1837; F., Oct. 21, 1852.

T. L., Plymouth.—On the occasion to which you refer, our contemporary the *Saturday Review* said, "there are occasions when adherence to the maxim '*De mortuis nil nisi bonum*' is an idle as well as a foolish and in some degree immoral hypocrisy."

M.D., Horselydown, and M.R.C.S., Finsbury.—The "Medical Register" which is just published does not contain the name of Seth Smith; and, on reference to the Calendar of the College of Surgeons, the name only appears without any address. Mansfield Collier Soutter appears to be a member of the College. Write to Mr. Trimmer, Secretary of the College, as a precisely similar case occurred a short time ago, where a member allowed his name to appear in connexion with that of an unqualified man. The alliance was in that case immediately dissolved.—Perhaps he is dead, and the parties are trading on his diploma. The penalty is £20.

E. I. C. Service.—It is not unusual, as Reugger states, that the Indians can distinguish the kind of wild beasts by the noise in the bush, and a mounted horse from an unmounted one by the tramping of the hoofs.

E. R.—It has often been observed that the children of a second marriage resemble those of the first husband. In the College of Surgeons you can see a series of paintings illustrating this in the case of a quagga, a black horse, and a mare. The experience was tried by, we believe, Earl Moreton, and published in the *Philosophical Transactions*. In four generations mulattoes may become white, in five generations they may become black. (See Waitz's Anthropology.)

C. M. M.—An Act of Parliament was passed in 1388, imposing the penalty of £20 upon persons who cast animal filth and refuse into rivers and ditches. The actual amount of such a fine in those days was very considerable.

Octavius.—The area of the Thames watersheds is stated to be 3,303,680 acres, the average annual rainfall over which is taken at twenty-five inches.

Mortimer.—Apply to Dr. Robertson, the Secretary to the Apothecaries' Company.

Beverages.—1. No. 2. Tea is especially used in Europe in the northern maritime districts. Holland and the coasts of the North Sea and the Baltic, which are also the countries where spirituous stimulants are in the greatest use, are the parts where tea and coffee are most common in central Europe. All through Poland and Russia, even in Liberia, tea is in universal use.

Sir Charles Bell's Chair in the University of Edinburgh.—We have received the following interesting note from a valued correspondent:—

"In a leader in the *Medical Times and Gazette*, 'Success,' there is an error in regard to Sir Charles Bell. He was appointed to the Chair of 'Surgery' in the University of Edinburgh, not 'Military Surgery,' which was held by Sir G. Ballingall, and was abolished after his death. I don't think Sir Charles would have left London for the Military Surgery Chair. From personal knowledge of Sir Charles, and acquaintance with his writings, I differ very much from the writer in my estimate of Sir Charles Bell as to his taste for practical surgery; he was eminently practical in his views, but the brilliancy of his discoveries in the nervous system led the general profession and public to look upon him as a pure physiologist, and that, with his peculiar temperament, prevented him getting into such a private consulting practice as I believe he deserved."

COMMUNICATIONS have been received from—

THE HONORARY SECRETARIES OF THE HUNTERIAN SOCIETY; THE MILITARY SECRETARY, India Office; THE REGISTRAR OF APOTHECARIES' HALL, London; THE DIRECTOR-GENERAL OF THE ARMY MEDICAL DEPARTMENT; M.R.C.S. Eng.; Dr. DAUITT, Madras; Dr. G. HUMPHRY, Cambridge; Dr. SPARKS, London; Mr. B. J. VEANON, London; Dr. J. A. THOMPSON,

London; Mr. Wheatley, London; Mr. J. Hutchinson, London; Our Edinburgh Correspondent; X.; Professor Spence, Edinburgh; Mr. B. Vincent, London; Dr. Letheby, London; The Surgical Secretary of the Clinical Society; Dr. A. B. Taylor, Santillana; Messrs. Salt and Son, Birmingham; Dr. Hardwicke, London; Dr. J. Cook, London; Dr. J. L. Ellis, Denbigh; Mr. J. Frame, Comber; Dr. T. G. Dixon, Northwich; Dr. J. Berryman, New Brunswick; The Rev. J. L. Morris, Coventry; Dr. J. L. Pateason, Edinburgh; Mr. J. Chatto, London; Mr. G. Kirkwood, Glasgow; Mr. De Négai, London; Mr. T. W. Blake, Hurstbourne Tarrant; Surgeon-Major Hogg, India; Mr. G. Gaskoin, London; Mr. Walter W. Reeves, London; The Registrar-General, Edinburgh; Sir John Rose Cormack, London; Mr. T. M. Stone, London; Medicus.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—National Food and Fuel Reformer—Philadelphia Medical Times—Pharmaceutical Journal—Centralblatt für die Medicinischen Wissenschaften—La France Médicale—Sussex Daily News—Irish Hospital Gazette—Indian Medical Gazette—Obstetrical Journal of Great Britain and Ireland—Edinburgh Medical Journal—Students' Journal and Hospital Gazette—Brighton Guardian—The New York Druggist—The Friend of China—Science Gossip.

BOOKS AND PAMPHLETS RECEIVED—

Hands on Will-Ability—The Law relating to Vaccination, by D. P. Fry, Barrister-at-Law—Cheerful Words: Sermons edited by W. Hyslop, vol. ii.—Report of the Committee of Visitors of the County Lunatic Asylum at Hanwell—Sturgis on Scleritis Syphilitica, its Pathology, Course, and Treatment—List of the Fellows, Members, and Extra-Licentiates of the Royal College of Physicians of London—Macfie on the Patent Question in 1875.

APPOINTMENTS FOR THE WEEK.

March 6. *Saturday (this day).*

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 9 a.m. and 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

Royal Institution, 3 p.m. Prof. W. K. Clifford, "On the General Features of the History of Science."

8. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

Medical Society of London, 8 p.m. 102nd Anniversary.

Royal College of Surgeons of England, 4 p.m. Professor W. K. Parker, "On the Structure and Development of the Skull."

9. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædie, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Anthropological Institute, 8 p.m. Meeting.

Royal Medical and Chirurgical Society, 8½ p.m. Dr. Wm. Miller Ord, "On Urinary Crystals and Calculi, and the circumstances determining their Forms and Production."

Royal Institution, 3 p.m. Mr. A. H. Garrod, "On Animal Locomotion."

10. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Hunterian Society (London Institution), (Council Meeting, 7½ p.m.), 8 p.m. Mr. De Berdt Hovell will introduce a Discussion "On Ventilation in Relation to the Treatment of Scarlatina."

Royal College of Physicians, 5 p.m. Croonian Lectures—Dr. Greenhow, "On Addison's Disease."

Royal College of Surgeons of England, 4 p.m. Professor W. K. Parker, "On the Structure and Development of the Skull."

11. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.

Royal Institution, 3 p.m. Prof. Tyndall, "On Electricity."

12. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

Clinical Society, 8½ p.m. Dr. T. T. Whipham, "On Fatal Pleuro-Pneumonia in an Opium-Eater." Mr. Barwell, "On a Case of Acute Necrosis, in which the whole Shaft of the Ulna was Removed." Dr. Thomas Dowse, "On an Unusual Case of Lead-Poisoning."

Royal Institution (Weekly Evening Meeting, 8 p.m.), 9 p.m. Professor Abel, "On Accidental Explosions."

Royal College of Physicians, 5 p.m. Lumleian Lectures—Dr. Beale, "On Life, and on Vital Action in Health and Disease."

Royal College of Surgeons of England, 4 p.m. Professor W. K. Parker, "On the Structure and Development of the Skull."

VITAL STATISTICS OF LONDON.

Week ending Saturday, February 27.

BIRTHS.

Births of Boys, 1214; Girls, 1134; Total, 2348.
Average of 10 corresponding years 1865-74, 2332·4.

DEATHS.

	Males	Females.	Total.
Deaths during the week	960	894	1854
Average of the ten years 1865-74	800·4	770·8	1571·2
Average corrected to increased population	...	...	1681
Deaths of people aged 80 and upwards	...	...	72

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric or Typhoid Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	5	9	...	12	...	3	...	6
North	751729	1	...	2	3	16	...	5	1	4
Central ...	334369	...	...	1	2	7	...	3	...	...
East	639111	...	5	11	2	9	1	5	...	1
South	967692	1	5	15	3	27	...	4	2	5
Total	3254260	2	15	38	10	71	1	20	3	16

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·528 in.
Mean temperature	33·5°
Highest point of thermometer	45·8°
Lowest point of thermometer	23·3°
Mean dew-point temperature	27·8°
General direction of wind	ENE.
Whole amount of rain in the week	0·20 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, February 27, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1875.)	Births Registered during the week ending Feb. 27.	Deaths Registered during the week ending Feb. 27.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3445160	45·7	2348	1854	45·8	23·3	33·5	0·84	0·20	0·51
Portsmouth ...	122632	27·3	62	49	...	21·8	...	...	1·49	3·78
Norwich	82842	11·1	59	50	40·5	23·5	31·9	−0·06	0·57	1·45
Bristol	196186	44·1	123	115	41·6	27·4	32·2	0·11	1·03	2·62
Wolverhampton ...	71718	21·1	52	45	40·2	27·3	32·1	0·06	0·26	0·66
Birmingham ...	366325	43·6	277	235	41·8	28·2	33·0	0·56	0·79	2·01
Leicester	109830	34·3	105	66	42·5	26·0	33·5	0·84	0·20	0·51
Nottingham ...	92251	46·2	51	67	42·2	29·1	35·2	1·78	0·36	0·91
Liverpool	516063	99·1	355	330	41·0	29·0	33·6	0·99	0·34	0·86
Manchester ...	356626	83·1	289	265	42·8	29·0	35·0	1·67	0·01	0·03
Salford	135720	26·3	112	91	42·9	26·4	34·1	1·17	0·03	0·08
Oldham	87437	18·7	61	69	...	...	...	...	...	...
Bradford	168305	23·3	106	79	41·1	29·0	33·5	0·84	0·61	1·55
Leeds	285118	13·2	217	164	42·0	30·0	34·5	1·39	0·72	1·83
Sheffield	267881	13·6	232	147	41·5	28·7	33·9	1·06	0·41	1·04
Hull	133932	36·8	102	70	41·0	28·0	33·9	1·06	0·48	1·22
Sunderland ...	106342	32·2	108	48	53·0	29·0	36·7	2·61	0·32	0·81
Newcastle-on-Tyne	137065	25·5	107	80	39·0	29·0	32·7	0·39	0·45	1·14
Edinburgh	211626	30·5	138	107	44·0	26·5	35·6	2·01	...	...
Glasgow	531765	88·1	388	346	40·4	27·9	35·1	1·73	0·08	0·20
Dublin	314663	31·3	157	177	45·2	27·0	36·1	2·28	1·50	3·81
Total of 21 Towns in United Kingdm	7739490	37·0	5449	4454	53·0	21·8	34·0	1·11	0·52	1·32

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·54 in. The highest was 29·98 in. on Sunday evening, the 21st ult., and the lowest 29·13 in. on Wednesday afternoon.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

STATISTICAL REPORT OF THE MAJOR OPERATIONS PERFORMED BY PROFESSOR SPENCE IN THE EDINBURGH ROYAL INFIRMARY.

By GEORGE KIRKWOOD, L.R.C.S.,
Late Resident Surgeon, Edinburgh Royal Infirmary.

The following statistics, taken from the clinical reports of the Edinburgh Royal Infirmary, show the results of the more important surgical operations performed by Professor Spence during the two years beginning October, 1872, and ending October, 1874. As the result of an operation is modified to a great extent by the circumstances which render its performance necessary, in drawing up these statistics mention is made of the injury or disease for which the operation was had recourse to. In tabulating the amputations, the arrangement followed is that adopted by Mr. Spence in his "Lectures on Surgery"; and, accordingly, they are divided into two classes —viz., amputation for injury, and amputation for disease. The amputations for injury are subdivided into primary amputations—or amputations which were performed shortly after receipt of the injury; and secondary—or those where amputation was necessitated by conditions arising sometime subsequent to the injury. In the case of amputation for disease, the nature of the disease is specified as accurately as possible. In excisions of joints where the original affection of the joint could be ascertained, it has been stated; but in many of these cases disorganisation of the textures had advanced to such an extent before admission that it was impossible to form an opinion as to the primary lesion. In order to render the statistics more complete, abstracts of the fatal cases are inserted, so as to show the cause of death, while, in addition, a short account is given of a few of the more interesting cases. Except in four of the cases of tracheotomy, the operations were performed by Mr. Spence. One of these—viz., the operation for growth in the larynx—was performed by J. W. Bramwell, M.B. (then resident surgeon). The remaining three—two of which were for diphtheria and one for œdema glottidis—were operated on by myself.

Amputations.

Table I.—General Results.

	Number.	Recovered.	Died.
Lower extremity—			
Thigh	18	12	6
Knee-joint	1	1	0
Leg	3	2	1
Ankle	8	8	0
	30	23	7
Upper extremity—			
Shoulder-joint	1	0	1
Arm	2	1	1
Forearm	3	0	3
	6	1	5
Total—Upper extremity	6	1	5
Lower „	30	23	7
	36	24	12

Table II.—Results in relation to Injuries or Diseases for which the Operation was performed.

Lower Extremity—	Number.	Recovered.	Died.
Amputation of Thigh—			
For Injury—			
Primary	2	1	1(a)
Secondary—Gangrene following ligature of posterior tibial and luxation of knee	1	1(b)	0
	3	2	1
Amputation of Thigh—			
For disease—			
Of knee-joint	8	6	2(c)
After excision of knee	2	2	0
Dis. of knee after necrosis	2	0	2(d)
Malignant disease of tibia	2	2	0
Osteo-myelitis after amputation of leg	1	0	1(e)
	15	10	5
Amputation at Knee-joint—			
For Injury—Primary	1	1	0
Amputation of Leg—			
For Injury—Primary	1	1	0
For Disease—Disease of bones of leg and ankle-joint	1	0	1(c)
Gangrene after typhus	1	1	0
	3	2	1
Amputation of Ankle—			
For Disease	8	8	0
Chopart's Amputation—			
For Disease	1	0	1
Upper Extremity—			
Amputation at Shoulder-joint—			
For Injury—Primary	1	0	1(f)
Amputation of Arm—			
For Disease—Necrosis of bones of forearm and ulceration of vessels	1	1	0
Medullary tumour of hand	1	0	1(g)
	2	1	1
Amputation of Forearm—			
For Injury—Primary	1	0	1(h)
For Disease—After poisoned wound and inflammation of fibrous textures of hand and forearm	1	0	1(i)
Epithelioma of wrist	1	0	1(k)
	2	0	2

(a) The amputation was performed for a severe compound comminuted fracture of both bones of the leg, caused by a fall of about thirty feet. In addition to the fracture there was a bruise and abrasion over the sacrum, and after the operation he showed well-marked symptoms of having received injury to the spine. Died a week after the amputation, of pyæmia.

(b) Case reported fully in *Medical Times and Gazette*, November 14, 1874.

(c) In one of the fatal cases the patient was a girl aged seven, affected with gelatinous disease of the knee. This improved under treatment, but, as the disease returned again, amputation was found necessary. Previous to the amputation, symptoms of cerebral mischief were present, and the child died about a month afterwards of tubercular meningitis. In the other case the patient was also of an extremely strumous diathesis, and was suffering from gelatinous disease of the knee. In this case the extension pulley was used to prevent the retraction of the flaps.

(d) In one case the patient had been suffering for ten years from carionecrosis of the popliteal part of the femur. Three weeks after admission he had bleeding from the bowels, with pain in the abdomen. After the removal of some dead bone, bleeding from the wound came on, and after several ineffectual attempts to stop it, amputation was performed. Bleeding occurred from the stump two or three days after the operation, and as all attempts to check it proved unsuccessful, ligature of the femoral was performed. He gradually sank, and died the day after ligature, and five days after the amputation. In the other case the patient had suffered for many years from necrosis of the tibia and abscesses. When admitted he had an abscess connected with the necrosed tibia, and his knee-joint had become affected; and at the time of the operation he was in a very unhealthy state.

(e) This case appears both in the thigh amputation and in the amputations of the leg; for, after the amputation of the leg, osteo-myelitis supervened, abscesses formed around and in the knee-joint, and amputation of the thigh was found necessary. At the time of his admission he was phthisical, and after the amputation of the leg he had hæmoptysis. He died of diarrhœa, five days after the amputation of the thigh.

(f) At the time of the accident the patient was out on pass from the Medical House, where he was under treatment for mitral and aortic disease, with bronchitis. He had also lost much blood prior to admission.

(g) Previous to his admission, the thumb had been amputated for the same disease; but it never healed properly, and the disease returned. After the amputation the stump bled profusely several times, but no bleeding point could be seen on taking it down. Though no further hæmorrhage occurred, there was a continuous discharge of red-coloured serum, and the patient died exhausted two days after the operation.

(h, i, k) For these footnotes see next page.

Excisions of Joints.

I. General Results—	Number.	Recovered.	Died.
Hip	3	3	0
Knee	5	4	1
Ankle	1	1	0
Shoulder	5	5	0
Elbow	9	9	0
	23	22	1
II. Knee—			
Anchylosis after injury	1	1	0
Disease of knee-joint	4	3	1(l)
	5	4	1
III. Elbow—			
Anchylosis after burn	1	1	0
Disease of elbow-joint	8	8	0
	9	9	0

The excisions of the hip, shoulder, and ankle were for disease.

Removal of Tumours.

(1) Of Mamma—	Number.	Recovered.	Died.
Malignant: Scirrhus (excision of mamma)	12	12	0
(2) Of Axilla—			
(*a*) Simple: Atheromatous	1	1	0
Cystic	1	1	0
(*b*) Malignant: Mass of scirrhous glands	1	1	0
	3	3	0
(3) Of Back—			
Simple: Large fatty	2	2	0
Very large myxomatous	1	1	0(m)
	3	3	0
(4) Of Neck—			
Malignant: Parotid tumour	1	0	1(n)
Large medullary sarcoma of glands at upper part of neck	1	0	1(o)
	2	0	2
(5) Of Face—			
Malignant: Epithelioma of lip and glands	1	1	0
Epithelioma of forehead	1	1	0
	2	2	0

(h) The soft parts had been subjected to a considerable amount of crushing by being caught in the teeth of a hay-cutting machine. The patient was of intemperate habits, and he had a mitral regurgitant murmur. He died of pneumonia, a fortnight after the operation.

(i) Died one month after the amputation, of pleurisy and pneumonia.

(k) Patient was sixty-seven years of age. Prior to his admission the epithelioma had been treated with caustics, and when he came to the hospital the parts were fetid and sloughy. His general health was in a bad state, his pulse weak, etc., and after the removal of the limb the stump was attacked by phlegmonous erysipelas, which proved fatal in about a fortnight.

(l) The knee was excised for gelatinous disease pretty far advanced. The patient died of pneumonia one month after the excision.

(m) The tumour had taken nineteen months to grow, and had never caused any pain, but simply incommoded the patient, owing to its size. When admitted it extended from the seventh cervical vertebra above to about the last dorsal vertebra, and reached from a line about two inches to the right of the spinous processes to the posterior fold of the left axilla. It projected considerably, and had a tense soft feeling. After removal it weighed eight pounds and a half. The patient left the hospital five weeks after the operation in perfect health.

(n) Died of erysipelas.

(o) Tumour had taken seven months to grow, and was of large size when he was admitted. It extended as deep as the atlas vertebra, and in order to remove it the sterno-mastoid was cut, and a careful dissection made. It adhered to the sheath of the common, internal, and external carotid arteries, and the internal jugular vein. Acute œdema of the glottis supervened suddenly some days after operation, and the patient died before relief could be afforded.

(6) Of Tongue—	Number.	Recovered.	Died.
Malignant (Epithelioma):			
Removal of affected part	1	1	0
„ half tongue	2	1	1(p)
„ whole tongue	1	0	1(q)
	4	2	2

Other Operations.

	Number.	Recovered.	Died.
Hernia (strangulated congenital)	1	1	0
Lithotomy	1	1	0
Perineal section	1	1	0
Tracheotomy:			
Chronic laryngitis	1	0	1(r)
Portions of bean in trachea	1	1	0
Disease of epiglottis	1	0	1(r)
Growth in larynx	1	1	0
Œdema glottidis following burn	1	0	1(s)
Diphtheria	2	1	1(t)
	7	3	4
Trephining for depressed fracture (secondary)	1	1(u)	0

Operations for Necrosis.

	Number.	Recovered.	Died.
Of Femur	3	3	0
Bones of leg	2	2	0
Os calcis	1	1	0
Humerus	6	6	0
Bones of forearm	2	2	0
	14	14	0

Besides these more important operations, there were a number of minor operations—*e.g.*, for piles, fistula, hydrocele, etc.

A few general remarks may be added as to the treatment, constitutional and local, which is adopted in Mr. Spence's wards. Except in urgent cases, patients are never operated on until a careful examination of their constitutional state has been made, and any abnormal conditions combated as far as possible. Accordingly, patients are kept under observation for some time prior to operation, and, by careful attention to the various secretions and excretions, their general health is so improved that the chances of a successful result are much increased. Their diet is carefully regulated, tonics are given, and derangements of the stomach or bowels are at once treated. The state of the urinary system receives special attention, an examination of the urine being made from day to day. The urine is more particularly attended to in strumous patients, in whom renal affections are so apt to occur; and, by means of this frequent examination, morbid conditions of the

(p) The epithelioma had been of very rapid growth, was extensively ulcerated, and small glands in the neck were enlarged. The patient's general health had suffered. He died in about a fortnight of pyæmia.

(q) In this case it was only at the urgent request of the patient that the operation was performed. One of the cervical lymphatics, in close proximity to the internal jugular vein, was affected, and was much enlarged. This was dissected out before the tongue was removed. Patient sank three days after the operation.

(r) Bronchitis.

(s) Burn of face and neck with gunpowder. Patient was an old man. Died of bronchitis five days after operation.

(t) Died thirty-six hours after operation. Asphyxiated, owing to the obstruction caused by the spread of membrane down the trachea.

(u) The operation of trephining was not performed at the time of the accident, but some days after. The patient was struck by the handle of a crane, above and to the outer side of the left orbit. He lost consciousness at the time, and although he had somewhat recovered when he was brought to hospital, he was still in a dreamy state. Fracture into the orbit could be made out, but no distinct depression; there was considerable swelling of the soft parts, and a contused wound about three-quarters of an inch long. Under treatment his state, instead of improving, continued very precarious. On the fourth day after admission an abscess formed, which, when opened, was found to be connected with a bare part of the frontal bone. His temperature still kept over 100°, his pulse varied between 60 and 76, and his bowels were obstinately constipated. At the same time the drowsy state which he was always in gave place at intervals to complete insensibility. Accordingly, it was thought advisable to have recourse to trephining. This was done on the eighth day after his admission, by enlarging the original wound, to allow the trephine to be applied. When the wound was enlarged, the adjacent parts of the temporal and frontal bones were found depressed; and on removing the outer table with the trephine, the inner table was found to be splintered, the orbital plate of the frontal bone being involved. As soon as the splintered parts had been removed the patient complained of pain, which he had not done during the operation (no chloroform was used). Although he occasionally became drowsy after this, he ultimately made a good recovery.

urinary organs are detected at an early period, and improved as far as possible by appropriate remedies. Similarly, the respiratory, integumentary, and circulatory systems are observed: the chest is examined, the temperature is taken morning and evening, and the state of the cutaneous secretions is watched. Before and after all operations the preparations of iron are used, either alone or along with dilute phosphoric acid, and very generally such remedies as the chlorate of potash and the hyposulphite of soda are given, so as to improve the state of the blood and render the patients more able to resist septicæmic conditions. The use of these supposed antiseptic remedies is especially resorted to where, as in cases of necrosis, malignant disease, etc., the blood is in an unhealthy condition prior to operation, and where the patient is peculiarly liable to become affected by the absorption of putrid matters.

Very often alcoholic stimulants are given, but their administration is regulated to a great extent by the character of the pulse, and by the state of the patient's strength. In all cases of exhausting disease—such as caries, necrosis, strumous affections of joints, and malignant disease,—stimulants are found of the greatest service; and when wounds are assuming a weak action the good effect of stimulants is often very marked.

As regards the local treatment of wounds, the principles which are attended to are cleanliness, and simple dressings so arranged as to be easily undone, and to allow the free escape of discharge, which by its absorption might give rise to serious constitutional disturbance. In order to effect these objects, all wounds which are deep and discharging freely are dressed twice a day at least, and at each dressing the wound is syringed out very gently with a solution of carbolic or boracic acid, used of a strength which gives rise to no irritation of the wound. So soon as the wound begins to granulate, in addition to cleansing it thoroughly, some stimulant lotion is used, such as a solution of chlorinated soda (one part liquor to twenty parts water) or sulphate of zinc (two grains to the ounce). Clean dressings are applied each time the wound is dressed.

Before stitching up a wound at an operation, the surface is freed from small clots and thoroughly washed by pouring over it tepid water to which a very little carbolic acid has been added. After the wound is closed by silver sutures, a piece of waxed paper is applied over it as a protective, and a thin layer of oakum (held in position by a bandage or put in a single fold of lint) is placed outside the waxed paper. Care should be taken that the oakum does not touch the skin, as it gives rise to a considerable amount of irritation.

In the case of stumps, after applying the waxed paper, a single ply of lint is brought over the end, so as to support the flaps, and this is kept from slipping, and at the same time lateral support is given to the stump, by means of a fold of lint encircling the stump, and containing a layer of oakum between its folds. In order to give more thorough support to the flaps and prevent them retracting, a bandage applied from above down may be used before the dressing is put on. The stump is laid on oakum, and oakum is put loosely over the end, and if this dressing be properly applied, the stump can be looked at without raising it from the bed. In the evening, after an operation, the wound is syringed out, and all clots removed, a stitch being taken out at the angles of the wound, if necessary, to allow of this being done. Great care is always taken that the discharge gets freely away; and for this purpose some stitches are removed at the most dependent part of the wound very soon after an operation. By this means the serous discharge at first, and subsequently the pus gets free vent, and bagging of the end of a stump or abscess in the limb above is prevented. A small piece of drainage tubing introduced between the edges of the wound still further favours discharge by keeping the lips from closing at that part.

When granulation is going on, instead of using the waxed paper, a strip of lint soaked in a stimulating lotion and applied to the wound often proves of great service in the healing process. When the granulations are strong and healthy this may not be required, and under these circumstances the use of the waxed paper may be continued.

Should redness appear at the edges of a wound, stitches which seem to be giving rise to tension are at once removed, and strips of adhesive plaster substituted, so as to give support to the flaps. The plasters are applied between the stitches, because, if they were placed over the holes made by the sutures, when suppuration occurs the discharge from these holes would be prevented. At the same time, a single ply of lint dipped in warm water is put over the wound. This must not be covered by guttapercha, as, by so doing, the moisture is confined and the parts rendered sodden and weak. The lint is changed frequently. This treatment generally soothes the irritation, and the redness subsides. If the wound show a tendency to become dirty or sloughy, the surface may be touched lightly with solid nitrate of silver, and then the application of lint soaked in charcoal and water of a thick consistence is had recourse to. This is much more easily applied than the charcoal poultice, it allows the discharge to get more freely away, and it generally has the effect of cleansing the surface of the wound and causing it to take on a more healthy action. When a deep wound, such as a stump, has healed to a considerable extent and has cicatrised at some places, in dressing the remaining superficial sores, pieces of lint exactly the size of the sores are dipped in some stimulant lotion, and, after being applied to the ulcers, are covered with pieces of guttapercha a very little larger. If the wounds need no stimulation, small pieces of waxed paper cut exactly the size of the wound are sufficient; but if, on the other hand, the granulations are weak and exuberant, the application of solid sulphate of copper proves very beneficial. In no case should the dressings be applied over the cicatrised parts, for by so doing the cicatrix is softened and tends to break up.

The treatment thus briefly sketched is easy of application, and, if it be carefully carried out, large surfaces, such as those left after amputation and after removal of large tumours, heal extremely well.

Remarks by Professor Spence.—The foregoing statistical report, drawn up by Dr. Kirkwood, in which the cases have been very carefully collated by him, illustrates the advantages to be derived from stating the conditions which necessitate operations, by showing how far certain forms of disease may influence the result. In my published lectures I drew special attention to the necessity for doing this in statistics which were to be of any practical value; for, besides being subject to many sources of fallacy, the mere fact that, after any great operation, so many patients live and so many die, teaches us little. In the present report an example of this is afforded by the case of *one patient* who furnishes *two deaths* in the general statistics—once in the amputations of the thigh, and again under the amputations of the leg. But on examining the table in which the different diseases are specified, I find a remarkable corroboration of the results, under similar circumstances, given in the larger statistical tables of amputations in my "Lectures on Surgery." I feel more and more satisfied that constitutional states connected with certain forms of disease, as well as epidemic and endemic influences, have marked bearings on the results of operations.

Much attention is given in the present day to different methods of dressing wounds, and to the merits of various antiseptic applications; and, within certain limits, this is very proper, for care and cleanliness in dressings are most important. But here, as in other things, we are apt to give more than its due weight to some special method of dressing. Dr. Kirkwood has stated the method used in my wards during the period embraced in the report; when, however, I turn to the statistics of my wards during the years 1860, 1861, and 1862, when I treated my amputation wounds by merely washing the surfaces thoroughly with tepid water, and occasionally sponging them with tincture of iodine, either alone or diluted with water, and when the only dressing applied was a single layer of lint or muslin placed lightly over the stump, I find the following results in cases of amputation for disease and in other operations:—

	Number.	Recovered.	Died.
Amputations.			
Hip-joint	1	1	0
Through Thigh	25	23	2
Leg	5	5	0
Ankle	22	22	0
Shoulder (injury)	3	3	0
Arm (disease)	3	2	1
Forearm	4	4	0
Total	63	60	3
Excisions.			
Shoulder	1	1	0
Elbow	21	20	1
Knee	1	0	1
Total	23	21	2

Other Operations.	Number.	Recovered.	Died.
Lithotomy . .	. 7	7	0
Hernia . . .	. 12	10	2

At the time these statistics were taken, the hygienic conditions of the surgical hospital were by no means so good as they are now; and looking at results such as these different statistics afford, we may pause before crediting the methods of dressing with the success. Instead of speaking of brilliant results in some special cases, we require statistics which show us the nature of cases operated on, and other conditions which will enable us to judge of the comparative results of different methods of dressing and treatment.

ORIGINAL LECTURES.

CLINICAL LECTURE ON TYPHOID FEVER.

DELIVERED TO THE STUDENTS OF THE ROYAL HANTS COUNTY HOSPITAL.

By WILLIAM ROBERT SMITH, Resident Surgeon.

Gentlemen,—I propose to direct your attention this afternoon to the important subject of typhoid fever, many cases of which we have had in the hospital during the past six months. Typhoid or enteric fever is one of the most interesting diseases for the student to study, from the variety of forms it assumes, for no other presents in its course so many differences, irregularities, and complications. No two cases out of those we have had in our wards during the late epidemic have been exactly alike: some symptoms have been more prominent in one case than in another; whilst, in a few, symptoms have arisen which we have not detected in what would have been considered typical cases. Enteric fever is an endemic disease, generated by putrefying animal matter, such as the emanations from sewers, cesspools, and the like, the poison being either taken into the system through the medium of the air, or by drinking-water, milk, or other liquids which have become contaminated with it. The origin of the fever in the case of the boy G., in No. 1 Ward, was clearly traced to a communication between the drainage-pipe leading from the closet in his home and the water supply-pipe going to the house. Four other members in this patient's family suffered severely from the same complaint. in another case the drainage-tube, which was in the wall of the house, was found to have a large hole in it; this was not detected until enteric or, as Dr. Murchison calls it, pythogenic fever had made its appearance. In most of the cases we have had in our hospital the disease seems to have arisen from the volatile emanations of cesspools of badly drained houses, but in some few cases it was undoubtedly taken into the system through the medium of drinking-water. Enteric fever is said by some to be infectious; the experience of our own hospital, however, gives no support to this theory. We have had as many as seven cases in one ward at the same time with other patients, and in no instance has the disease spread; the complaint of the girl in No. 1 Women's Ward, sister to the boy I have before quoted, might, however, be thought by some to have arisen through contagion or infection. She was a servant in London, and came to Winchester to attend upon her mother during her confinement, when she was struck down with fever, from which two of her brothers had already suffered; but then we must remember she was suddenly exposed to the same poison which had already done its work with others, and consequently was herself more liable to be affected. The disease seldom attacks persons above thirty, and men are more predisposed to it than women.

I will now read you the notes of one case, and then comment more fully upon the symptoms as we have observed them.

J. H., aged twenty-five, a labourer, was admitted on July 11, 1874, complaining of feeling ill and out of sorts. For the past six weeks he has had no settled home, and has slept in barns and outhouses. He is slightly deaf, looks very ill, careworn, and haggard, and has noticed during the past week slight pain in the head, with aching pains in the back; skin hot; pulse small and weak; tongue moist, and covered with thick white fur; abdomen not tympanitic, but gurgling present, with slight tenderness in the right iliac fossa. Several rose-coloured spots, disappearing on pressure, were also found on the abdomen; the bowels were said to be loose.

July 12.—Slept well; has taken nourishment well. Bowels moved once; not at all loose.

13th.—Patient very drowsy and indifferent; slept fairly, but delirious during the night; tongue much furred, but moist; bowels moved twice, solid; pulse feeble. He has taken nourishment well.

14th.—More unconscious and delirious; slept badly; pulse just perceptible at the wrist; tongue dry, and, with the teeth, covered with sordes; bowels moved three times, not so solid, and more characteristic, being of an ochre colour; has taken nourishment well.

15th.—Is rather better; not so delirious or unconscious; slept fairly; pulse more perceptible, about 125; bowels well moved twice. Several fresh spots visible on the abdomen.

Continued in much the same state until the 18th, when he was much better; slept soundly for eight hours, and woke up quite sensible; tongue moist, not so thickly furred; bowels moved twice, more solid; pulse better volume, 120.

From this time he went on gradually getting better until August 7, when he was discharged "cured."

The following is his table of temperature and pulse:—

Date.	Morning. Pulse.	Morning. Temp.	Evening. Pulse.	Evening. Temp.	Times bowels moved.
July 11 .	—	—	120	103·4°	—
12 .	110	103°	120	103·4	Once.
13 .	110	102·6	130	103·4	Twice.
14 .	120	102	125	101	Thrice.
15 .	125	102·4	120	103·4	Twice.
16 .	120	102·6	115	103·6	Thrice.
17 .	122	102·2	120	103·2	Thrice.
18 .	120	102·4	118	102·8	Twice.
19 .	110	100	120	103·2	Twice.
20 .	115	100	120	102·2	Once.
21 .	100	99·6	120	101	Not moved.
22 .	96	99	100	100	Once.
23 .	90	98·4	100	100	Once.
24 .	84	98	90	100	Once.

Typhoid fever most usually commences insidiously. The patient states he has been out of health for some time, but cannot give you any definite account: he may have had loss of appetite, and felt disinclined for bodily or mental exertion for days or even weeks; he complains of headache, giddiness, singing noises in the ears; vomiting is often present of a bilious character, and most frequently the bowels are relaxed; the tongue is moist and skin cool, or the temperature but slightly raised. He goes on gradually getting weaker, but the prostration is not generally so great as to confine him to bed: about this time he usually comes under medical treatment. The patient is in the milder cases much exhausted, with anxious, expressive, and pinched features; but in the more severe cases delirium is almost always present, the patient lying on his back in a drowsy, apathetic condition, frequently crying out, and at other times continuously muttering. This delirium, I think, is altogether owing to the debilitated condition of the patient, and not to any inflammatory mischief of the brain; for you have doubtless noticed, in the cases you have had charge of, that sordes about the teeth and mouth are always associated with it. Sometimes the patient labours under delusions; his mind seems to be centred on some one object. In the only instance in which it occurred amongst our cases, the boy thought there was a dog in bed with him; this lad also had several attacks of epistaxis. Although bleeding from the nose occurred alone in this case, it is by no means unusual.

The temperature is always high, averaging 102° in the morning and 103° at night. In only one case out of the eighteen we have had in our wards did it reach 106°, and this but once—just before an attack of hæmorrhage from the bowels. Frequently, however, at night it reaches 105°, for it is always higher at this time. I have noticed, however, in several cases that the temperature most usually on each succeeding fourth day has been higher in the morning than in the evening. Whether this has been owing to accidental circumstances is a matter for future determination. Still, it is worthy of note that in one-fifth of the typhoid patients we have had under our observation this peculiarity has occurred. When a patient is recovering there will be often a difference of two, three, or four degrees in the morning and evening temperatures.

The pulse is very frequent, varying from 110 to 130, as a rule becoming accelerated towards evening and night; it is

always small and weak. Towards convalescence it decreases in frequency, and increases in tone and resistance.

The appetite is always lost, but patients will take nourishment very well in the form of liquids, for they are very thirsty. Vomiting is rarely present after the disease has thoroughly set in. A desire for food is always a good prognostic sign.

The abdomen is rounded and tympanitic; pain is frequently present, and gurgling can be detected in the right iliac fossa; about the seventh or eighth day, several rose-coloured spots make their appearance, five or six in number, scattered, very pale, and disappearing on pressure. Sometimes they are absent altogether from the abdomen; in these cases I have generally found them on the back or sides, just about the angles of the ribs. Here they are larger and more distinct than on the abdomen. Every four or five days fresh crops of spots appear throughout the disease, the preceding ones having faded away.

The tongue is moist, covered with a white fur, red at the tip and edges; sometimes it is glazed and fissured; in many cases you have noticed it bears a strong resemblance to the tongue of scarlet fever; in the worst cases it is dry, brown, and covered with sordes.

The bowels as a general rule are relaxed, being moved three or four times a day, and frequently more often. They are liquid, yellow-ochre-coloured, very offensive, ammoniacal, having an alkaline reaction; and when allowed to stand, they separate into two parts—a supernatant liquid, and a flaky sediment of a yellowish colour. Typhoid stools are particularly prone to decomposition, and contain an abundance of the products of decomposing animal matter, in the form of triple phosphate; shreds of mucous membrane and broken-down epithelial cells are also present. Sometimes the bowels are confined, and then, as you have observed, the temperature invariably rises, and the other symptoms become aggravated. Diarrhœa may be looked upon, I think, as Nature's method for ridding the body of the poison; but where this is severe and persistent, undoubtedly you will have to deal with the most serious cases.

There is frequently great emaciation. Typhoid fever terminates slowly; it declines so gradually that sometimes it is very difficult to say when convalescence really commences; but if the temperature falls, the diarrhœa becomes less, the appetite returns, and the patient feels much better, you may conclude the man is recovering. Remember that during convalescence the pulse is frequently quickened. I see you have noticed this in the notes of some of your cases. The average duration of the fever in those we have had under treatment was four weeks, and this I think is the usual time; but cases may be much protracted. In only two instances had we complications, and in each of these it was owing to the development of tubercle in the lungs, with the addition in one case of intestinal hæmorrhage. The man L., in No. 1 Men's Ward, you will remember was quite convalescent, when his temperature suddenly went up, and he complained of short cough, with pain on the right side; upon carefully examining his chest, dulness and harsh jerky breathing were detected beneath the right clavicle. In the case of G., the girl I before mentioned, she went on very favourably for three weeks, when hæmorrhage occurred from the bowels, first in small quantities—about half an ounce at a time for two days, the blood being bright scarlet; then she lost about three ounces of a darker character. Two days after, she had more hæmorrhage to the extent of four ounces; from this she recovered, but the persistent high temperature after the hæmorrhage could not be accounted for until a careful examination of her chest was made, when dulness and jerky respiration with occasional clicks were detected in the right infra-clavicular region.

The diagnosis of typhoid fever is in some cases difficult; but if you have symptoms more or less obscure of intestinal irritation, with a thickly furred moist tongue, high temperature, and quick pulse, the disease is almost certain to be enteric fever. When the rash appears, the diagnosis is certain.

Acute pulmonary tuberculosis is a disease which sometimes closely simulates typhoid fever. I well remember a case which made a deep impression on my mind at the time, occurring in the Brompton Consumption Hospital. A patient was admitted suffering from languor, debility, and anorexia,—a moist furred tongue, and tendency to diarrhœa, pulse quick, and temperature about 102°; he was deaf, and altogether had the general appearance and symptoms of typhoid. About a week after his admission he had difficulty of breathing, short dry cough, and great prostration. On examining his chest, tubular breathing, with fine crepitation, was detected under the right clavicle, with a few scattered clicks on the left. There was no dulness on either side. The case was now diagnosed to be acute pulmonary tuberculosis, and not, as had been before supposed, typhoid. The patient shortly after died, when the lungs were found studded with miliary tubercle; several tubercles were also found in the liver and kidneys, but the intestines were normal.

And now for a few words about the treatment of typhoid. The diarrhœa, when it exceeds more than two stools per diem, must be restrained by astringents. What we have used here has been the ordinary chalk mixture of the Pharmacopœia, with the occasional addition of tincture of catechu. When this has not been sufficient, an enema of starch and tincture of catechu has been found to be of great service. When constipation is present, castor oil will be found the most useful medicine, either alone or combined with a few drops of tincture of opium. If hæmorrhage should occur from the bowels, gallic acid must be given in infusion of roses; if it is severe, cold is of service when applied to the abdomen, and a tablespoonful of turpentine may be useful. When delirium is present, shaving the head and the application of ice give much relief, and are very grateful to the patient. Hydrate of chloral may be given when there is sleeplessness. I believe this to be better than opium. What we have depended upon principally in our treatment has been nourishment—milk, eggs, arrow-root, and sago being freely given; the eggs being beaten up in milk,—with very little stimulant. Throughout, it has been a question of good and careful nursing, and to this I attribute mainly the success which has attended our treatment, for fortunately we have not lost any of our cases, although many of them have been most severe. During the convalescent stage, quinine is of service, and, when it can be borne, cod-liver oil. The diet must be increased with great care. Pulmonary complications may be treated with counter-irritation, but no definite rules can be laid down; you must be guided entirely by the individual circumstances of the case.

ORIGINAL COMMUNICATIONS.

ON A CASE OF TYPHOID FEVER ARISING FROM SEWAGE EMANATION.

By CHARLES ORTON, L.R.C.P., M.R.C.S., etc.

I was called in on Wednesday, May 8, 1872, to see Mr T., aged thirty-eight, a chemist and druggist, residing in about the centre of the town of Newcastle (Staffs). He had previously enjoyed good health, with the exception of the last fortnight, during which he had felt unwell, though able to be out. During my second visit I heard that his daughter had come home from school with scarlatina, nearly three weeks before. Her illness must have been slight, as I was not called in to see her. Her skin had peeled off.

The patient had been listless and lazy during the morning. He was very thirsty; tongue furred, brown, not very hot; teeth dry, and inclined to be coated. Purged and sick; motions watery and light-coloured.

May 9.—Tongue furred and brown; sordes on the teeth. Slight delirium. Abdomen tympanitic, and dotted with light-coloured spots, which disappeared on pressure. Pulse small and quick; temperature in the morning 102·5°, evening 103°. Diarrhœa; stools copious, watery, sponge-coloured.

10th.—A scarlet rash now appeared pretty equally over the whole of the body. Delirium still continued; mouth in the same condition. Morning temperature 103°, evening 104°. Spots slightly obscured, but recognisable; no alteration otherwise in the condition of the abdomen.

11th.—Body very scarlet, with a dusky appearance of face. The colour of tongue and fauces not so markedly scarlet as that of the body; the fauces being very slightly tinted. Can swallow freely. Spots and tympanites as on previous day. Increased delirium. Pulse small, and quick beyond computation; temperature in the morning 103·2°, evening 103·7°. On my second visit I found the throat barely red, and the stools excessively profuse and tinged with blood.

12th.—The condition remained about the same, with the exception that the patient was occasionally sensible, with quick respirations, and the diarrhœa much less, until the evening, when at 8.30 he became unconscious, sank rapidly, and died at 9.30.

Was there any scarlet fever poison acting in this case? The daughter had come home from school three weeks before the death of her father, affected, as I was told, by slight scarlet fever. I did not see the case until convalescent, when certainly the cuticle was peeling off. The spots, the tympanites, the character of the motions (profuse, buff-coloured, and tinged with blood), the feeling ill for a fortnight before taking to his bed, the temperature,—all point to its being an undoubted case of typhoid. If we acknowledge that he was first ill on the Tuesday, about which day his daughter came home, we can scarcely account for any scarlet fever infection through her. Although the scarlet rash was general and well marked, and the eyes were suffused and dusky, and this rash lasted till his death (three days), so that we know not whether it would have passed off—as the scarlet rash sometimes seen in typhoid (though rarely in my experience) passes off—in two or three days, I conclude that his death took place on or near the twentieth day of the fever. There was no post-mortem examination. There were in the house seven other occupants, aged from thirty to babyhood, none of whom had been or became ill, except the daughter before mentioned.

What was the cause? The milk was not suspected, and was not examined; for, had that been the cause, surely one or more of the younger members of the family would have suffered. There had been no death from typhoid registered for some time before, and there was no case in the town at the time that I could hear of. The water was examined by Professor Parkes, and, although not found pure, was yet not impure enough, in Professor Parkes' opinion, to account for the fever. The other inmates also drank this water. The sanitary conditions of the premises were apparently proper. I cannot but attribute this case of typhoid to sewage emanation. Mr. T. was an amateur gardener, taking especial interest in his hothouse plants; these he attended to regularly every morning before breakfast. In order to produce still finer plants, he had a communication made by means of a pipe between his garden and the cesspool common to two houses standing on an eminence far apart from any other habitation. The liquid from this pool he not only applied to the vegetables in the garden, but to some of the plants in the hothouse. He had used this but a fortnight, or even less, when he began to be ill. The inhabitants of the two houses had been and remained in good health.

Newcastle-under-Lyme.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

CYSTIC MAMMA MISTAKEN FOR CANCER.

We are requested by Mr. Marcus Beck to state that the case reported in our last week's issue under this heading was under his care solely, at a time when he had charge of Mr. Erichsen's wards during that gentleman's absence from England. Mr. Erichsen never saw the patient; and we regret that through a misunderstanding his name was attached to the case.

CASES OF FRACTURE OF THE SKULL.

The first three cases illustrate well a fact which surgeons are constantly having brought under their notice—viz., that *a fracture of the base of the skull with laceration of the corresponding portions of the dura mater and arachnoid* may occur, and yet but slight, if any, cerebral disturbance will be caused. From experiments made by Majendie it would appear that in living animals the withdrawal of the cerebro-spinal fluid causes great disturbance of the cerebral functions, by allowing engorgement of the bloodvessels. It is, however, much more probable that any such disturbance ought to be ascribed to the shock of the experiment or the admission of air into the subarachnoid cavity. The escape of a watery fluid from one or both ears in cases of fracture of the skull is regarded as a grave symptom; and so, indeed, it is,—for does it not prove that the injury, if it has not reached the brain substance, has at any rate extended further inward than the cranium itself; that the dura mater with its arachnoid layer, which, as it passes the roof of the ear, is very adherent to the petrous bone, has been divided; and that thus a communication—indirect, it is true, but still a communication—has been established between the arachnoid cavity and the surface? It is pretty certain, too, that the injury reaches beyond the paricta layer of the arachnoid; that the visceral layer is also torn, and that thus the subarachnoid space is opened. The arachnoid cavity in its normal state contains but a very small quantity of serous or albuminous fluid, sufficient only to lubricate the two surfaces of the arachnoid membrane during the movements of the brain; while the quantity of fluid which trickles from the ear after fracture of the base of the skull is often much greater than this slight secretion into the arachnoid cavity will account for. Moreover, it may be made to flow more freely and more rapidly by anything which distends the veins of the head. This fact was proved by Mr. Hilton, in an experiment which he describes in his classical lectures on "Rest and Pain":—

"Some years ago I had, in Guy's Hospital, a patient suffering from fracture of the base of the skull, and from one of his ears a thin watery fluid was pretty constantly running. It occurred to me that if I could fill this patient's head more full of venous blood, I might succeed in displacing the cerebro-spinal fluid, and that if the fracture had established an easy communication between the auditory canal and the cerebro-spinal fluid in the interior of the skull, I should be able to force out of the ear some of the cerebro-spinal fluid. I accordingly went to his bedside, and told him to take a very full breath. I then held his nose and lips, and put my fingers so as to compress his jugular veins on each side of his neck. His face became exceedingly congested and discoloured, and he commenced struggling to get rid of the pressure of my hands upon his nose and mouth. This had scarcely taken place before a quantity of thin fluid came running out of the auditory canal; and I succeeded in collecting nearly half an ounce of it. The experiment was now completed. I removed my hands from the nose and mouth of my patient, and he quickly recovered his condition of repose. Thus, then, I had succeeded in displacing from the interior of the cranium a quantity of cerebro-spinal fluid (for so it was afterwards proved to be by microscopic and chemical examination), by propelling to the interior of the skull an increased quantity of venous blood."

The gravity of this symptom, beyond that of simple fracture of the bones of the skull, is dependent on the damage done to the membranes of the brain, and the increased risk of subsequent inflammation of these membranes. At the same time, it must be remembered that in all cases of discharge of cerebro-spinal fluid from the ear, the fracture of the bone has occurred in a situation very favourable to the escape of the brain from injury. It is under the posterior two-thirds of the base of the brain that this fluid is in part situated, and is here acting as a kind of water-cushion to protect the brain from concussion and bruising. It is, no doubt, through this protecting function of the cerebro-spinal fluid that in these three cases, as well as in others like them, the cerebral disturbance has been so transient, if, indeed, as in some instances, any can be said to have existed.

GUY'S HOSPITAL.

Case 1.—*Fracture of Base of Skull—Escape of Cerebro-Spinal Fluid from both Ears—Recovery.*

(Under the care of Mr. BIRKETT.)
[From Notes by Mr. LOWDELL, Ward Clerk.]

Jessie C., a girl nine years of age, was admitted into the Martha ward on December 2. Shortly before admission she had fallen downstairs, and had been taken up insensible. When admitted there was a clear watery fluid flowing from the left ear as she was lying on her side; her countenance was pale, and her pupils were dilated. The next morning she vomited a little. The pallor of her face had diminished. She had slept well, and looked better. Her temperature was 99·5°, her pulse 108, and respirations 18. The discharge from her ear was still going on.

December 6.—There is scarcely any discharge from the ear to-day. She has taken very little but water.

8th.—Discharge from the ear still continues. Her neck below the ear is sore and inflamed. Lies always on the right side. Her pupils are equal. There is no paralysis, no delirium, and no headache.

15th.—The inflammation about the neck has now disappeared. There is a drop or two of cerebro-spinal fluid in

the auditory meatus. Pulse 96; respirations 22; temperature 98·6°. Still kept on fluid diet, and still has ice applied to her head. She is cheerful and lively.

18th.—Going on well. Was allowed some potato and toast to eat, and some tea to drink.

23rd.—Sits up in bed now. Application of ice to head discontinued. Seems very well.

January 6.—Is dressed to-day, and running about.

February 2.—Is up the whole day; runs about the ward, and is quite well.

UNIVERSITY COLLEGE HOSPITAL.

Case 2.—Fracture of Base of Skull—Clear Fluid from Ear for Twenty-four Hours—No Head Symptoms beyond Pain—Convalescing.

(Under the care of Mr. HEATH.)

Anne P., aged eighteen months, was admitted on the afternoon of October 15, 1874. At a quarter to one, previously, the child had fallen from a window upon its head on to some flagstones, a distance of about twelve feet. It cried shortly after it was picked up, and bled from the nose and left ear. It was brought to University College Hospital, and admitted at about one o'clock. The mother said it was insensible for about ten minutes.

On admission the child was conscious, and cried when touched. It moved its legs and arms freely. There were no signs of any paralysis. Its skin was pale and cold. There was a swelling over the left eye, which extended slightly into the left eyelid. Both pupils were widely dilated, equal in size, and insensible to light. There was bleeding from the left ear, and from both nostrils. That from the nostrils stopped soon after admission, but that from the ear went on slightly until seven in the evening. There was no subconjunctival effusion. Temperature 96·4°; respirations 13 per minute. Breathing somewhat stertorous; slight blowing of lips. Ordered to take a powder of one grain of calomel every third hour.

The child vomited up the first powder which was given to it, but retained one which was given immediately afterwards. Wrapped up in flannel; hot water bottles to feet and body; ice-bag to head. 10 p.m.: The child up to now has cried out occasionally. It lies with its eyes closed, but readily cries out when touched. The left eyelid is too much swollen to examine the pupil, but the right pupil acts readily to artificial light. At this time some clear fluid was discovered in the left concha. By turning the child's head round, this was tipped into a test-tube, but on testing it with Fehling's solution, no sugar was detected.

16th.—Patient was sick after the twelve o'clock powder, and again between this and 6 a.m.; bowels open twice. There is still some fluid in the concha, but it is not flowing freely. No ocular extravasation. Both pupils widely dilated, and insensible to light. Child lies quiet, but cries when touched. There is some dried blood about the nostrils this morning. The breathing is now twenty-two per minute, and quiet. Temperature 98·6°; pulse 120. There is considerable bruising about the left eyelid. The child is in other respects about the same as yesterday; it has taken a little milk at intervals.

17th.—Child slept quietly last night. Bowels have been opened once. Has been taking milk at intervals. Pupils widely dilated, insensible to light. Child lies quiet, but cries when touched. Temperature 97·4°; pulse 110; respirations 22.

18th.—Bowels open in the night; motion of a dark green colour. Powder to be taken three times a day.

19th.—Bowels open once again in the night. Child keeps crying, but this is probably due to the ice-bag. Pupils dilated, sensible to light. Temperature 97·4°; pulse cannot be felt at wrist.

20th.—Patient passed another motion last night of a dark green colour. Temperature 97°. Pupils dilated, sensible to light. Child appeared more comfortable this morning.

22nd.—Going on well. To be made an out-patient.

(To be continued.)

MEDICAL WOMEN IN THE UNITED STATES.—Dr. Mary Putnam Jacobi (the wife of the celebrated obstetrician, Dr. Jacobi), at a recent meeting of the New York Pathological Society, temporarily occupied the chair during a presentation of a specimen by the President.

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Medical Times and Gazette.

SATURDAY, MARCH 13, 1875.

THE NATURE OF CONSUMPTION.

No. II.

THE history of any subject as it approaches nearer to modern times becomes so crowded with events, and so complex with the records of innumerable contributors, that it is only by trying to view it as from afar that one can hope to make a selection of those salient facts which appear most distinctly to form steps in the progress of our real knowledge. From out the voluminous recent literature of phthisis such a selection is especially difficult: many theories, very popular in their day, have faded before the light of advancing experience; whilst other opinions, contemporaneous with them, but for long unnoticed, have gradually gained ground; and it is very possible that some views, to which we now attach great importance, may, when regarded from the distant future, be found to have proved unfruitful, if not of retrogressive tendency.

We must admit, before proceeding to the further development of our subject, that no pathologist has in recent times been better abused than the great Laennec, whose opinions, treated with great respect by the distinguished German pathologist who most successfully opposed them, have since been almost contemptuously repudiated by many adherents of his school. Yet, as we shall presently observe, Laennec was not in all respects wrong, for, setting aside the immense clinical value of his doctrines at the time they were promulgated, which has not been duly recognised, but which does not concern us now, one of the statements upon which he most insisted—viz., that there is a tubercular infiltration as well as the tubercular granulation, or, more precisely, that the granulation of Bayle is not the only form of tubercle—contained an element of truth which, also overlooked for a time, has certainly gained ground with recent microscopical and experimental observations.

In 1843 and 1845 some papers were published by Addison, of Guy's Hospital, upon pneumonia and its consequences, and upon the pathology of phthisis, which preceded by a few years

the first writings of Virchow upon the subject, and which with them have had a very great and, until perhaps quite recently, an increasing influence upon our views respecting the pathology of consumption. It was not, however, until the publication, some fifteen years ago, of the English translation of Virchow's classical lectures on Cellular Pathology, and the still later appearance in a collected form of the papers of Addison, that we—at least in this country—became at all seriously shaken in our acceptance of Laennec's pathology.

Meanwhile, among the first results of microscopical investigation directed to this matter appeared the description by Lebert of a peculiar corpuscle characteristic of tubercle—as the also then newly discovered cancer-cell was of cancer. The discovery of this "tubercle corpuscle," to be found in the crude and yellow tubercular infiltration of Laennec, added a new exactness and importance to the current opinions respecting the specific nature of these lesions, and tended further to perpetuate them; indeed, there are but few amongst us who cannot still remember looking with the diligent eye of faith for the small, somewhat angular, hard, granular corpuscle which we were taught to regard as the pathological element essentially characteristic of tubercle. Later researches have long, however, induced Lebert himself to abandon his earlier views respecting both the specific nature of these corpuscles and of the tubercular lesions of which he had regarded them as essential components.

Addison, although not unacquainted with the microscope, yet used this then novel instrument in pathology merely as a magnifying-glass to aid him in his further study of the anatomy of the lungs, and in the discrimination of those parts of the organ which were principally affected in phthisis. He does not appear to have attempted with the aid of the microscope to study *morphologically* the processes by which the destruction of the lung was effected; so that we may regard Addison as practically the last of the naked-eye pathologists who inquired into the nature of these diseases of the lungs. We think it scarcely too much to say that the views of Addison, given out thirty years ago, are barely even yet fully appreciated, and we are convinced that any student wishing to obtain an insight into the nature of phthisical diseases, before entering more minutely into microscopical details, will do well to read carefully his brief but comprehensive papers. He will thereby obtain a large grasp of the subject, which will enable him better to assimilate in his mind further knowledge gained by the microscope; nor will he find any difficulty in engrafting fresh information upon the genuine teachings of Addison. This observer regarded the grey granulation of Bayle as the typical form of tubercle, but he distinguished two kinds of granulation—the hard, grey, transparent "sthenic" granulation, varying in size from a mere point to a mustard-seed, and having little tendency to disintegration; and a softer, more opaque, white or rice-coloured "asthenic" granulation, of somewhat larger average size, and much more prone to disintegrate than the sthenic granulation. Although the "sthenic" tubercle might degenerate into the "asthenic" kind, the reverse could not take place.

The seat of these pulmonary tubercles Addison found to be in the delicate "filamentous tissue which forms the slight filmy parietes of the air-cells"; and he regarded them as having the same relation to these parietes that similar granulations have to serous membranes. The apparent growth of tubercle he attributed to the aggregation of several tubercles constituting a "compound tubercle," or to the consolidation of the tissues in their neighbourhood by inflammation.

Without committing himself to any opinion as to the exact nature of tubercle, Addison evidently regarded it as an exudative product of abnormal nutrition, different from that of inflammation. "However analogous," he says, "and closely allied the *abnormal nutrition* which produces tubercle may be to that which constitutes inflammation, we cannot, in the present state of our knowledge, admit their identity." But he held that although tubercles were not themselves of inflammatory origin, there was a decided tendency to increased vascularity, congestion, or inflammation in their immediate neighbourhood, wherever they might be situated; and this inflammation, usually of a low aplastic kind, Addison regarded as the agent destructive to the lung, and which gave rise to the signs and symptoms characteristic of his *tuberculo-pneumonic* form of phthisis. Without this attendant inflammation—which did not necessarily supervene upon tubercle—the tubercles, which in this form of phthisis were usually of the hard sthenic kind, might remain long quiescent, occasioning little inconvenience, and becoming perhaps completely hidden from clinical detection by compensatory enlargement of the air-cells immediately surrounding them. In favourable examples of this form of phthisis the tuberculo-pneumonic nodule did not necessarily soften down into cavities; the inflammatory exudation might harden and contract, giving rise to the "iron-grey indurations" already described by him as among the results of pneumonia. Again, cavities formed might cicatrise by the contraction of an albuminous lining membrane, or extend by ulceration, until the death of the patient from exhaustion.

Addison thus strongly insists that tubercles alone do not effect that disintegration of the lung which forms a part of the essential definition of phthisis. "We are not," he says, "in possession of any conclusive evidence that either tubercle or its disintegration ever constitutes the primary and essential cause of the disorganisation which characterises fatal phthisis. We have phthisical disorganisation without tubercle, and we have phthisical disorganisation with tubercle"; but it is, he maintains, the attendant inflammation which is the chief destructive agent of the pulmonary tissue, including the tubercle. Addison, indeed, placed first among his three chief varieties of phthisis the *pneumonic* variety, in which tubercle takes no part—the acute form of which constituted one of the most deadly forms of phthisis. This variety might run a more subacute or chronic course. Finally, Addison described a third principal form of phthisis, the *tubercular* variety, in which the lung was found pervaded by tubercles, chiefly of the "asthenic," or softer and more opaque kind, and mostly collected into groups of "compound tubercle"; and although he admits that these groups have a great disposition to soften in the centre, yet he justly maintains that this disintegration is never extensive enough to occasion the death of the patient from lung-destruction, but that when death thus occurs it is from the supervention of a low form of pulmonary inflammation occurring in zones of soft hepatisation or gelatinous or purulent infiltration, which rapidly liquefy and break up, leaving behind no tendency to repair.

These singularly clear, bold, and original views of Addison are, as will have been readily seen, almost diametrically opposed to those of Laennec—the gist of them lies in his proposition "that inflammation constitutes the great instrument of destruction in every form of phthisis"; they differ from those of Broussais, Andral, and Cruveilhier in the completeness with which tubercle is separated from the inflammatory processes which may attend it. The classification of phthisis of Addison is, too, far more complete, and based more distinctly upon pathological considerations than that of any preceding writer; and, although certainly many things have been discovered since his time, and some of his pathological views respecting phthisis must be modified or at least extended, his classification could with difficulty, even at the present day, be replaced by a better.

Virchow's teachings in pathology are so familiar to the present generation that we need but briefly dwell upon the two or three important respects in which he advanced—

indeed, revolutionised—the current notions respecting phthisis. Virchow's original observations are mainly confined to tubercle in the form of the grey granulation. As regards the other pulmonary lesions met with in phthisis, he considered them, as Addison and others had done, as inflammatory. But although Reinhardt had partially anticipated him, it was undoubtedly the masterly demonstration of Virchow that the cheesy metamorphosis, which Laennec had regarded as the criterion of tubercle, was but a slow form of decay—a kind of inspissation with fatty change, common to many morbid products from quite different sources—*e.g.*, to purulent and other inflammatory products in any situation, to portions of cancer or sarcoma or other new growths,—which finally disposed of the question as to the specificity of yellow tubercle. Virchow showed that at a certain stage of degeneration no one of these originally diverse tissues could be distinguished from another, and that the shrivelled "tubercle corpuscle" might be found in any of them.

Having thus disposed of "yellow tubercle," Virchow, however, proceeded to give a new interest and importance to the grey granulation of Bayle, which had, even by some French observers, been denied to be tubercle at all. These granulations—which had been regarded previously as glandular swellings or inflammations, as specific or inflammatory exudations, or as the products of deranged nutrition, whose chemical composition had also in vain been investigated by Simon, Lehmann, and others, in order to find, if possible, in what their specific nature consisted,—he found to present, under high microscopic powers, a cellular structure of a definite kind. He demonstrated them to be, in fact, morbid cell-growths derived by multiplication from the corpuscles of the connective tissue. Virchow, by inference at least, denied the occurrence of tubercular infiltration, maintaining—and in this confirming Portal and others—that larger masses of tubercle were produced by the aggregation of granulations. He also pointed out that the degeneration in the centre of the tubercle was the result of overcrowding of the cells arresting the blood-supply. Recognising the microscopical identity of the cells of tubercle and those of lymphatic tissue, Virchow considered tubercle as a species of lymphoma—a new formation of the lymphatic gland type, occurring in situations where no such tissue normally existed.

THE ARMY ESTIMATES AND THE MEDICAL DEPARTMENT.

At the commencement of the present session of Parliament we expressed a belief that some improvements would be effected by legislation in the condition of the Army and Navy Medical Departments. The recent Order in Council for Medical Officers of the Navy, though not as comprehensive as might fairly have been expected, nevertheless places that branch of the service on a far more satisfactory footing than it has ever been our lot to record; and now, in moving the Army Estimates for the coming year, the Secretary of State for War has shown that we were correct in our anticipations. Mr. Gathorne Hardy frankly admits that the Medical Department of the service he controls has given him infinite thought, and he was compelled to acknowledge with regret that at the present moment he was not prepared to make a definite proposal. This statement, however, will convince those who are sceptical that improvements are contemplated, and at no very distant date. Mr. Hardy went on to allude to the great change which had taken place in the Medical Department, and to the difficulty of dealing with all the objections advanced against the new system, until a sufficient time had elapsed to afford a fair opportunity of judging it. He pointed out that the members of the Medical Department themselves were not unanimous in their suggestions concerning it, some advocating the regimental, some the staff system, whilst others were in favour of a combination of both. Whether this latter method be the one to which the Secretary of State for War most inclines, it would perhaps be premature to say; but it may at least be remarked, that although he admitted the difficulty of carrying out such a scheme, he stated that trials were being made with a view of testing its practicability.

Mr. Hardy went on to say that he saw no reason why it should not be an understood arrangement that every surgeon should be promoted to the rank of surgeon-major after fifteen years' service in the former grade; but on the question of fixed retirement at a certain period, he deferred giving an opinion for the present, or making any promise until the whole subject had been settled. But here again it is fair to assume that the earlier ages of retirement for surgeons-general and deputy surgeons-general will be extended to the Army Medical Department, since, in expressing some surprise at the recent Order in Council for Medical Officers of the Navy, Mr. Hardy said that although it might be argued that the two departments stood on a totally different footing, still to a certain extent they must compete for candidates; and if the navy held out extra inducements, so that the army was deprived of young medical men, he should find it necessary to raise his terms to such an extent as would justify him in endeavouring to attract a fair share of medical recruits.

If any doubt had previously existed in the minds of Mr. Ward Hunt and Mr. Gathorne Hardy as to the unpopularity of the service amongst the youthful members of the medical profession, the recent examination must inevitably have removed it. The Order in Council for the Navy was not promulgated in time to affect the number of candidates appearing at the examination, and hence both army and navy showed a "beggarly amount of empty benches." If our advice were likely to be listened to we should recommend Mr. Ward Hunt to see for himself that the concessions lately obtained were carried out all through the naval service in the most liberal spirit; and to Mr. Hardy we should point out the necessity of coming to a definite conclusion upon one system or the other, with the least possible delay. Nothing produces so much dissatisfaction as vacillation, and whilst it is abundantly evident that we must have doctors for our soldiers, it is no less a fact that, in the present day, the inducements held out to obtain them must be such as will bear comparison with those to be met with in all other branches of the profession.

We again express a sincere hope that before another examination takes place all existing grievances will have been removed: Mr. Hardy is not the man to promise without performing; and army medical officers may be assured that the final conclusion he will arrive at will be by no means unsatisfactory for their interests.

With respect to the health of the army during the past year, Mr. Hardy, after having paid a tribute to the manner in which medical officers always did their duty, announced it to have been satisfactory, although reports from some of the distant foreign stations had not yet been received. There were some local fallings-off as regarded 1873, but taking the last ten years there was a fairly low ratio of sickness in the army during the year 1874. The deaths in the United Kingdom were 9 per 1000, which is identical with the rate for civilians of similar ages. In India the deaths were 13·41 per 1000—by no means a high average. In referring to the Gold Coast Expedition, the Secretary of State for War pronounced the medical service rendered to have been so satisfactory that it would be wrong to pass it by without praise. The deaths there amounted to 31·4 per cent., and of these 18 per cent. were killed or died of their wounds; and Mr. Hardy stated, on the authority of the Director-General of the Army Medical Department, that this most satisfactory result, considering the nature of the service and the climate, was mainly owing to

the skill, care, and intelligence of the medical officers who accompanied the Expedition.

One more allusion to the Medical Department appeared in the Secretary of State's speech, and that was with respect to the quality of the recruits of the past year. Mr. Hardy quoted a statement of Sir William Muir's, in which he reports that the question of the physical stamina of the recruits obtained in 1874 is one on which reports have been regularly received from the principal medical officers of districts; in them the notices are generally favourable, but occasional mention is made of the apparent youth of some of the recruits, and generally by the same officers, but not of their having contributed disproportionately to the number in hospital or of invalids. From the absence of this mention it is to be inferred that, after joining, young lads become robust, and that even at first they are not unequal to the duties required of them.

We so lately commented on the subject of recruiting, that it is not necessary to go into the matter again. The authorities in this country seem to be determined to be satisfied with the present state of things, and it is only to be hoped that no war-pressure will come upon us until such time as our youthful recruits have had time to grow a little older and a little more robust.

HOSPITAL SUNDAY.

On Monday, the 8th inst., a public meeting was held at the Mansion House in connexion with the Hospital Sunday Fund. This meeting was so disorderly that it may go far to undo the good which has been done by the Fund, and certainly will do still more harm by the example afforded by its conduct. It will be remembered that at the last meeting of the kind a sub-committee was appointed to examine into some amendments proposed by Dr. Morell-Mackenzie. Most or all of these amendments were rejected, and the present meeting was summoned for the reception of the report of the Committee containing the above-indicated conclusions. The violence of feeling exhibited by the supporters of Dr. Mackenzie's amendments to the programme of the Fund Committee, and the demonstrations of hostility towards speakers on the side of the Committee, were such that twice during the meeting the Lord Mayor was only able to restore order and secure a hearing for the speaker by threatening to leave the chair.

Mr. Galsworthy moved the adoption of the report, which stated at its commencement that on January 20 Dr. Morell-Mackenzie was invited to present a system of distribution by way of amendment on the report of January 4. Of fourteen propositions made by him, four had been withdrawn, six were not accepted, three were accepted as modifications of the system adopted at the last public meeting, and one was passed with slight amendment. Several additions and modifications made by the Committee appeared in the report, among which were—that special hospitals were entitled to participate in the fund on the same basis as general hospitals; that it should be left to the discretion of the Distribution Committee to deal with the contributions of patients in defining the basis of award, as they saw fit; and that in every case where the cost of management exceeded what the Committee of Distribution considered a reasonable percentage of the whole current expenditure, such success should be deducted from the basis of award. These were the main alterations, and Mr. Galsworthy moved their adoption, commenting briefly upon each.

The Rev. J. F. Kitto seconded the motion.

Sir Rutherford Alcock and Dr. Morell-Mackenzie rose together, and the former gentleman having been called on by the Lord Mayor, he attempted to speak, but a continuous uproar, and loud calls for "Mackenzie," prevented his being heard. At last the Lord Mayor intervened, and said he trusted that if they were to discuss the matter at all, it would be done in a gentlemanly and impartial manner. If that could not be so, and the interruption were repeated in that room, he should dissolve the meeting. Sir Rutherford Alcock had caught his eye, and he had called upon him to speak.

Sir Rutherford Alcock, after expressing his surprise at the nature of the demonstration, went on to remark that they were the dispensers of charity to the amount of £30,000, and that a very grave responsibility rested upon them. It therefore behoved them to take care that the system of distribution was one which would secure the greatest amount of good with the least amount of evil. He more particularly called attention to the want of sufficient data and means of information at the disposal of the Committee of Distribution to insure this being done. (The speaker was interrupted during the conclusion of his remarks by some attempts to cough him down.) He moved an amendment to the report, embodying his opinions, which was lost.

Dr. Morell-Mackenzie then rose, and was greeted with tumultuous cheering. He said that he wished to move an amendment to the report, and his reason for doing so was that he thought that the Committee was exceedingly unfairly constituted. There were actually only three members of it connected with the special hospitals, while there were nine belonging to the general hospitals. In giving instances of the way his scheme had been received by the Committee, he said that one of the members had had the coolness to raise the question as to whether the scheme should be considered at all. (Cries of "Name, name.") He declined to give the name of that gentleman, because he felt sure he was heartily ashamed of the course he had adopted. Another gentleman had described the meeting of January 4 as being a "packed" meeting. He thought that that gentleman, too, was ashamed of himself. He passed to the scheme itself. Four of his propositions were stated to have been withdrawn, and the object of that statement was to show that his scheme was so incomplete that he was obliged to withdraw these four resolutions. That was not the case. Certain propositions were negatived, and he was obliged to withdraw, in consequence, others that he had brought forward in favour of justice and impartiality. At the first meeting there was simple wrangling. (Laughter, and a Voice, "Who wrangled?") Mr. Durham, for one. All they did was to negative his scheme, and, such being the case, he ventured to move an amendment, which he had put in the form of an abridged scheme of distribution.

The alterations proposed by Dr. Mackenzie were as follows:—2. No person holding office in a hospital or dispensary, whether it participates or not in the Hospital Sunday Fund, shall be eligible to serve on the Committee. This rule shall not apply to patrons, presidents, vice-presidents, or governors, as such. 4. In all cases where the general expenses of management exceed 20 per cent. of the annual subscriptions and donations (not including the donations from the Hospital Sunday Fund), such excess shall be deducted from the primary basis of award. 5. Although no award shall be made on account of money collected for building funds or endowment funds, cost of management to the extent of 20 per cent. shall be allowed in connexion with such funds, and the management expenses thus incurred shall be deducted before the general expenses of management are computed. 7. Incurable hospitals are entitled to participate in the Fund on the same basis as general hospitals, but the basis shall be limited to the expenditure in connexion with patients treated within the walls of such institutions.

Dr. Mackenzie said that his second proposition (the first quoted in our report) was a very important one, and would exclude all those medical men who had the management of the large endowed hospitals, and also the treasurers of those institutions; with regard to the fourth, the term "reason-

able" adopted by the Committee was exceedingly vague and unsatisfactory. It then depended entirely on the views of the members of the Committee, and was one of those schemes which permitted favouritism and encouraged jobbery. The seventh resolution was intended to meet the clause of the Committee's rules which excluded the incurable hospitals. It was as though they said, "If you take a patient into a hospital, and he dies quickly, we will give him a grant; but if you keep him alive for a week or a month we take the award away." (Cheers and laughter.) He merely wished to add that he had brought his scheme forward in a spirit of conciliation. It was fair to the large hospitals and to the small hospitals, and he trusted it would be accepted in its integrity, as it was necessary for the continuance of the Hospital Sunday Fund. (Prolonged cheers.)

Mr. Charles Hood, F.R.C.S., in seconding the amendment, asked if the object of this Sunday Fund was to relieve the sick and distressed or to maintain the large and important schools of medicine and surgery. They had a more important duty than the latter—they had to do justice,—and he maintained that justice had not been done by the Fund Committee. They would find that six large hospitals had received just half the sum subscribed, and the rest had been left out in the cold. They had left out the dispensaries, the special hospitals, and the incurable hospitals, all of which had the same claim as the larger hospitals, and he maintained that by that means great injustice had been done. In support of these statements he quoted statistics from the report of 1874 with reference to particular hospitals, which are duly noted in the reply of Sir Sydney H. Waterlow, M.P., who said that, as the last speaker was permitted to review some of the acts of the last Committee, which was not then the question, he trusted he might be allowed to say a word or two in reply. He was quite sure that the gentleman never meant to say anything that was not strictly correct; but there were some statements which he would not have made if he had known what was the real state of the case. With regard to the system of letters of recommendation to hospitals, which he had spoken against, he forgot that the Committee, in asking for them, were acting against their own judgment at the request of the public meeting and of the clergy, who had said it would not be right for them to preach in favour of the Fund unless they had something which they could distribute amongst their poor. (Great uproar, and cries of "More shame for them.") Mr. Hood had also urged very strongly upon the meeting that the money should be distributed on a sort of capitation principle—(hear, hear)—viz., upon the number of in- and out-patients. These certainly were not the instructions given to the Committee of Distribution. In the method they had adopted the capitation principle had been considered, and he ventured to think that if the numbers were to be taken as a line from which there was to be no deviation, there would be a scale of distribution which would be satisfactory to no one. With reference to Dr. Mackenzie's remark as to the wrangling of the Committee, Sir Sydney read the names over, and those of the chairmen at the different meetings, and asked the meeting to judge if those gentlemen were likely to indulge in wrangling. Another statement that was made was that the general hospitals received a large share of the Fund, and that the special hospitals were left out in the cold. About thirty special hospitals received awards. As to Mr. Hood's statement, he had quoted, to illustrate it, the case of two dispensaries as evidence of the small sums awarded. Now, the two dispensaries in question were provident dispensaries receiving such a large amount of support from their own members that there was no basis left upon which any award could be made, because, according to the principle on which the Committee of Distribution had been directed to act by the public meeting, they were compelled to deduct from the gross expenditure the amount defrayed by the members. He asked them to hesitate before they took examples such as that as instances of unfairness. In the case of the Metropolitan Free Hospital he had not the least hesitation in saying that there was not a member of the Committee who had the least interest in the award beyond the desire of doing justice—and they did justice. ("No, no," and great interruption.) They gave the sum which they thought the excessive cost of management justified. With respect to clause 4, it ought to be left to the Distribution Committee—(A Voice: "Not again")—to decide what was, or what was not, in accordance with the circumstances, an excessive cost of management; and they had had it from both sides that what was an excessive cost in one case might not be excessive in another, although it might be precisely the same amount. It would be a most unwise thing to say that 20 per cent. was extravagant or economical, because it might be one way or the other. With reference to the paragraph as to the incurable hospitals, he would mention that patients were admitted by a system of voting; while at the other hospitals they were admitted because they were suffering, whether they had friends or not. So far as he was personally concerned, if the public thought that the incurable hospitals should be included, he was quite willing, but they had been excluded for the reason he had mentioned.

Canon Miller, who was met with considerable noise and loud cries of "Divide," briefly explained, on the part of the clergy, that the reason that the letters of recommendation were asked for was that the parishioners in large and poor parishes were likely to suffer in consequence of the subscriptions to the dispensaries in their own neighbourhood being diverted to the Fund.

Mr. O. E. Coope, M.P., having made a few observations, which were quite inaudible on account of the noise,

Dr. Baxter Langley supported the amendment.

Dr. Mackenzie's amendment was then put by the Lord Mayor, and was carried by an overwhelming majority amid boisterous applause.

The amendment was then made a substantive motion, and it was moved by Dr. Glover that the clause relating to the exclusion of medical men from the Committee be omitted.

Bishop Claughton supported the amendment, and was understood to say that he could not preach in favour of the Fund if the guarantee for its distribution which was afforded by the presence of the medical men was withdrawn.

The amendment was put and lost.

Dr. Mackenzie's motion was then carried, and the proceedings concluded with three cheers for that gentleman and for the Lord Mayor.

We have thus quoted at considerable length the published accounts of the meeting, that all may judge the merits of the case for themselves; and we fear there can be but little doubt as to the nature of the opinion thus formed. We have all along been opposed to the working of the Sunday Fund in London, where anything like a perfect organisation is hardly possible, and where jealousies and dislikes run riot; but we were hardly prepared for such a speedy demonstration how easy it is for any body of men to upset the whole constitution and working of the scheme. We do not greatly care what effect would result from the working out of Dr. Mackenzie's plan; for if one special hospital, as St. Mark's, is gifted by the Committee with a certain sum, the same principle may be well extended to all. But the conduct of the meeting is the great thing: the principle of wrangling once introduced, anyone who can get himself a good "tail" may obtain any modification of the rules he likes. Once begin this, and we see the beginning of the end. It is only by unselfish combination that such things can be carried on successfully. If each man rides his own

hobby to death, there will soon be an end to the movement. It is not Dr. Mackenzie's notions which are so obnoxious, it is the mode in which they were carried.

THE WEEK.

TOPICS OF THE DAY.

It is difficult to believe that our highways and byways should be in the wretched condition they too frequently are, if the contractors had been called upon to do their duty, and in default thereto to submit to the fines to which they are liable. Nothing can be more unsatisfactory than the system that at present prevails through large districts of the metropolis with respect to the removal of dust. On the far outskirts the letter "D" in many of the houses indicates the requirement of the dust-remover. How many days, or even weeks, this ominous letter may appear without receiving notice from the outside, we do not pretend to determine, but we know that complaints are constantly being made that the dust accumulates and the contractor is away. Now that the warm weather is about to set in, we trust some efficient steps may be taken to rectify a system so injurious and so easy of remedy.

Hop-planters, and brewers who supply the public with pure extract of malt and hops, are alarmed, and not without reason, at the enormous increase in the sale of hop-substitutes. It was stated by the speakers of an influential deputation to Mr. Sclater-Booth that 1500 tons of spurious substitutes for the hop-bitter had been sold during the previous week. The object of the deputation was to induce the Government to insert a declaratory clause relating to the sale of beer made with hop-substitutes in their Bill now before Parliament for the better provision for the Sale of Food, Drink, and Drugs in a pure state. It was argued that the public had a right to know, when they required beer, and paid the value of such an article, that they were receiving in many cases a liquid which did not contain the hop-bitter, but some unknown and mysterious drug suspected to be quassia, or strychnine, or aloes, or some other deleterious compound. Assertions were made that besides the absence of the nutritious quality of the extract of malt and hops, the public were losers to the extent of the difference in price between the genuine hop and its substitutes, the hop costing two shillings and sixpence per pound, whilst the substitutes are sold at threepence per pound. The deputation did not receive much encouragement from Mr. Sclater-Booth, although their request seems reasonable enough, and clearly consistent with the promises held out before the Sale of Food and Drugs Bill was introduced. The consumer should have an opportunity of avoiding beverages containing ingredients which may have much medicinal virtue, but whose principal value in the consideration of the vendor is that his profits are enhanced tenfold at the public expense.

It will doubtless be in the recollection of our readers that last year Dr. George Johnson brought before the Clinical Society some highly interesting cases illustrative of the very serious danger in the popular use of a so-called homœopathic preparation of camphor. This preparation is a concentrated solution of camphor in spirit, of a strength seven times greater than that of the spirit of camphor of the British Pharmacopœia, and contains an ounce of camphor to an ounce and a quarter of spirit. It is sold, it appears, under various names, such as "concentrated solution of camphor," "Rubini's saturated solution of camphor," and "mother-tincture of camphor"; and is a general and popular domestic remedy for colds and other trifling ailments. But while it is, as shown above, a very powerful preparation—much too powerful to be admitted without great danger into the list of domestic medicines,—it is sold in large bottles without any warning of its poisonous properties. Dr. George Johnson showed, as we need not remind our readers, that very serious and alarming symptoms as epileptic convulsions, apoplectic stupor, and one-sided palsy, have followed on a dose of from fifteen to twenty-five drops, or of a teaspoonful; and cases are also known in which less serious but alarming and very distressing symptoms have resulted from a single dose of seven drops, and from frequently and quickly repeated doses of three drops. Yet, as we are told by "A Physician," who, in a letter to the *Times*, warns the public against the incautious use of the preparation, it is sold sometimes without any directions as to the dose, while sometimes the direction is "Dose, two to five drops every half-hour, or oftener if necessary"; or "Dose, three to five drops every fifteen minutes, or oftener if required." Dr. Bree, of Colchester, has replied to "A Physician," that there must "be a mistake somewhere" in his warning, because he has himself taken three grains of camphor every night for ten nights without any other effect than a beneficial one, and because it is often prescribed in larger doses than that; but the answer, as given by "A Physician" and by Louis Lucien Bonaparte, is that camphor in solution is very much more active than solid camphor given in powder or pill. That the concentrated solution, so freely sold, is a most dangerously powerful preparation is, we take it, a proved fact; and "A Physician" has done well to warn the public against "the serious danger which is incurred by the incautious use" of it. That a preparation of such "poisonous potency" can be legally sold in any quantity, to any buyer, and without sufficient, or without any, warning of its "very noxious properties," is one of those grave dangers of which our Government at present takes no note, and for which there is no remedy except through the watchful warnings of our profession; but, by the representation of the General Medical Council to her Majesty in Council, such preparations can, we imagine, be placed in the list of poisons.

There is a general belief, or perhaps we should rather say a fear, that the insurance of infant lives—facilities for which are afforded by, and only by, friendly societies—constitutes a great danger to the lives of the insured infants; that they are insured for the sake of the burial-money; and that they, in an unnatural proportion, die so soon as the burial-money can be obtained. This fear originated, no doubt, in the evidence given in some notorious criminal trials some years ago; but in 1854 a Select Committee of the House of Commons reported that the instances of child murder for the sake of obtaining money from a burial society were very few; and this might have sufficed, perhaps, to quiet the public mind on the subject. The Commissioners appointed to inquire into the working of the friendly societies, however, in their fourth report, dissent from the opinion of the Select Committee, and hold that the records of the criminal courts prove that the supposed danger of infant insurance is a real one. It is therefore highly satisfactory and assuring to learn that a very careful and minute examination has been made into the value of the lives of insured infants by Mr. Thomas Bond Sprague, Vice-President of the Institute of Actuaries, with a result decidedly in favour of insured over uninsured infants. Mr. Sprague examined the books of the Royal Li-ver Friendly Society, in which 122,696 children had been insured during the last three years; and the field of operations of which embraces Liverpool, Manchester, Leeds, Sheffield, Birmingham, London, and many other towns. We have not ourselves had an opportunity of examining the report, but one of our daily contemporaries states that Mr. Sprague clearly demonstrates that, as regards the Royal Li-ver Society at any rate, the Commissioners were wrong—the rate of mortality among the insured children being shown to be considerably less during each of the four years of life under notice than among the children of the general population. As, for instance: in Liverpool the general rate of mortality of children under

one year old is 30·543, and of insured children of the same age 14·922; of children in general under two years old 18·491, and of insured children 12·804, and so on. The same holds good with regard to every town examined and every year of life, with two trifling exceptions, where the numbers are so small as to form no satisfactory basis for calculation. This seems to prove that at all events it is the healthy rather than the sickly children whom the parents insure. Then, it was stated by the Commissioners that "the great increase in the infant mortality of Liverpool takes place precisely within the year when infants can first come into full benefit in the general burial societies." According to the Royal Liver plan, a child comes into half benefit after six months, and into full benefit at the end of twelve months' insurance; and Mr. Sprague especially examined and sifted the books of the Society on this point—to ascertain, that is, if there was any proof of an acceleration of the death-rate after the sixth or twelfth months of insurance,—with the result that nothing of the kind had occurred in any of the towns; the highest mortality, indeed, was found to occur in the fourth month of insurance—*i.e.*, before the children had attained to half benefits. We may surely, then, believe, on such high authority as that of Mr. Sprague, that the Commissioners had somehow been misled, and that friendly societies are not on this point open to the charge of such fearful misuse as has been feared. It seems certain that this large and powerful Society is not so abused, and we can hardly imagine that it is in this respect an exception to friendly societies in general. Until, therefore, it can be shown that Mr. Sprague's statistics or the conclusions drawn from them are incorrect, we must hold, with the Committee of the House of Commons, that the instances of child murder with the motive of obtaining an insurance or "burial-money" are very few; so few, at the worst, that they do not appreciably affect the death-rate of insured as compared with that of uninsured infants. But while fully and most gladly acknowledging this, we think that Sir Stafford Northcote was right when he pointed out to the deputation against the "infant's insurance" clause of the Friendly Societies Bill that no other class of the community can insure infant lives except members of friendly societies, and that therefore it is an exceptional privilege, and one that must be guarded. And in proof of this he quoted the statement, made by an officer of the Association of the Macclesfield Societies, that one child was found to have been insured in several societies to the amount of £30.

Very few institutions in the kingdom have stronger claims upon the consideration and support of the Government than University College. For more than half a century it has maintained its position in good and bad report, and under circumstances occasionally of the greatest vicissitude. During that long period it has not, we believe, received a single shilling of the public money, whilst it has exerted its great powers in the interests of the public. An important deputation waited, on Tuesday last, on the President of the Privy Council, to urge upon him the claims of University College on the Government. These claims were forcibly advocated by Lord Belper, Lord Kimberley, Professor Key, and Professor Tyndall. The Duke of Richmond, in reply, promised that the Government would duly consider the matter, and that he would be much gratified if they could grant some of the requests made to them on behalf of the College. His Grace further suggested that an estimate of the money required, and a statement as to the manner in which it was to be expended, should be furnished. Education has, or should have, no politics; but it would be somewhat remarkable should the Radical University first obtain Government support through a Conservative Ministry.

A general concurrence of opinion fortunately prevails as to the necessity of converting the disused metropolitan graveyards into memorial gardens for the use of the public. A Bill, introduced by the Vestry of St. Pancras, having the attainment of this desirable object in view, has passed a second reading in the House of Lords. Mr. Holland, the Government Medical Inspector, has held an inquiry during the past week for the purpose of making a report to the Secretary of State as to the proposal and the public feeling in reference to it. Mr. Holland has expressed the opinion that the action on the part of the Vestry is most popular.

LORD RAYLEIGH ON THE DISSIPATION OF ENERGY.

Lord Rayleigh's discourse at the Royal Institution on the evening of Friday, the 5th inst., was devoted to the subject of the Dissipation of Energy. The lecturer commenced by saying that the science of thermo-dynamics is founded upon two great laws. The first of these is the law of the conservation of energy, which was established thirty years ago. Everybody is now familiar with the conversion of mechanical force into heat. The second law is, however, not so well known—it gives the answer to the question, How far, and under what circumstances, is it possible to convert heat into mechanical force? If it were possible to take practical advantage of such convertibility there would be no limit to mechanical force, for nature is filled with heat. The Atlantic Ocean, for example, is an endless source of heat. But there is little hope that this will ever be done.

Indeed, it is difficult to demonstrate that heat is ever converted into mechanical force. French physicists were the first to prove that, if we wish to use heat as a force, we must have two temperatures between which the heat shall fall, just as water is a source of mechanical force when it falls between two levels. We are able to get a certain amount of force by using a machine which shall take in heat at a high temperature and give it out at a lower; and the greater the range of temperature the more work will be done. We must be careful in speaking of the "equivalents" of heat and work,—the term is misleading; for although work may be converted into its equivalent of heat, heat cannot be reconverted into its equivalent of work.

After these considerations, we may state the second law in thermo-dynamics. It has been expressed in two ways—first by Clausius: Heat will not pass from a colder to a hotter body; and secondly by Thompson: It is impossible to use heat for doing work without having heat at a lower temperature at our disposal. Clausius's axiom has been disputed, but it manifestly applies universally in nature. A heat-engine, then, is a machine which takes heat in at a high temperature, and gives it out at a lower; and a necessary condition is that the engine shall be left in the same condition at the end as it was at the beginning of the experiment. The simplest form of heat-engine is the condensing steam-engine. The temperature of the boiler and of the condenser respectively is, say, 250° and 212°. The fall of temperature here is very limited; but the temperature of the Bunsen's burner beneath the boiler is more than 2000°, and by far the greatest part of the fall is between the burner and the boiler. This is the greatest defect of the steam-engine. We cannot start with a high temperature within the boiler, because the pressure would be dangerously great. The highest boiler-temperature is in locomotives, where it is as much as 360°.

There are important machines in which mechanical force is used to raise heat. Freezing machines are the only important ones that are employed to take heat from one body and give it to another of higher temperature—as, for example, in Kirke's machine, where air is condensed and rarefied alternately. A converse application of the same principle might be adopted for heating.

But heat is not always taken advantage of or used; it is

frequently lost, and, as a form of energy, it is then said to be dissipated. Radiation and conduction are familiar modes of dissipation of heat. When heat is used the process may be reversed; but if it be not, if the temperatures be once equalised, the opportunity is past and gone for ever, and the force is dissipated. The theory of the Dissipation of Energy as a law in nature is due to Sir William Thompson. Dissipation of energy is going on constantly in every chemical change, and in the most ordinary action of our daily life. With care it may often be prevented; and the knowledge of this great truth has been applied in a remarkably interesting manner in manufactures. An example of this is the arrangement of "regeneration" in furnaces, whereby the gases are collected and conducted through a rising temperature back into the furnace. It may be expected that many inventions will yet be made on the same principle. At present heat is greatly wasted—for example, in distillation and in drying. Chemical change involves the dissipation of energy; but the chemical aspect of the question is a very difficult one.

The ultimate result of this great law upon the universe cannot be doubted. The universe is like a clock which is going, but which must run down. And, however distant, the time must come when it will lapse into a state of torpidity and complete inaction.

ROYAL COLLEGE OF SURGEONS.

THE vacancy in the Court of Examiners, caused by the resignation of Mr. Hilton, will be filled up on Wednesday next, a special meeting of the Council having been called for that purpose. We allude to the subject, as a rumour has reached us that it is considered important that the successor of the above gentleman should also be selected from the same hospital (Guy's). A very good name has been mentioned. A contemporary last week suggested as an outsider Mr. John Wood, of King's College, a gentleman so well qualified in every respect, that great surprise has been expressed that he was not selected as the late Mr. Partridge's successor, if hospital succession is to be the rule; though we do not, indeed, see the necessity of going outside the Council so long as efficient and experienced men are to be found on it. What better man could be found than the gentleman last elected from that body—viz., Mr. Holden? Going then to the next in seniority, we come to Mr. Gay, who, we believe, caring little about it, has been passed over. The next good name is that of Mr. Erichsen, who, it is stated, has been nominated against his wish. Erasmus Wilson, whose honoured name is as a "household word" amongst anatomists, declines the honour; but not so the next gentleman, Mr. Henry Lee, a Fellow of the College by examination in December, 1844, who, in less than five years after, carried off the Jacksonian Prize for his essay on Purulent Deposits; formerly Surgeon and Demonstrator of Anatomy at King's College, and at the present time Surgeon to St. George's Hospital, consulting surgeon to two other hospitals, and a valuable contributor to the advancement of chirurgical science. The Council of the College of Surgeons cannot, of course, entirely ignore the claims of a gentleman whom they have only recently unanimously elected their Hunterian Professor of Surgery and Pathology, to a seat in the Court of Examiners; but they doubtless feel it their duty to seriously consider whether, with all his eminence and repute as a surgeon, that gentleman should be selected as the best possible of examiners in anatomy and physiology.

CONTAGIOUS DISEASES ACTS MEETING.

A PUBLIC meeting has been held in London, convened by the Wesleyan Society for Securing the Repeal of the Contagious Diseases Act. The reports state that the meeting was a crowded one, and attended by a "sprinkling of females, both young and old." The arguments brought forward against the Acts were of the usual stereotyped description: no sanitary or other advantage was to be allowed to outweigh their immorality; the same clap-trap about the "feelings" of the women who came under their legislation was paraded to the meeting, and heightened in the present instance by a sensational tale of an innocent young girl who had suffered under them; but in this case, time, place, and particulars were not considered of sufficient importance to be quoted.

It is scarcely necessary to say that Mr. Stansfeld, M.P., was to the fore, or to record that he "went in" at the subject with his wonted enthusiasm and general disregard of facts. Considering that these Acts were passed at the time that Mr. Stansfeld himself held a seat in the House, it is rather startling to find him asserting that they were "passed by stealth"; why did not he rise and denounce them in his place? Surely such a course would have been better than allowing them to pass first, in order that he might constitute himself the champion for their repeal afterwards. The meeting seems to have been chiefly noticeable for the broadness of the assertions made by the different speakers; thus, Mr. Stansfeld wound up by declaring that "he had seen and heard men chuckling over the deception they had practised," which brought down the meeting with a cry of "Shame!"

If only a quarter of the people who go to make up these crowded meetings had ever lived in a large garrison town, and seen the horrible cases which these Acts were passed to deal with, they would think twice before following every sensational lead which aims at obtaining their repeal.

THE INTER-HOSPITAL FOOTBALL MATCH.

THE eighth and final competition, to decide the possession of the Hospital Challenge Cup for the ensuing year, came off on Wednesday, the 3rd inst., at Kennington-oval, in the presence of a large number of spectators. The competing teams on the present occasion were Guy's and St. George's, these having been successful in vanquishing all their opponents in the previous competitions, as will be seen from the following list:—First match, University College beat St. Thomas's by one touch down; second match, St. Bartholomew's beat St. Mary's by three tries and seven touches down; third match, Guy's beat King's College by two goals, two tries, and three touches down; fourth match, Guy's beat Middlesex by two goals, seven tries, five touches down, and one touch in goal; fifth match, University College beat London by three goals, two tries, and five touches down; sixth match, St. George's beat St. Bartholomew's by five tries, three punts out, and four touches down to one try; seventh, match, St. George's beat University College by one try and five touches down. This, the final contest, proved to be the most exciting of the series, both sides fighting with great spirit and determination. At first the advantage was somewhat in favour of St. George's, who gained two touches down before Guy's scored, but just before time was called the latter team, by some very plucky play, gained a goal and a try, thus becoming holders of the massive silver cup. Each member of the winning team was presented with a pewter tankard.

THE PATHOLOGICAL SOCIETY ON GERMS.

WE understand that a discussion on the subject of the connexion of germs with the propagation of disease has been resolved upon by the Council of the Pathological Society. We cannot but think the subject a most unfortunate one. The matter is now under investigation; it is one at which many men are working; and on which few have made up their minds. The definition as above given is almost limitless; while no definition at all has been made as to what is and what is not a germ.

THE SALARIES OF THE ISLINGTON POOR-LAW MEDICAL OFFICERS.

Some three months ago, Dr. Ducat and Mr. Gardner, Medical Officers of the Highbury and St. Peter's Districts of the Islington Union respectively, addressed a letter to the Board of Guardians, directing their attention to the disproportion that exists in the amount of work which falls to the share of the several medical officers, whilst the salary of each is about the same, and hoping that the Board would effect a more equitable redistribution of the work, or, in case that should be impracticable, would correspondingly increase the salaries in the districts where the work is heaviest. At first the Guardians refused to entertain the question, but at a subsequent meeting a special committee was appointed to inquire into the extent of the duties of the medical officers with a view to the revision of the same. The committee elicited that the area of Dr. Ducat's district—Highbury—exceeded the combined areas of the Thornhill, Lower Holloway, Barnsbury, and St. Mary's districts, whilst the number of cases attended per quarter far exceeded the number attended in either of the preceding districts, Thornhill excepted. In Mr. Gardner's district—St. Peter's—the average number of cases attended per quarter is twice that of Thornhill, four times that of Barnsbury, and five times that of St. Mary's; the area in each instance being about the same. The salary of the medical officer of each district is £100, Mr. Gardner excepted, whose salary is £120.

At the meeting of the Board of Guardians, last week, the committee presented their report, in which they expressed their opinion that the matter was surrounded with difficulties, and advised that no action be taken at present. Such a report is unworthy of a committee of intelligent men. To recommend the continuance of an injustice to two overworked medical officers because "the matter is surrounded with difficulties," is, to say the least, puerile, and it is to be hoped that Dr. Ducat and Mr. Gardner will lay a statement of their grievances before the Local Government Board.

THE MEDICAL SOCIETY OF LONDON.

The annual dinner of the Medical Society of London, commemorating the 102nd year of its establishment, was held at the Criterion Restaurant on Monday, the 8th inst. Mr. Victor de Méric, the President, was in the chair, supported by the President-elect and the Presidents of the Royal Medical and Chirurgical, the Pathological, the Hunterian, and Pharmaceutical Societies, with the Master of the Apothecaries' Society. The toast of the evening, "Prosperity to the Medical Society," was proposed by the President, who in eloquent words spoke of the work done, both now and formerly, by its members, the freedom of its discussions, and the liberality of opinion and general good feeling which had come more especially under his notice during the past year. In the course of the evening the silver medal of the Society was awarded to Mr. Braine, the retiring Secretary, for "special services," and in giving it the President took occasion to acknowledge the great assistance he had received from that gentleman, remarking how much of the success of any society depended on the energy of its secretary. The arrangements gave general satisfaction. Some excellent music was contributed by amateurs, all of whom were Fellows of the Society. The following is a list of the officers and Council for the ensuing session:—*President:* C. H. F. Routh, M.D. *Vice-Presidents:* W. H. Broadbent, M.D., F.R.C.P.; H. Royes Bell, F.R.C.S.; F. W. Pavy, M.D., F.R.C.P.; C. F. Maunder, F.R.C.S. *Treasurer:* John Gay, F.R.C.S. *Librarian:* J. C. Thorowgood, M.D., F.R.C.P. *Secretaries-in-Ordinary:* C. Theo. Williams, M.D., F.R.C.P.; Richard Davy, F.R.C.S. *Secretary for Foreign Correspondence:* William Cholmeley, M.D., F.R.C.P. *Orator:* Erasmus Wilson, F.R.S., F.R.C.S. *Council:* The Rev. David Bell, M.A., M.D. (Goole); Woodhouse Braine, F.R.C.S.; John Brunton, M.A., M.D.; Thomas Bryant, F.R.C.S.; R. Brudenell Carter, F.R.C.S.; Sir Henry Cooper, M.D., F.R.C.P. (Hull); R. Farquharson, M.D.; Joseph Fayrer, M.D., C.S.I.; F. J. Gant, F.R.C.S.; Clement Godson, M.D.; John Hainworth, F.R.C.S.; T. Harvey Hill, Esq.; Wm. Mac Cormac, F.R.C.S.; Victor de Méric, F.R.C.S.; W. D. Napier, Esq.; J. H. Paul, M.D.; J. Russell Reynolds, M.D., F.R.S.; A. E. Sansom, M.D.; Leonard Sedgwick, M.D.; Alfred Wiltshire, M.D.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.

The sixth meeting of the session of this Society was held at the Royal Kent Dispensary, Greenwich-road, on Friday, March 6, John Anderson, M.D., President, in the chair. John C. Thorowgood, M.D., F.R.C.P., read a paper "On some varieties of Pneumonia and Pulmonary Congestion," of which the following is an abstract:—Pneumonia may be looked at as a disease attacking the lung from without, as the effect of exposure to cold, east winds, etc., or considered as a disease generated from within, the result of unhealthy blood condition. Any prevalent epidemic influence may modify either kind. Pneumonia is more prevalent during cold months. M. Grisolles' statistics show that, out of 296 cases, 20 occurred in January, 40 in February, 47 in March, 62 in April, 8 in June, 13 in July, 3 in August, and 5 in September. Pneumonia prevails much in Iceland (Dr. Hjaltelin). In an epidemic in 1863, strong, healthy people died in two or three days of acute pneumonia. This occurred often, and was the rule where no medical treatment was adopted. Dr. Hjaltelin saved many by bleeding, tartarated antimony, and calomel. Dr. Leared has observed that, though pneumonia is so common in Iceland, phthisis is an almost unknown disease there. Dr. Thorowgood said very often pneumonia attacked the apex of the lung. In 264 of Grisolles' cases, the apex was affected in 101, the base in 133, the middle lobe in 30. In persons exposed to insanitary conditions, and in weak health, pneumonia is apt to attack the lung apex. Cases of complete recovery were adduced, proving that apical pneumonia does not necessarily imply tubercle. In conclusion, Dr. Thorowgood drew attention to the gravity of secondary pneumonia following pyæmia, and secondary to bronchitis. Here it (pneumonia) was often central and patchy, or in blocks, not easily demonstrable by physical signs. Death often seemed to follow sudden suppression of sputa from paralysis of lung.

CHINESE BULLETIN.

The *North China Herald*, just to hand, publishes some translations of various decrees which had appeared in the *Peking Gazette* consequent upon the illness of the Emperor. A decree, dated December 24, runs thus:—"Whereas, on his Majesty being this month happily attacked by small-pox, safety from harm has been vouchsafed through the silent protection of the Azure Vault above; profound, indeed, is the gratitude with which we are inspired." His Majesty's gratitude was shown by granting pardon to certain classes of criminals, and conferring dignities and gifts upon royal personages and high court functionaries.

THE PUBLIC HEALTH ACT.

This Bill, just presented to the House of Commons under the title of "A Bill for consolidating and amending the Acts relating to Public Health in England," is a volume of alarming size, containing one hundred and fifty-six folio pages, more than double that number of clauses, and a voluminous appendix. We cannot pretend to comment on the Bill this week, but we may remark that the mere vastness of it is a very strong proof of the necessity of a distinct Health Department of the State, presided over by a Minister of Health or a President. It is simply impossible that a Minister who presides over the

Poor-law Board can give also the time and labour necessary for the administration of the Public Health Acts, or for a thoughtful, intelligent, and wise comprehension of the legislation needed. The work of the two departments is much too great for one man, and, as has been well noticed by the late Sir Arthur Helps, the work to be done essentially differs in kind. He wrote, "It seems to me that the health of a nation is a subject sufficiently large in itself to require a separate branch of administration, with a Minister at the head of it; and that it has been unwise to add this branch to the Presidency of the Poor-law Board. The functions seem to be essentially different. In the one case judicious restraint appears to be the principal function; in the other, judicious enlargement and development of action."

DELINQUENCIES OF MIDWIVES.

Delinquencies, involving fatal consequences, by midwives appear to be on the increase. We perceive, however, by an inquiry in the House of Commons last week, in reference to the case of the midwife Ingram, that the whole subject of the registration of midwives had been under the consideration of the Local Government Board, and that a correspondence had taken place between the Board and the Home Secretary on the subject. Another serious charge against a midwife—Elizabeth Marsden, living at Pendleton—was brought before the stipendiary magistrate at Salford on Saturday last. The accused was committed for trial for causing the deaths of Mary Ellen Goldier and Ann Mills, by conveying to them puerperal fever, from which she herself was suffering when attending them in confinement.

THE ETIOLOGY OF THE GROUSE DISEASE.

At a meeting of the Edinburgh Medico-Chirurgical Society on the 3rd inst., Mr. Andrew Wilson, Lecturer on Comparative Anatomy, read a paper on "Grouse Disease," in which he strongly advocated the theory of its epidemic character. His observations led him to believe that the disease would ultimately be found to be of an acute inflammatory type, specially affecting the respiratory organs. He could not support the theory of the disease being parasitic, on account of its inability to explain all cases, and because of its failing to account for death in cases where only a very moderate and usual degree of parasitic infestation occurred.

PARLIAMENTARY.—ARTISANS' DWELLINGS BILL—EFFICIENCY OF MEDICAL PRACTITIONERS—ADULTERATION OF BEER—SANITARY LAWS—MIDWIFERY PRACTICE—METROPOLITAN WATER-SUPPLY—ARMY ESTIMATES—GAS AND WATER WORKS.

In the House of Commons, on Thursday, March 4,

Mr. Cross, replying to Mr. J. Barclay, said it was his intention to extend the provisions of the Artisans' Dwellings Bill to Scotland, and the necessary alterations had been made in the Bill. He thought it better to pass the Bill in its present form through committee, and introduce a fresh Bill applying the same provisions to Scotland.

Lord Sandon, replying to Mr. Arthur Mills' question respecting a uniform test of efficiency for medical practitioners in the United Kingdom, stated that the Privy Council had not the power of enforcing such a test, but, on the recommendation of the General Council of Medical Education, measures could be taken for insuring that none of the existing bodies empowered to grant certificates shall do so without securing a proper standard; such bodies failing to comply, the Privy Council could refuse registration.

Mr. Sclater-Booth, replying to Mr. Pemberton's inquiry respecting the adulteration of beer, stated that the Bill to regulate the Sale of Food and Drugs provided everything, as regards beer, that was provided in the adulteration clauses of the Licensing Act of 1872. It is intended to introduce special provisions applicable to beer. Compounded articles of food may be supplied in accordance with the demand of the purchaser. The House went into committee *pro formâ* on this Bill.

Replying to Sir Lawrence Palk's questions respecting the power to prevent the use of houses unfit for habitation, and also with regard to hospitals for contagious diseases, Mr. Sclater-Booth explained that the local authority, and not the Local Government Board, must enforce these regulations, and provide the necessary hospitals for contagious diseases, the Board having no power to compel them to do so.

Mr. Sclater-Booth, replying to Mr. James, said that the midwife Ingram was acquitted on the score of ignorance. Had she known the danger involved in her attendance, it is possible that she might have been liable to punishment. The proposal to legislate, with a view of supervising the practice of midwives, is a difficult one, and is under the consideration of the Government.

Mr. Cross hoped to be able to state after Easter whether the Government will extend the provisions of the Pollution of Rivers Bill to Scotland.

Mr. Sclater-Booth, replying to Sir C. Dilke's inquiry respecting the enforcement of penalties upon water companies for neglecting to supply pure water, stated that the Chelsea Company had explained that the mischief complained of would not have occurred had their Bill to enable them to make additional water-tanks and reservoirs not been thrown out by the House of Lords. The measure they had introduced during the present session was preferable to their former Bill, because it required the intake to be above instead of below the mouth of the River Mole. Seeing that the Company had shown great anxiety to remedy the evil complained of, it had not been thought necessary to inflict a fine upon them.

Colonel Beresford obtained leave to bring in a Bill for improving the supply of water to the metropolis, which was brought in and read a first time.

On Monday, March 8,

The House having gone into Committee of Supply, Mr. Hardy, in moving the Army Estimates, referring to the Medical Department, said that he was not prepared to make any very definite proposal, as he thought the change made in 1873 from a regimental to a departmental branch of the service is now on its trial, and has not had sufficient time to decide which works the best. He could not make any distinct promise with regard to fixing a definite period for retirement. The health of the army has been satisfactory. The deaths in the United Kingdom were 9 per 1000, being identical with that of civilians of the same age. In the Gold Coast Expedition the medical service was highly satisfactory, the deaths amounting to 31·4 per cent.; and of these 18 per cent. were killed or died from wounds. These results were mainly owing to the skill, care, and intelligence of the medical officers accompanying the Expedition.

On Tuesday, March 9,

Mr. Sclater-Booth, replying to Mr. Colman, said that it was not intended to introduce any Bill specially dealing with gas and water works. Under the existing law, sanitary authorities can purchase waterworks by agreement, and provide waterworks in places where there is no company, or where a company is unable or unwilling to supply sufficient water for all reasonable purposes. The Bill will extend these powers by enabling a local authority to carry water-mains outside their district, and to supply water to the authority of an adjoining place.

The Conviction of a Quack Doctor.—"Dr." De Banzie, who was recently fined £20 at the Airdrie Police-court for practising as a medical man without legal qualification, has served a suspension on the prosecutor, Mr. Peebles, solicitor, so that the case will be tried before the High Court at Edinburgh.

The New Royal Infirmary at Edinburgh.—At a meeting of the managers of the Royal Infirmary, last week, it was resolved to name one of the wards in the new building the "Grindlay Ward," in commemoration of the late Mr. Thomas Grindlay, who bequeathed about £38,000 to the institution. Some difficulty has been raised by the Edinburgh Town Council as to the disposal of the sewage from the Infirmary, more especially that from the infectious wards, which it was considered might endanger the health of the city if allowed to flow into the public sewers. It is now probable that the matter will be satisfactorily arranged by the managers of the Infirmary agreeing to disinfect all matters from the infectious wards before being discharged into the sewers.

ABSTRACT OF THE

GOULSTONIAN LECTURES ON PUERPERAL FEVER.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS, LONDON.

By ROBERT J. LEE, M.D., F.R.C.P.,
Assistant-Physician at the Hospital for Sick Children, Great Ormond-street.

Lecture II.

We have brought our review of the theories regarding puerperal fever, and the different kinds of practice which prevailed at different periods, from the time of Hippocrates to the latter part of last century, when William Hunter, Cullen, Denman, and others were advancing medical science in this country. I shall ask your careful attention to a work which apparently produced no great impression at the time it was published, but which has since had an important influence on our views of the nature of puerperal fever.

This work is by Dr. Alexander Gordon, and contains evidence that the fever depends on a particular poison, which may be communicated by direct contact from one person to another, and that the occurrence of a number of cases of the disease is to be explained in that way rather than by atmospheric or other conditions—that is to say, that the disease does not occur epidemically. It is usual for modern authors to mention the names of Denman in England, and Semmelweiss in Germany, as the chief contributors to this important fact.

In the last edition of Denman's works there are the following remarks:—"There is another consequence of an epidemic, or even a sporadic puerperal fever, on which it would be criminal to be silent. This is the contagious nature of these fevers, it having been long suspected, and being now fully proved, that they may be, and often have been, conveyed by midwife or nurses from one patient to another. This fact explains the reasons why persons practising for many years with the most enviable success have at one or more periods of their lives, without any change in the principles or manner of their practice, met with a number of unfortunate cases when perhaps an adjoining neighbourhood has been entirely free from such diseases," etc. (Denman, p. 644, ed. 1805.)

There is no doubt about the meaning of this passage, and when Denman mentioned the fact as "having been long suspected, and being now fully proved," he was quite right; for, in the very year (1795) that he published his second edition, which preceded the third by ten years, the work of Dr. Gordon appeared, and, curiously enough, was dedicated to his intimate friend Dr. Denman. Now, Gordon's treatise contained the results of his observations on an outbreak of the fever in Aberdeen, which continued from 1789 to 1792, and then he allowed between two and three years to elapse before he wrote upon it. It is very probable that he communicated these results to Denman before the year 1795, when, as we have seen, his own work and Denman's second edition were published. If this were true, it would certainly lead us to conclude that Denman was not very willing to believe in Gordon's contagious theory when first proposed to him. If it be asked Why did he not refer to Gordon's treatise in his last edition? we can only reply that, as he followed the example of the dogmatic teachers of his day, he omitted on principle the mention of names. We may also conclude that, in the interval of nine years between Denman's second and third editions, the contagious theory had been more or less generally accepted. A very considerable change, in fact, had taken place in the state of knowledge of the nature and cause of puerperal fever. A careful analysis of the kind of evidence brought forward by Gordon to prove his point will show that it was much of the same character as that furnished by Semmelweiss. Neither of them used pathology or morbid anatomy to any great extent. The method they both employed was a species of close clinical observation, assisted by correctly logical deduction, and was rather of the nature of proof by circumstantial evidence than of actual demonstration.

It is impossible, however, on comparing the works of Gordon and Semmelweiss, to resist the conclusion that, although they were both possessed of powers of original thought and admirable truthfulness and courage, there was a considerable difference in their mental calibre. It requires a full appreciation of that peculiar instinct which is so rarely exhibited, and to which we owe all important advances in scientific knowledge, to estimate the great superiority of Gordon's intellectual and moral character. This was the great difference between the total results of Gordon's observations and those of Semmelweiss: the one possessed original powers of perception, which led him to trace such a connexion between the various phenomena of the disease as to enable him to deduce a general principle or law by which they were controlled.

Now, it is necessary, before we allow to Gordon the merit of this superiority, to examine whether his theory was simply a conjecture, or well supported by observation; to examine the data on which he established the fact that "the cause of this disease was a specific contagion or infection," of which he asserted "he had unquestionable proof." He first undertakes to lay before us evidence that "every person who had been with a patient in the puerperal fever became charged with an air of infection, which was communicated to every pregnant woman who happened to come within its sphere." He submits to us a table of seventy cases, containing the name, age, and residence of each patient, and the name of the midwife or practitioner by whom she was delivered. Of course, it is the latter column of this table which we are tacitly required to analyse. We are expected to notice certain names, either that of Dr. Gordon himself, or those of midwives, in connexion with several cases of the disease. Thus, we find one midwife entered as having attended three cases on days closely following one another, and the same thing we observe to have happened to two others. It cannot be said that this table is altogether conclusive. It is not difficult to perceive that it only contains one part of the evidence which is necessary to make it so. At the time that these cases of puerperal fever occurred in a place like Aberdeen, it must have been, and was, remarked that there were other practitioners and midwives to whom such accidents did not occur, as Gordon mentions in his work; but it was impossible to reduce this important negative evidence into a tabular form. To make up for this deficiency, we have the evidence in another part of the treatise. As one instance, we may take the following:—"Now, it may seem remarkable that the puerperal fever should prevail in the new town, and not in the old town, of Aberdeen, which is only a mile distant from the former; that it should prevail at the Printfield, Gilcomston, and the Hardgate villages, in the parish of the old town of Aberdeen, and not in the old town itself. But the mystery is explained when I inform the reader that the midwife, Mrs. Jeffries, who had all the practice of that town, was so very fortunate as not to fall in with the infection, otherwise the women whom she delivered would have shared the fate of others."

A few extracts from the work will show you what sort of a man Gordon was. Of the nature of the poison he says simply: "With respect to the physical qualities of the infection, I have not been able to make any discovery." Of himself he remarks, "It is a disagreeable declaration for me to mention that I myself was the means of carrying the infection to a great number of women." He says of typhus, as compared with puerperal fever, "The cause of both is undoubtedly infection; but the two infections are of a very different nature." Of the cure he says, "There is no disease in which less is done by nature or more may be done by art." As he based his treatment on the view that the chief effects of the poison were of an inflammatory nature, he directs attention strongly to the benefits which follow early bleeding and purgatives. In his own words, "On this head I speak with proper confidence, because I speak from experience—the surest test of medical truth. And, as I have already mentioned, I found myself disappointed when I trusted to those means which have been recommended by some authors of considerable respectability; for neither antiseptic nor tonic medicines, nor such as obviate sensibility or irritability, were found effectual."

I must not omit to mention that, as far as the pathology of his time allowed him, Gordon was correct in saying on that subject, "The puerperal fever is a disease which principally affects the peritoneum and its productions, and the ovaria." He distinguishes between "the most effectual means of preventing the infection from being communicated" and the method of "preventing the action of that infection after it has been communicated." He gives sensible hygienic rules to gain the first point, recommending in particular the purification of infected chambers and the fumigation of infected apparel. We can judge, now that three-quarters of a century or more have passed, of the value of this work of Gordon's. It is just the result of that kind of rare combination of

originality, energy, patience, and good feeling, which makes us dissatisfied with inferior productions, and is peculiarly characteristic of the leading minds of this country.

FROM ABROAD.

Mortality Returns of the Paris Hospitals.

M. Besnier, in his report to the Paris Hospital Medical Society on the mortality observed in the hospitals for the quarter ending December, 1874 (*Union Méd.*, Nos. 13, 16, 18, and 19, 1875), states that this mortality, like that of the corresponding quarters of 1872 and 1873, has been slight. This has, indeed, been the case with these three entire years, during which the "medical constitution" of the capital has been of a favourable character. *Diphtheria*, however, forms an exception to this statement, it having proved both frequent and fatal during these three years. Thus, in 1872 there were 465 cases, with 327 deaths; in 1873, 463 cases, with 330 deaths; and in 1874, 479 cases, with 333 deaths—*i.e.*, a mortality of about 70 per cent.

Small-pox.—On this M. Besnier has some interesting observations. After the epidemic visitation of the disease had reached its apogee in 1870, the attacks declined, so that in 1872 and 1873 the number of cases both in civil and hospital practice had become quite insignificant. Indeed, in 1873 the total deaths in both these amounted only to 17, one of which occurred in hospital. In the first four months of 1874 no death occurred in any of the hospitals, the first one taking place in May, but by November and December the disease, though still infrequent, exhibited a decided tendency to ascend. However, for the whole of 1874, 65 cases occurred in the hospitals, with 13 deaths. During the same year 31 deaths occurred in civil practice. While explaining this at present slight disposition to increase to the occurrence of one of those oscillations so frequent in epidemic diseases, M. Besnier thinks that it is of great importance to notice any of these dispositions to ascend, for when they once become marked they are always found to be, if slowly, yet certainly continuous. Here, too, is the propitious moment for resorting to prophylactic measures, attacking the disease just as it is on the point of increasing. Not that M. Besnier believes that isolation, vaccination, and revaccination, and police measures, however severely carried out, can oppose an absolute barrier to the epidemic influence, although they may greatly diminish its gravity and extension. He, however, recommends, while it can be done quietly and effectually, that all the machinery for carrying out these prophylactic measures should be organised, and he particularly alludes to the importance of extending isolation to *convalescents*, who really are the most active agents in diffusing the epidemic.

Typhoid Fever.—With respect to this affection, M. Besnier says that he has endeavoured in his former reports with very little success to call attention to its natural history, under the conviction that the conditions of its development and prophylaxis are of much greater importance than its treatment. Without undervaluing the various therapeutical attempts that have been made of late, especially by the application of cold, he believes that when the disease is once established it pursues a well-nigh immovable course, the favourable or fatal issue depending upon whether the attack is of a benign or malignant nature. Prophylaxis is chiefly to be borne in mind, for if the mortality from this disease has diminished within the last quarter of a century, this has been rather due to the progress of general and personal hygiene and modifications in the dietetics of the disease than to the employment of this or that form of treatment. In observing the natural course of epidemics of the disease, the influence of *season* must be much borne in mind. Statistical observations have amply proved that the spring time is always the period when these are least frequent, a slow elevation taking place in summer, and a much more sudden and considerable one in autumn, this being followed by a decline in winter. Any exception to this rule will be found to be partial and local, and due to accidental causes that may be easily traced. It may then be laid down, as an absolute rule, that in whatever part of the world typhoid fever exists endemically, it undergoes in the estivo-autumnal period a constant and considerable exacerbation. The number of cases that were treated in 1874 amounted to 1080, with 235 deaths, or a mortality of 21·75 per cent.

Scarlatina and Measles.—These have exhibited a slight decline. Scarlatina has never of late years assumed the fatal character which it has so often done, and still does, among ourselves. Thus, the highest annual number of cases during the years 1866-74 amounted to 231, with 42 deaths in 1869; while in 1874 there were only 95 cases, with 18 deaths. Measles has been more prevalent and more fatal, as during 1874 there were 403 cases, with 92 death.

International Medical Congress.

The fourth International Medical Congress is to open at Brussels, under the auspices of the Government, on September 19, and is to last a week. It will be composed of members of the medical profession, whether native or foreign, who shall have sent in their adhesion to the Committee. No payment will be called for except the sum of 12½ francs, for which a copy will be afterwards given of the Report of the Proceedings of the Congress. The cards of membership will be delivered on September 18. The Committee consists of M. Vleminckx (President of the Academy of Medicine), M. Deroubaix, M. Bellefroid, M. Crocq, and M. Warlomont, who is the General Secretary, and to whom all communications should be addressed. The following is the programme:—

1st Section.—*Medicine* (Pathology, Pathological Anatomy, and Therapeutics): 1st Question, Prophylaxis of Cholera; 2nd, Alcohol in Therapeutics; 3rd, Inoculability of Tubercle. 2nd Section.—*Surgery* (comprising Military Surgery and Syphilography): 1st, Surgical Anæsthesia; 2nd, Dressing of Wounds after Operations. 3rd Section.—*Midwifery* (comprising Diseases of Women and Children): 1st, Maternities. 4th Section.—*Biological Sciences* (Anatomy, Physiology, and Comparative Medicine): 1st, Vaso-Motor Nerves and their Mode of Action; 2nd, the Value of Experiments based on Artificial Circulations. 5th Section.—*Public Medicine* (Hygiene, Legal Medicine, Medical Statistics): 1st, the means of rendering Factories in which Phosphorus is manipulated Sanitary: 2nd, the Organisation of the Public Hygiene Service; 3rd, the Production of Beer. 6th Section.—*Ophthalmology:* 1st, Defects in Vision in relation to Military Service. 7th Section.—*Otology:* 1st, the means of Registering Hearing in a uniform manner for all countries; 2nd, Defects in the Organ of Hearing in relation to Military Service. 8th Section.—*Pharmacology:* 1st, Should the medical employment of chemically defined Immediate Principles be extended, and preparations of these be multiplied in Pharmacopœias? 2nd, the production of a Universal Pharmacopœia.

Members of the Congress who wish to make communications on subjects not embraced in the programme must give notice thereof to the Committee at least a month prior to the opening of the Congress. The Committee will then decide upon the admissibility of such communications, and on the order in which they are to be made.

Chloral in Obstetrical Practice.

In the *Gazzetta Medica Italiana-Lombardia* of February 6, Dr. Chiarleoni narrates the results of the employment of chloral in the Obstetrical Clinic of St. Catherine Hospital, Milan. He divides the patients to whom it was administered into four groups. The first of these consisted of pusillanimous, indocile, irritable, and nervous women, in whom the course of labour easily becomes interrupted or suspended. By administering to these subjects a substance which, while it leaves the uterine irritability intact, procures sleep, tranquillity, and diminution of pain, great benefit results. Chloral was given to twenty such cases, most of them being primiparæ, whom the novelty of their situation rendered more apprehensive and desponding. In most of the pluriparæ the waters had been discharged prematurely, or their strength was defective. In such persons the sound sleep which is produced is followed either by a vigorous uterine contraction or a diminution of suffering. Under the action of the chloral the uterine contractions acquired greater strength, while the diminution of general sensibility was not carried to the point of suspending the auxiliary pain derived from voluntary effort, which the woman brought more into action when she suffered less pain, exemplifying what has been said of chloral: that under its action the process of labour is of shorter duration.

A second group of cases was formed of women the subjects of albuminuria, verified either during pregnancy or shortly before labour. In these chloral was indicated not only on

account of the reasons prevailing in the other group, but also in relation to the prevention of convulsive action. There were nine of these patients, in four of whom labour occurred prematurely. Chloral was administered in five cases, and in none of these did any convulsive affection occur. In a tenth case in which the albuminuria was not observed until eclampsia occurred, chloral was the only remedy employed: fourteen grammes were given within the twenty-four hours. The convulsions were definitively arrested, and labour took place during the chloralic sleep. In the third group, chloral was given in five cases in order to render operations that were necessary more easy and less painful. The fourth and most numerous group was composed of women to whom chloral was given soon after the termination of labour, the patients having either been the subjects of operation or suffering exhaustion from prolonged or painful operations.

Administered during labour, chloral did not prevent its progress, nor did it act prejudicially on the fœtus. It always produced a diminution, and sometimes almost a complete suppression of pain, the sleep which resulted being calm and reparative—nearly resembling, in fact, natural sleep,—lasting from one to five or more hours, according to the dose and the individual, and disappearing without leaving any heaviness of the head or disturbance of the intellect. In some cases, however, there was on waking, or even before falling to sleep, some talkativeness, or even a state approaching alcoholic intoxication. The formula generally adopted, and always freshly prepared, was—chloral 6 grammes, syrup 60, and water 100—a spoonful to be taken every ten minutes until the effect was produced; but when it was deemed necessary to administer a larger quantity at once, four grammes of chloral were dissolved in sixty of water, and administered as an enema in two portions, with at least an hour interval. Upon the whole, the reporter regards chloral as a far preferable agent in obstetrical practice to chloroform, being easy of administration, efficacious in diminishing suffering, while not arresting uterine action, and in nowise dangerous either to the mother or fœtus.

REVIEWS.

Les Climats de Montagnes considérés au Point de vue Médical. Par le Docteur H. C. Lombard. Troisième édition. Genève, 1873.

The Medical Aspect of Mountain Climates. By Dr. H. C. Lombard. Third edition. Geneva, 1873.

A work like the one before us owes the possibility of its existence to modern civilisation. Until improved means of locomotion had made what were long tedious journeys into easy and pleasant excursions, and had reduced the difficulties of the traveller to a minimum, it was useless for doctors—at any rate English ones—to prescribe the "climate of mountains" to his patients, on account of the expense and fatigue involved in carrying out their advice. Since Sterne began his "Sentimental Journey," or even since Dickens painted in glowing language his "Pictures of Italy," the whole aspect of travelling has changed. Switzerland is nearly as accessible as Scotland, while the cost of living is much less in the former than in the latter. There can be no objection, therefore, nowadays to send a patient with sufficient means to Switzerland or the Tyrol for the benefit of his health. The difficulty for those who have not visited these countries is to know what are the proper cases to send and where to send them. A comprehensive and scientific work dealing with mountain climates from a medical point of view has been long wanted, and Dr. Lombard has laboured successfully to supply the want.

In the first chapter he deals with the meteorological characters of the climate of mountains, with especial reference to temperature, pressure, humidity, electricity, etc.; and each of these factors is fully discussed. The general conclusion arrived at is, that the atmosphere of mountains is colder, clearer, and less variable than that of the plain; and the existence of a middle zone is proved, whose limits vary with latitude and configuration of soil, in which the climate is more cloudy, moister, and more stormy than in the regions above and below. In the Alps this zone lies approximately between 500 or 600 and 1000 or 1500 metres.

The second chapter enters into the relations of vegetation to mountain climates, and the author points out that the distribution of vegetable life at a particular height on any mountain is a reliable guide to the climate at that particular elevation, since there is a close resemblance in the flora even of mountains whose latitude differs widely at heights where the conditions of temperature and moisture are the same.

In the third chapter the physiological and pathological effects of mountain climates are considered in a most thorough manner. Dr. Lombard divides mountain climates into two classes—those above and those below 2000 metres,—and he terms the first "alpine," and the second subalpine or alpestre. The latter comprehends the greater number of places suited for invalids, and is therefore of special interest to the physician. The principal diseases of alpine climates are—anæmia, due to a deficiency of oxygen in the air; hæmorrhages, both internal and external, caused by the diminished atmospheric pressure; inflammations, especially of the lungs and pleuræ, as well as of the membranes of the brain; and lastly, asthma and emphysema, probably owing to the increased number and depth of the inspirations required to obtain a sufficient supply of oxygen for the wants of the system. Diseases of the digestive organs and the various forms of rheumatism are frequent in alpine climates, probably owing to the rapid variations of temperature and the bad food attainable at great elevations. Typhus and typhoid fever appear to be as frequent as elsewhere—at least, this is true of Mexico,—but elevation does not seem to affect the virulence or to arrest the spread of small-pox, measles, or scarlet fever, and cholera epidemics have occurred at considerable heights. Intermittent fever, yellow fever, and dysentery become more and more rare the higher we ascend from sea-level, and the same is true of phthisis and hæmoptysis, about which we shall have to say more presently.

The subalpine mountain region which lies below the height of 2000 metres is, as far as Europe is concerned, the only one whose climate can be made available for medical purposes. "With the exception of the Hospice of St. Bernard," says Dr. Lombard, "there is scarcely any habitation above this limit. Most of the villages and establishments which can be used by invalids and convalescents stand at about 1000 metres above sea-level, while there are others at a height of 600 or 800 metres which still present the character of mountain climates, though in a less degree. There seems to be a general agreement, among those physicians who have had much experience in the diseases of the inhabitants of the subalpine districts of Europe, that pleurisy, pneumonia, and pleuro-pneumonia become more frequent and more severe the greater the elevation above the sea-level; and the same may be said of acute bronchitic attacks; whereas influenza, or epidemic catarrh (*la grippe*), has been observed to be less frequent on the heights than in the valleys at the time of some epidemics.

Emphysema, and its attendants asthma, chronic bronchitis, organic diseases of the heart, and rheumatism in all its forms, are diseases especially prevalent in subalpine climates. Uterine affections and derangements of menstruation are also common; while, on the other hand, intermittent fever, chronic digestive troubles, diarrhœa, dysentery, as well as nervous diseases, are rarer than among the inhabitants of the plains.

The most interesting and important part of the volume before us is that in which the author discusses the question of the frequency of phthisis among the inhabitants of mountains. He shows, in the first place, that we are justified in considering this malady as almost unknown above the height of 2000 metres; while, on the other hand,—in the valleys and the lower regions, for example, of the Alps of Switzerland,—we find it so frequent in the villages and towns which lie at the foot or on the flanks of the mountains, that it may be considered as the prevailing disease in those regions. The number of those affected, however, diminishes gradually as we ascend higher, so that at a height of about 1000 to 1200 metres only a few isolated cases are met with. There thus appears to be a clearly defined region, above and below whose limits phthisis diminishes in frequency, and to this Dr. Lombard has given the name of "phthisical zone." It lies in Switzerland approximately between 400 and 500 and 1000 and 1200 metres.

Dr. Lombard gives some carefully compiled statistics with regard to some parts of Switzerland, showing that while a very small difference exists between the death-rate by phthisis in the lower mountain regions at heights from 380 to 500, and the middle regions from 500 to 800 metres, the numbers being 10·2 and 9·4 per cent. respectively; on the other hand, in the higher regions from 800 to 1218 metres the death-rate is only 5·1 per cent.

Dr. Lombard is of opinion that the climate of mountains has only a secondary influence in the production of goître and

cretinism. The causes of these diseases, as also of the scrofulous affections which are so common in mountain districts, seem to be multiple. Poverty, ignorance, insufficient food, frequent intermarriage, want of proper drainage, the absence of sunlight, the direction of the valleys, the condition of the drinking-water, and the faulty construction of the dwellings, will account for most of the diseases of the above character; and the best proof of this will be found in the fact that with the advance of education and sanitary improvements in the former haunts of goître, cretinism, and scrofula, these diseases are gradually disappearing. After passing in review the various diseases which are most frequently found in mountain districts, Dr. Lombard discusses the physiological effects of mountain climates at moderate elevations, such, for instance, as are available for medical purposes in Europe, and especially in Switzerland; and he shows that there are four factors on which their influence depends—(1st) the diminution of oxygen in the rarefied air, (2) the diminution of temperature, (3) the rapid evaporation which occurs, and (4) the peripheral movement imparted to the blood by the diminished atmospheric pressure. Without going minutely into the part which each of these plays in producing the salutary effects often observed after a residence in the mountains, we may say that their combined effect seems to be to improve assimilation and sanguification by rendering respiration more free, digestion more easy, and the circulation more regular.

In the fourth chapter the influence of mountain climates on pre-existing diseases is discussed at considerable length. Dr. Lombard is much in favour of sending patients in the earlier stages of phthisis to get the benefit of mountain air, and he looks with favour on the attempts which are being made to send phthisical patients to mountain sanatoria in the Andes and Himalayas, as recommended by Dr. Hermann Weber and Dr. C. J. B. Williams. The cure or arrest of phthisis by a sojourn in the mountains he believes to be due to the development of emphysema, and he offers the following theory of the *rationale* of the process:—"The happy transformation is accomplished first by the compression and obliteration of the bloodvessels, the natural consequence of the development of certain vesicles at the expense of surrounding regions. Thus the diseased parts fail to receive any more blood, and the inflammatory movement in the caseous pneumonia is necessarily checked, while, at the same time, the obliteration of the bloodvessels dries up the source of hæmoptysis. In the second place, the compression of the diseased vesicles by those which have become emphysematous facilitates the absorption and retrogression of the morbid elements deposited in the lungs."

Although the author's theory may be to a certain extent true as regards the higher alpine regions, it is questionable whether the development of emphysema will explain the benefit which patients derive from a residence at those lower elevations to which alone patients can be sent in Europe, and it seems more feasible to refer it in most cases to the general improvement of nutrition which the dry, bracing atmosphere excites.

In the concluding chapters of his book Dr. Lombard considers the precautions which patients visiting mountain health-resorts ought to observe.

The place selected must be sheltered from north and easterly winds; there must be a carriage road to it, and good accommodation, with proper means of warming the rooms on cold days. Especial care must be taken that good and substantial food can be obtained. Animal food is generally the most difficult to procure. It is generally unnecessary for those who come from a mild climate to ascend very high; good results can be obtained in Switzerland at very moderate heights by those who come from most other parts of Europe. Persons vary, too, in their susceptibility to the effects of mountain air, and different people require different heights to produce an equal effect. Patients visiting mountains for the first time require to be cautioned not to attempt too much at first under the excitement which often occurs, and they must be well provided with extra clothing in case of sudden changes of temperature. The earliest time that heights of from 500 to 600 metres can be safely visited is in April or May; heights at or about 1000 metres cannot be visited before the middle or end of June; and above 1500 metres, it is only in July, August, and September that such regions are available for medical purposes. Only phthisical patients can inhabit the highest stations at any other time than July or August—the hottest months of the year.

Though last, not the least interesting or important part of his work is the catalogue of mountain-resorts with which Dr. Lombard winds up his excellent little work. All the chief places in Switzerland, Savoy, and the Tyrol are passed in review, and the special advantages of each briefly but clearly indicated. Those who wish to know where to advise their patients to go cannot do better than study this part.

In the brief abstract which our space permits of we feel that we are rendering but scanty justice to the ability which Dr. Lombard displays in the treatment of his subject, or to the industry and conscientiousness with which he has accumulated the materials on which his arguments are founded. We hope that he will continue his researches, and in a future edition enter even more minutely than in the present one into the description of the mountain climates of Switzerland and the Tyrol.

PROVINCIAL CORRESPONDENCE.

SCOTLAND.

Edinburgh, March 1.

Annual Report of the Royal Edinburgh Asylum for the Insane: Enormous Increase in the Number of Patients; Dr. Clouston's Inquiry into the Cause of this; Statistics: Health of the Asylum—The Royal Infirmary Drainage Question: Reports of the Managers, the Town Council, and the Public Health Committee; Probable Solution of the Difficulty.

The annual meeting of the Corporation of the Royal Edinburgh Asylum for the Insane was held on Monday last. In the report of the medical superintendent, Dr. Clouston, there are many matters of great interest which may be referred to. Owing to the fact that all the parishes of Scotland have now asylum accommodation of their own, only six pauper patients—a number unprecedentedly low—were admitted from beyond the district. "On the other hand," says Dr. Clouston, "there has been a steady tendency from year to year for the patients from our own parishes to increase. Taking the five years beginning with 1864, our average number of admissions from the Edinburgh, Leith, and Orkney parishes was 134 a year; for the five years ending last year it was 176; and now this year it has run suddenly up to 214—a figure higher by 26 than ever occurred before." In explanation of this enormous increase, Dr. Clouston says the following questions require to be answered:—"Is insanity increasing at this enormous ratio; or are cases sent to us now labouring under milder forms of the disease, that formerly would have been kept at home? Are the cases generally sent at an earlier period of the malady; or do any recent legislative enactments affect the number of pauper patients sent to us?"

Dr. Clouston's first thought was that the increase was due to the 4s. 6d. a week promised by the Chancellor of the Exchequer from the Imperial revenue towards the support of each pauper lunatic in an asylum. In England, the Union Chargeability Act, by which the lunatics of a parish were made chargeable, not to it alone, but to a number of parishes combined in a union, was at once followed by a very large increase in the yearly admissions into the English county asylums, showing how the numbers of the registered insane were increased by an Act of Parliament. Although the money promised has not yet been paid to Scotland, it may, therefore, be that the prospect of receiving help from the national exchequer has tended to increase the number sent to this Asylum.

In regard to the period of the disease at which the cases are now sent, as compared with former years, Dr. Clouston says:—"I have taken the number of the patients who had been insane for one month before being sent to us, and those who had been so for six months, and for a year, during the last eleven years, and have compared the result of the five years beginning 1864, the five years beginning with 1869, and this year, with the following result:—During the first period of five years (1864 to 1869) there were sent to us an average of 105 patients (private and pauper) a year who had been less than a month insane, 59 who had been so between one and six months, and 15 who had been between six and twelve months. In the second period of five years (1869 to 1873) the numbers were 91, 45, and 15; and this year they have been 145 less than a month, 50 between one and six months, and 19 between six and twelve months. There was therefore no special tendency, between 1864 and 1874, to send cases here at earlier periods

of their disease, but rather the reverse. This year, however, 47 per cent. of all the patients were sent in within a month from the beginning of their disease, instead of 36 per cent., which has been the average for the previous ten years."

This partly accounts for the large number of cases sent into the Asylum during the year, but not for the steady increase of pauper patients from our own districts which has taken place for the past ten years—an increase out of all proportion to that of the population.

For the purpose of throwing light upon the difficult question whether milder forms of the disease are now sent into the Asylum that formerly would have been kept at home, Dr. Clouston has taken some of the most defined varieties of insanity, some of them usually of a severe type and others milder, and has compared the numbers of each variety sent in during the five years beginning with 1864, the following five years, and this year (1874) respectively. The kinds of insanity taken are—1. That dating from birth; 2. That following too prolonged nursing in women; 3. That occurring as the result of old age;—all representing mild varieties of the disease. 4. Epileptic insanity, or that caused by fits; 5. General paralytic insanity; and 6. Insanity following childbirth in women;—which are usually more acute forms of the malady, and would have been likely at any time to require asylum treatment. The following are the results:—During the five years 1864-68 there were sent in 175 cases of the three mild kinds of insanity, and 170 cases of the three severe kinds; during the next period of five years the numbers were 181 and 177 respectively; and this year they were 36, or at the rate of 180 for five years, and 49, or at the rate of 245, for five years. Thus it is seen that, while in the second period of five years there was a slight increase in both the severe and mild kinds, yet the increase was proportionally greater to a very slight extent in the mild. Taking this year, on the contrary, it is the very severe varieties that have increased absolutely and proportionately, while the milder varieties have stood still.

The great increase in the number of pauper patients has come almost entirely from the two parishes that comprise between them the city of Edinburgh. St. Cuthbert's parish shows an increase of 50 per cent. in its numbers over last year, and 22 per cent. over the average numbers of the last five years. The city parish sent in an excess of 25 per cent. over its numbers for the previous five years.

In regard to the forms of mental disease under which the patients laboured on admission, there is one fact which is very striking and of great interest. The number whose malady was characterised by depression of mind was most unusually large. Under the head of melancholia there were no fewer than 88—a number greater by 70 per cent. than the average number classified under that heading during the previous ten years, although the excess of admissions this year was only 14 per cent. Many of the worst of these cases were desperately suicidal.

The number of discharges from the Asylum was very large, the total number being 276. Of these 149 were recovered, and 84 relieved. The percentage of recoveries on the admissions was 48, the average rate for the Scotch asylums for the last ten years having been 38, and for the year 1873, 42 per cent.

Notwithstanding the high death-rate which prevailed generally over the large cities during the months of November and December, and which was chiefly attributable to the increased number of deaths from diseases of the chest, no death occurred during these months in the Asylum from any catarrhal affection. The year 1874 has been the healthiest year in the history of the institution since 1844; and as the population was then only 300, whereas it is now considerably over 700, it may be said to have been the most healthy year under the present conditions of the Asylum. The death-rate has been only 7·7 per cent. on the average numbers resident, and 5·4 on the total number of patients under treatment. This is 1 per cent. less than last year, and 2 per cent. below the former average. The average death-rate for all the public asylums in Scotland for 1873 was 8·5 on the average numbers resident, and 6·2 for the total number under treatment.

One patient who died had been an inmate of the Asylum for almost fifty years. "Her mental condition," says Dr. Clouston, "was one almost of deprivation of mind, and her brain was found shrivelled to an extent which I have never seen equalled."

The Royal Infirmary drainage question continues to occupy the attention of the various committees and joint-committees of the Town Council, Board of Public Health, and managers of the Royal Infirmary.

Regarding the danger to which the residents in the district would be exposed by carrying the drain of the New Infirmary into the St. Leonard's drain, the opinions arrived at by the different committees seem to be very opposite. In the report prepared by the managers on the subject, and signed by Sir Robert Christison, it is stated that the ratepayers in St. Leonard's district "have fallen into error in representing the sewage of the Infirmary as peculiarly noxious and charged with infection, inasmuch as the number of cases of the most infectious diseases, such as small-pox and scarlatina, is always very limited, and that of common fevers, which are always much less virulently infectious, rarely exceeds thirty, and cannot surpass fifty." "While fevers remain not more numerously congregated, experience shows that the disease is rarely communicated even to the healthy in direct charge of the sick, so that it appears hard to believe that any great danger can arise through the intervention of a drain to people half a mile distant."

The report by the sub-committee of the Lord Provost's and Public Health Committees, drawn up at a meeting at which Dr. Sutherland, Dr. Coghill, Dr. Littlejohn, the medical officer of health, and the burgh engineer were present, sets forth, on the other hand, "that the use of the St. Leonard's sewer for the passage of the whole sewage of the Infirmary would be fraught with the gravest liabilities, and that, in the face of the danger to be incurred, the proposal of the managers of that institution should be most decidedly objected to, and every means taken to prevent their obtaining Parliamentary powers."

There is evidently a desire on the part of the managers to avoid Parliamentary opposition, and there seems to be a willingness to yield somewhat on the other side. The result will probably be, that the drainage of the general wards of the Infirmary will be carried into the St. Leonard's drain, while that of the fever-house will be disposed of in some way not yet determined, but which will be satisfactory to the Lord Provost's and Public Health Committees. Possibly the difficulty may be got over by retaining the fever-house on the site of the old Infirmary. It is difficult, however, to see how this can be more satisfactory to the Public Health Board, as the drains from the old Royal Infirmary pass through a densely populated district.

Again, it has been in most places the custom to treat cases of typhoid fever in the general wards of a hospital. Do the managers of the Royal Infirmary intend that this practice shall be no longer continued in Edinburgh? If this question is not settled at present, it is certain to give trouble at no distant date.

A great amount of difficulty might be avoided if both parties could agree to submit the question, with full evidence on each side, for final settlement to some high authority out of Edinburgh; for the object of all the parties concerned is in reality the same—viz., the preservation and improvement of the public health.

GENERAL CORRESPONDENCE.

AN APPEAL.

LETTER FROM DR. CHARLES J. HARE.

[To the Editor of the Medical Times and Gazette.]

SIR,—Mr. Merryweather, M.R.C.S., L.S.A., of 14, Colville-road, Bayswater, had suffered from several severe attacks of acute rheumatism, which left him with disease of the heart and other serious results. Having a wife and five children to provide for, he very often followed his professional duties in much suffering and when rest was essential for his personal welfare. But, his health failing still more seriously, he became unable to continue his work at all regularly, and his practice of course greatly diminished, so that after his decease (and he died literally in harness, for he had visited, though with much difficulty, a patient within two hours of his death) it was found that his assets were barely sufficient to meet his liabilities and to pay the expenses of his funeral. It is very probable, indeed, that his anxieties respecting his pecuniary position still further undermined his constitution and accelerated his death, which took place on the 11th of last month. His widow is a thorough lady, of high-class education, and of

great energy of character, and, if enabled to commence a school, has full confidence in being able to provide for herself and her children. Some friends of her late husband and of herself, well knowing these circumstances, and feeling sure that the case is one of the best kind—that of a widow striving to help herself, and to bring up her children as her husband would have wished,—desire to raise a fund to enable Mrs. Merryweather to take a house for the purpose named, for the duties of which she is fully qualified, having been similarly engaged previously to her marriage. They feel certain that aid now given will not only be of temporary use, but of permanent value. The case has been examined by the Committee of the British Medical Benevolent Fund, and they have, under the special circumstances, made to the proposed fund the unusually large grant mentioned below.

As I am thoroughly sure that in this instance gifts will be well bestowed, I shall have much pleasure in receiving and acknowledging any donations which may be kindly contributed to this fund; as will also Dr. Atwood, of 129, Ladbroke-grove, Notting-hill, London, W.; and thanking you much for allowing this appeal to appear in your pages,

I am, &c.,

Charles J. Hare, M.D. Cantab., F.R.C.P.

57, Brook-street, Grosvenor-square, W., March 8.

The following contributions have already been received:—

	£	s.	d.
British Medical Benevolent Fund	20	0	0
Edwin Dalton, Esq., 17, Devonshire-road, Balham ...	10	0	0
W. A. Atwood, Esq., L.K.Q.C.P.	5	5	0
Mrs. Robertson	0	10	0
Mrs. Mason	0	10	0
J. P. Holmes, Esq.	0	5	0
Mrs. Favarger	0	10	0
Charles Geo. Lewis, Esq, Charlotte-st., Portland-place	1	1	0
W. H. Gardner, F.R.C.S, Gloucester-terrace, Hyde-park	1	1	0
Richard James, M.R.C.S., Clarendon-road, W... ...	2	2	0
Captain M——, R.N.	0	10	0
Henry Venning, Esq., Shepherd's-bush, W.	0	10	0
E. Symes Thompson, M.D., F.R.C.P.	1	1	0
Rev. George Braithwaite, Yealand Conyers, Carnforth, Westmoreland...	10	0	0
Charles J. Hare, M.D.	10	10	0

MEDICAL EDUCATION.

[To the Editor of the Medical Times and Gazette.]

Sir,—Mr. Le Gros Clark, in his recent Hunterian Oration, seems to show that there is some defect either in the teaching or examination of students which prevents their attainment of the necessary standard. I should like to make a few remarks, if you will allow me, but I bow to your decision whether you consider them worthy a place in your journal. It is now nearly fifteen years since I left my *Alma Mater*, armed with my licences to practise medicine and surgery, and during that time I have not been idle. I have mounted the ladder from the bottom rail, and have learned valuable lessons, which I wish I could put into the heads of those who have not yet begun to mount. I have learned where my hands and feet have been defective, and the rails slippery. I have been a constant visitor to my old school, and I have watched with deep interest the changes and improvements in the plan of teaching. Learning is now made as easy as possible, and the student has only himself to blame if he does not get on; but there is one thing I have watched with regret—perhaps I am singular in what I am going to say, judging from the many heads of our profession who have given their names and subscriptions to the movement,—I allude to the growing indulgence in games and amusements. Cricket, boating, football clubs, and athletic sports have all risen up within the last ten years. Now, all these recreations are harmless and invigorating in themselves; but has a student (particularly if they engross much of his attention) time for such things? I wish some fairy would transport our student—not to fairy land, but to general and practical professional land, when I think they would soon see for themselves that, in their four years' curriculum, they have not one hour too much (that is, if they wish to be "lights" in their profession, and benefits to themselves and their fellow-creatures) to study, not only what they will be called upon to do in their vocation, but also to take up any science or study that will tend to elevate and refine their minds, and to cultivate habits of thinking and observation—particularly observation of little things—so that, like Hunter, they may be not only great workers, but also great thinkers. "You can't put old heads on young shoulders" is an old and true maxim; still, I think that lecturers and professors might do something to discourage the increasing tendency of the present day for indulging in amusements. The medical students I meet, as a rule, think more of their hospital "teams" than of their lectures; and if we leave the London schools and go to Oxford and Cambridge, do not the same impediments to study exist there also?

I will conclude by saying that my intense interest in all which concerns the progress of our professional learning must be my excuse if I have hit hard at an evil which obtains the countenance of so many good men, and which, in their opinion, is no evil at all. Still, I would urge on students to leave games and sports to schoolboys, and to give their time and energies to their work and improvement, so that they will not have to look back upon wasted hours and neglected opportunities. Let them seek relaxation in change of study rather than cessation, and reserve cricket and football for the vacations, for during the sessions a student has no time for these things.

Since writing the above, I have read the following extract from the obituary notice of Sir Arthur Helps in the *Times* of this day:—"He sought repose from one form of labour in recourse to another, and relieved the somewhat monotonous daily routine of his official engagements by indulging himself in the toils and pleasures of literature." I cannot end my letter with better advice to our students than to "Go and do likewise." I am, &c.,

March 9. A General Practitioner.

REPORTS OF SOCIETIES.

THE PATHOLOGICAL SOCIETY.

Tuesday, February 16.

Mr. George Pollock, F.R.C.S., President, in the Chair.

Incarceration of the Ileum.

The report of the special committee on Dr. Dowse's specimen of incarceration of the ileum (see *Medical Times and Gazette*, page 216) was read. The reporters considered the specimen as a direct inguinal hernia of a diverticulum of the ileum. The fistula between the lumen of the diverticulum and the surface of the body had resulted from ulceration which had probably begun in the wall of the intestine.

Complex Ovarian Tumour.

The report of the Morbid Growths Committee on Dr. Murray's specimen of ovarian tumour (see *Medical Times and Gazette*, page 51) was read. The mass was composed of encapsulated tumours, not of true cysts. These tumours presented various appearances, the most superficial and recent being chiefly cellular in structure, of granulation-like tissue, or somewhat more developed. They were regarded as sarcomatous. Other portions were composed of cells resembling leucocytes distributed through a certain amount of stroma, which varied from a cytogenous to a more fibrous tissue. These portions were regarded as lymphadenomatous or cytogenous in nature. The whole specimen was therefore complex—containing both sarcomatous and lymphadenomatous tissue.

Congenital Deficiency of both Clavicles.

Dr. Dowse brought forward a living specimen in which this condition was believed to be present. The girl, aged fifteen, was the eldest of eleven children, six of whom were alive and healthy; the others died young. Neither the mother nor any member of her family was subject to fits. When pregnant with this child the mother had to live in a part of the country where frogs abounded, and was often frightened by these animals, of which she had a particular horror. The child was born at the full time, but the doctor thought that the head was unusually flat, and the grandmother used to say that when touched the infant would extend its arms and legs and open its eyes like a frog. The child cut her first teeth when three months old, walked at nine, and talked at fifteen months. She grew up to be remarkably intelligent, but at nine years of age epileptic fits began, and have continued since. About three years ago she lost the use of her lower limbs for a short time, and there was an involuntary gyratory movement of the left arm. When first seen by Dr. Dowse about two years ago, the general appearance of the patient had been the same as at the present time. She was a stout, well-built girl, without

any apparent deformity except the unusual size of the head. The parietal and frontal eminences were more than ordinarily prominent. The eyes were bright, of a grey colour; the lips thick; and the teeth much decayed and irregular. When the chest was exposed the development at first sight appeared to be normal; but upon examining the clavicles, the sternal ends only were to be clearly made out, and one would be led to conclude that the acromial ends had never been developed. Yet certain movements of the upper limbs were not impeded, as might have been expected. On the contrary, movements could be effected, which, with naturally developed clavicles, would have been impossible. The patient could bring the arms to meet with ease in front of the chest in a vertical line, so that the heads of the humeri touched each other. There was more bony development on the left than on the right side. In regard to the nature of the deformity, Dr. Dowse was convinced that the bones were congenitally ill-developed. He inquired whether it was possible that the mother's nervous state and great fear of frogs could have made an impression upon the fœtus in utero, which impression had led to the arrest of development.

Mr. Wagstaffe inquired at what period of gestation the maternal impressions had occurred in this case. The clavicle was the first bone to ossify, and its development might possibly have been interfered with.

Dr. Dowse replied that the mother was said to have been frightened by frogs in the third month of her pregnancy.

The President desired some of the surgeons present to examine the case and report their opinion of it to the meeting.

After an interval, Mr. Henry Smith made a statement of the conclusion at which Mr. De Morgan and he had arrived in regard to the nature of the case. He said there was much deformity on both sides, and the various prominences were difficult to recognise. On the left side they believed there had been fracture of the clavicle, and that probably intra-uterine. On the right side the condition was not so obvious. He regarded the state of the clavicles as the result, not of want of development, but of fracture.

Mr. Morrant Baker said he held an opposite opinion—that it was an instance of imperfect development. The shoulders could be brought into absolute contact by the action of the pectoral muscles; but if fracture had occurred this would not have been possible.

Mr. De Morgan agreed with Mr. Henry Smith. He believed he could feel the outer part of the clavicle, at least on the left side. Movement kept up after fracture might have prevented union. It was interesting to observe that the girl seemed to have a positive gain by this deformity in respect of extent of movement.

Dr. Pye-Smith agreed with Mr. Morrant Baker. He could trace the coraco-brachialis to its origin on the right side. As to the *rationale* of the condition, he would not speak of intra-uterine fracture, but he would say that it might be perfectly explained by the condition of the clavicle in the carnivora. The external part had not been developed, while the sternal half was.

Multiple Aneurism of the Thoracic Aorta.

Dr. Burney Yeo exhibited a fresh specimen of this nature. Two aneurisms occupied different portions of the thoracic aorta; of these one was discovered *intra vitam*, the other was not known to exist, but caused the patient's death by rupture. The former projected as an oval saccular tumour, as large as a hen's egg, from the convex portion of the ascending arch. One inch and a half above the valves was a large opening into the vessel; the walls were tolerably firm, and adherent to the cartilages of the second and third ribs, which were eroded. The second aneurism was cylindrical, and situated at the commencement of the descending portion. It was four inches long, and towards its end assumed a dissecting character. The posterior wall was formed by the bodies of the fourth, fifth, sixth, and seventh dorsal vertebræ, which were much eroded; a clean-cut opening as large as a sixpence communicated with the œsophagus; and on the opposite wall of the œsophagus was some superficial ulceration. The aneurism and the œsophagus were connected by the edges of this opening only, and by a fibrinous plug, there being no inflammatory adhesions between them. The whole of the internal surface of the aorta was atheromatous; the trachea and bronchi were partly compressed; the heart was normal; the lungs were emphysematous. The specimen was from the body of a man of thirty-eight, a groom, not a hard drinker, who had had syphilis sixteen years before. Fifteen months previously he had fallen from a horse, and seven months after he had first felt aching at the side of the sternum. The signs of aneurism of the ascending portion of the arch were very distinct; swallowing of solids was said by the patient to bring on shortness of breath. He was treated by rest in bed and other means. Ten days before his death he had severe pain and sickness, and brought up some blood by expectoration. On the day before his death he felt so well that he could scarcely be kept in bed. Next day he died, after two abundant hæmorrhages from the mouth. A remarkable feature in this case was that there had been scarcely a complaint of dysphagia.

Dr. C. Theodore Williams remarked that such cases were rare; in only one instance had he seen two aneurisms springing from the same arterial trunk. He referred to a case of his own last session, where two aneurisms sprang from the arch. A curious feature in the present specimen was the want of adhesions between the œsophagus and the aorta

Fatty Degeneration of Voluntary Muscles.

Mr. Cripps exhibited the lower limb removed from a female body in the dissecting-room; all the muscles of the leg and some of those of the thigh were in a state of fatty degeneration. From the distribution of the condition, the process appeared to have begun peripherally, and advanced towards the centre. The muscles mainly affected were chiefly supplied by the great sciatic nerve. The short head of the biceps was the only muscle supplied by the great sciatic nerve that was not diseased. The condition of the other lower limb was exactly similar. The subject was an aged female who had probably been paralysed for some time.

The President asked whether the sciatic nerve was normal.

Mr. Cripps replied that it was of the usual size, but had not yet been examined microscopically.

The President said that a similar condition sometimes occurs in the horse. "Roaring" in a horse was sometimes due to implication of the left recurrent nerve as it passes round the aorta; the laryngeal muscles were found wasted, and perhaps fatty.

Mr. Wagstaffe suggested a microscopic examination of the muscles. Fatty degeneration of voluntary muscles was of great rarity, but fatty infiltration was not so uncommon as a consequence of paralysis, alcoholic abuse, etc.

Mr. Cripps replied that in teased specimens there was not a trace of muscular tissue to be found under the microscope.

Mr. Henry Morris doubted whether fatty degeneration of voluntary muscle was so very rare. Last winter he had seen a subject in which the muscular substance of the rectus femoris had absolutely disappeared to the eye and microscope.

Occlusion of the Coronary Arteries.

Dr. Greenfield exhibited a specimen of occlusion of the coronary arteries. A woman of twenty-seven was brought dead into St. Thomas's Hospital. She had been in apparent good health until the day of her death. That morning she went for a walk after partaking of bread and cheese and beer; she had more beer at a public-house, but vomited it; was treated with brandy and put in a cab, but died before it reached the hospital. The whole happened in half an hour. There was no history of syphilis, but the woman's moral character was indifferent. Post mortem, the heart weighed eight ounces, and was nearly empty; the valves were healthy. One day after removal from the body, the muscular substance was found to be granular. The commencement of the aorta, immediately above the sinuses of Valsalva, was considerably thickened for about half an inch; the orifices of the coronary arteries were extremely narrowed, just admitting a bristle. There were a few patches of atheroma in the coronary arteries themselves; the calibre of the vessels was normal, and they were free from clot. Dr. Greenfield, in referring to similar cases exhibited by Dr. Dickinson, remarked that partial closure of the mouth of the coronary arteries was not uncommon in the old, with consequent fatty degeneration of the heart; but he had not found a record of a case so young as the present. The absence of fatty degeneration of the heart was also remarkable; and Dr. Greenfield entertained the hypothesis that the muscular substance of the heart must be nourished in great measure by imbibition. There was no vascular degeneration in any other part of the body.

Dr. Hilton Fagge wished to learn the experience of the exhibitor in regard to the relation of fatty degeneration

of the heart and disease of the coronary arteries. No cases bearing on this point had been recorded since those of Dr. Quain. The two conditions were undoubtedly often associated, but they did not always correspond.

Dr. Greenfield replied that he did not believe that in the present case the disease of the heart was consequent on the obstruction of the vessels. It was remarkable that so much occlusion should have existed without more disease.

Mr. Henry Morris asked why anastomosis should not relieve the nutrition in cases of disease of one coronary artery. It was now known that there is anastomosis between the branches of these vessels.

Obstruction of Renal Artery.

Dr. Greenfield exhibited two specimens illustrating this condition. The first was from a man of forty-nine, who died rather suddenly after suffering from slight albuminuria, some jaundice, and bronchitis; he had also a systolic cardiac murmur. The aorta was found after death to be extensively atheromatous. The right renal artery was very atheromatous, and its branches were thickened. The corresponding kidney weighed not more than one ounce and a half. The left kidney weighed ten ounces and a half, and presented a wasted portion which corresponded with a diseased branch of the nutrient artery. The second specimen was from the body of a woman who had ovarian tumour and ascites without renal symptoms. The left kidney weighed four ounces and a half; the artery of the same side was atheromatous, and obstructed with coagulum, which extended in the one direction into the radicles of the vessel, and in the other into the aorta. Microscopic examination of the left kidney revealed fatty degeneration of the epithelium, fibroid thickening of the vessels, and abundant accumulation of leucocytes in and around their walls. The right kidney weighed three ounces and a half, and was slightly granular. Dr. Greenfield remarked that in the first specimen there had probably been considerable vascular obstruction for some time. In the second there was thrombosis and evidence of acute change in the kidney.

Fibroid Disease of the Heart.

Dr. Greenfield also exhibited a specimen of fibroid disease of the heart. A man of forty-three, who had been in India, and whose history was imperfect, died on the day after his admission into hospital with symptoms of advanced heart disease, bronchitis, and albuminuria. The heart was found after death to be very large. A considerable fibroid patch existed in the posterior wall of the left ventricle, and was continuous with another at the apex. The change extended through the thickness of the wall, and to one small prominent spot of it on the posterior ventricular wall a clot was adherent, which spread thence upon the endocardium, and formed a honeycombed lining. Many emboli were found in the renal vessels, and these had apparently had their source in this thrombus.

Fatty Tumour from the Inguinal Canal.

Mr. Butlin showed a fatty tumour which he had removed in course of herniotomy. An elderly woman, who had suffered from reducible inguinal hernia for years, found, the day before admission, that the swelling had come down and could not be returned; she was not sick, and she passed one motion. When examined, the left inguinal region was found to present a tumour as large as a cocoanut, hard, painful, without impulse on coughing, and yielding a boxy resonance. When the sac of the hernia was opened, no bowel was to be found, but a tumour, smooth, dark almost to blackness, like a congested lung; it was attached by a thin membranous pedicle to the interior of the abdomen. The pedicle was tied and cut; no connexion could be discovered with any organ. When examined microscopically, the tumour presented the characters of a lipoma; the dark appearance was found to be due to hæmorrhage into its substance—perhaps the result of the taxis.

Mr. Wagstaffe asked whether the evidence of the connexion of the tumour with the abdominal cavity was complete.

Mr. Butlin replied that he had passed his finger some distance into the abdominal cavity. With regard to the nature of the tumour, he had at first thought it might be an ovary, but it had not this structure. It was perhaps an enlarged appendix epiploica.

Mr. Morris asked whether the bowel was felt during the operation.

Mr. Butlin replied in the negative.

CLINICAL SOCIETY OF LONDON.

Friday, February 26.

George W. Callender, F.R.C.S., F.R.S., Vice-President, in the Chair.

The Chairman brought before the meeting certain specimens of Japanese paper, medicated and unmedicated, which he thought might be useful to surgeons. They were made with various antiseptics, as salicylic acid, carbolic acid, etc.

Elephantiasis Græcorum.

Dr. Duckworth exhibited a patient, who was the subject of this affection in a severe form, as a contrast to Dr. Southey's case of anæsthetic leprosy shown at the last meeting. He was a well-grown young man, aged twenty-one, and was born in Calcutta. His father was born in Bordeaux, and his mother was of French extraction, born in Madras. He was suckled by his mother. When nine years of age, he came to England, and remained in good health, with the exception of the outbreak of some brown patches upon his arms and face. When twelve years old, his feet and legs began to swell, and some anæsthetic patches occurred upon them. Tubercular growths appeared upon the legs, face, and arms in succession. He now presented the leonine aspect and all the typical features of true tubercular leprosy, the face being covered with thick tubercular folds, and the lobes of the ears being greatly enlarged and thickened; numerous tubercular patches, some of which were softening, occurred over the wrists, arms, legs, and feet. The ulnar and the right peroneal nerves were enlarged. There had been albuminuria for the past two years. The case had been fully reported by Dr. Liveing in the Goulstonian Lectures for 1873, also by Dr. Duckworth in the tenth volume of *St. Bartholomew's Hospital Reports*. The man was for some time in Guy's Hospital under Dr. Habershon, and in the Glasgow Royal Infirmary under Dr. McCall Anderson. He was probably the first patient who in this country had been with Gurgun balsam, both as an outward application in the form of a lotion, and taken internally with lime-water. The tubercles seemed to break down more readily under the drug, but the remedy could not be regarded as specific, as Dr. Gubler had affirmed it to be. Steel and a good dietary appeared to produce the most improvement. The patient had gained weight during his five months' stay in St. Bartholomew's. He passed on an average one-third less than the normal amount of urea daily. No renal casts were at any time found in the urine.

The two following cases were read at the previous meeting; Dr. Poore's was alone discussed:—

Lepra Anæsthetica.

Dr. Southey exhibited a patient who was suffering from this disease. The patient, a male, aged twenty-five, had been under Dr. Southey's care at St. Bartholomew's Hospital. He was of a fairly healthy complexion, and in a state of moderately good muscular nutrition. His most characteristic peculiarity was in his hands, which were cold and wasted-looking, with shrivelled wrinkled skin; and the peculiar bird's-talon-like position assumed by the fingers, and the incurvature of the back of the hand when he opened it, at once attracted attention, and served as a means of diagnosis. The skin and tissues of both his hands and feet were affected, and this affection was due, not merely to absorption or diminution of the ordinary subcutaneous fat, but to generally impaired nutrition. The tactile sense had almost altogether disappeared, and the organs by which it was carried on had especially suffered; thus the skin at the finger-tips and on the palmar surface was nearly quite smooth, the concentric rows of papillæ being scarcely discernible. Here and there upon the fingers were scars of old burns and injuries, produced by his holding mugs, cups, and plates which were too hot, and which blistered him without his being conscious of the fact. On the plantar surface of his right foot was an ulcer, now looking nearly healed, which he stated was the result merely of an injury from his boot, and, though not exactly in the ordinary Spedalskhed ulcer site, appeared ominous both by situation and appearance. The history of the case appeared to confirm the diagnosis. He was born of English parents, and had resided, up to November, 1873, in the hill country of Southern India, upon a cinchona and coffee plantation. In 1869 he had contracted some venereal affection, which was followed by a severe crop of boils and by two whitlows upon his fingers. Soon after this he noticed

some impairment of sensation, first in one finger, which gradually extended over both hands. At or about the same time, a large patch of discoloration of the skin, occupying an area of some twelve or fourteen inches, about the right knee, made its appearance; it was of a dusky red colour, felt a little thicker than the rest of the skin, and itched slightly. Loss of sensation in the patch soon became apparent to him, so that he could prick or scratch it without evoking the slightest pain. Subsequently, several similar patches showed themselves in different parts of his body, the most recent having involved his right ear; this organ, however, was certainly not anæsthetic, but he stated it was so some seven months ago, when he left India, and that it had recovered sensation since his sojourn in England. Fourteen months ago he had first noticed wasting of the muscles and deformity of the hands, and this had been accompanied by dull, heavy aching, and occasional dragging pains in his fingers and up the forearm to behind the elbows. The patient had been treated with mercury (though never to salivation), arsenic, liquor potassæ, and iodide of potassium, but without deriving much benefit. His change of habitat, however, to this country had been attended with some amelioration. It was interesting to note that he had lived all his life in the hill district in India; that both his parents were born and lived in India; and that his grandfather was the original settler or migrator from this country. Thus two generations of acclimatisation had in this instance sufficed to confer such an altered habit or idiosyncrasy upon an European body as to enable it to acquire a specially indigenous disease.

Paralysis of the Serratus Magnus Muscle.

Dr. Poore exhibited a patient with this disease. The man, aged forty-three, strained his right arm on May 19, 1874. He suffered greatly from pain and other symptoms indicating neuritis of the brachial plexus, but the pain was quickly removed by the use of the galvanic current, combined with the rhythmical exercise of the muscles of the arm. On August 20, three weeks after the disappearance of the pain, and three months after the injury, paralysis of the right serratus magnus came on, and still remained. The phenomena presented were the following. With the arms at rest by the side, there was nothing obviously amiss except that the inferior angle of the right scapula approached the middle line somewhat more closely than that of the left; when, however, the serrati were brought into action by holding the arms forward, the spinal border of the right scapula started away from the chest-wall like a wing, and the upper end of the spinal border was drawn slightly upwards and inwards; there was no difference in the level of the shoulders, and no difficulty in raising the arm above the shoulder; the digitations of the serratus were visible on the sound, but not on the paralysed side. By means of diagrammatic sections of the thorax taken with the leaden cyrtometer, Dr. Poore was enabled to show the effect of this paralysis on the thoracic wall. When the serrati were not in action, the sections were nearly bilaterally symmetrical; when, however, the left serratus was brought into play, the section showed that on the healthy side there was lateral bulging of the thorax, due to the pulling upwards of the ribs by the serratus, magnus, while on the paralysed side there was no such bulging, but the projection backwards of the scapula was strongly marked. During deep inspiration, the want of symmetry became still more strongly marked. The phenomena presented by the patient differed from the description given by Duchenne, since there was no depression of the shoulder and no tilting upwards of the inferior angle of the scapula when the hands were held forward. The phenomena were at variance also with Niemeyer's description, since that physician stated that paralysis of the serratus magnus rendered the raising of the arm above the level of the shoulder impossible. The cause of the paralysis was doubtful. Had neuritis of the median or musculo-spiral nerve crept slowly up the limb, and fallen with undue severity on the nerve supplying the serratus? Dr. Poore thought not, because, early in the history of the case, the patient had complained of pain when the serratus was put in action, although there was no paralysis, a fact which would indicate that the posterior thoracic nerve was implicated. It was possible that the paralysis had been the price, as it were, paid by the patient for his relief from pain. The removal of the pain had enabled him to use his arm, and possibly the movement when rest was indicated had changed his pain into paralysis. Dr. Poore was not aware that the effect of this paralysis on the chest-wall, though obvious enough, had been previously demonstrated.

Dr. Buzzard said that he was disposed to doubt that the muscle was totally paralysed. Circumstances had prevented him from examining the patient, but Dr. Poore had mentioned that the arm could be readily raised above the shoulder, and this Dr. Buzzard thought was inconsistent with total paralysis of the serratus magnus. Moreover the lesion was of traumatic origin, and it was therefore unlikely that both the nerve-supplies of the muscle—that from the intercostal nerves as well as from the long thoracic—had been obstructed. Agreeing that the paralysis probably arose from neuritis of the long thoracic nerve, he did not find the difficulty which Dr. Poore did in accounting for the delay which occurred in the appearance of the paralysis after the injury. It would be only when induration had succeeded to the serous effusion first resulting from the inflammatory process that sufficient compression would be exerted upon the nerve to obstruct its function. In Dr. Buzzard's experience such a delay was most common. He referred to some cases, and amongst them to one in which paralysis and wasting in the extensor group of the forearm had commenced four weeks after a blow on the back of the shoulder in a railway accident, causing injury to the musculo-spiral nerve. It might be well, he said, to add that the condition had been verified by the measuring tape and electrical examination.

Dr. Althaus agreed generally with Dr. Buzzard's observations. From his readings and personal observation of two cases, he could affirm that no complete paralysis of the serratus magnus could exist without interfering sadly with the motion of the arm. The chief symptom was the dislocation of the scapula, as already noticed, whilst, if the lower angle of that bone were pressed to the chest-wall, the patient, who was previously unable to lift the arm above the shoulder, could then do so at once. In a child who had bilateral paralysis of the serrati magni after whooping-cough, and in a man suffering from the disease, these points were in each case particularly noticed. In the child, the trapezius and other opposing muscles of the serratus were much hypertrophied. Niemeyer had recorded a case, in which a carpenter, who had carried heavy weights upon his shoulder, had thereby produced the disease. In another case, a tumour in the neck, by pressing on the nerve of Bell, had paralysed the serratus.

Dr. Poore said that he thought there was complete paralysis in his case at the time when he showed the man to the Society, and yet that man could raise his arm above the level of his shoulder. He had been unable to elicit any evidence of the slightest action on the part of the right serratus. Neither the base of the scapula nor the ribs of the right side (the two points of attachment of the muscle) underwent the least change of position when that muscle should have been acting. This point was most clearly shown by means of the drawing and diagrams exhibited at the previous meeting. Possibly, at some previous time, the patient had exhibited the disabilities insisted upon by Niemeyer. The man was recovering from his trouble by compensation; there being now considerable hypertrophy of the rhomboids and upper part of the trapezius, by which the base and spine of the scapula were fixed, and the raising of the arm accomplished. He had met with another case which presented certain points of similarity to the case now under consideration—firstly, in the projection of the scapula; secondly, want of expansion of the chest on the paralysed side; thirdly, the bulging of those eight lower ribs to which the muscle was attached; fourthly, the absence of digitations of the serratus magnus. The two differed, however, in some particulars. This second case was not an uncomplicated one, as there was wasting of the upper part of the trapezius, and of the rhomboid muscles; and, as there was no compensation for the loss of the serratus magnus, therefore the inability to completely raise the arm was well marked until the scapula had been pressed against the chest-wall. The second difference existed in the cause originating the mischief. This man slipped, and fell on his shoulder, and the paralysis followed in one week.

(To be continued.)

Revaccination of Medical Students.—On the occasion of the recent death of M. Vallerian, an *interne* of the Paris hospitals, from small-pox, M. Besnier strongly urges that a recommendation which he made some years since should be put into force by the hospital authorities—viz., that all students, before entering upon their clinical studies, should undergo careful revaccination.

MEDICAL NEWS.

APOTHECARIES' HALL. — The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, March 4 :—

Barnes, Edwin, Accrington, Lancashire.
Bass, Charles William, Barnsley, Yorkshire.
Cumming, Hugh Gordon, Exeter.
Clutton, Henry Hugh, St. Thomas's Hospital.
Gill, John, St. Thomas's Hospital.
Henwood, John Davey, Millbrook, Cornwall.
Hind, Henry Joseph, Twickenham.
Phillips, Charles Henry, Bury, Lancashire.
Scott, Alexander Thomas, 8, Camden Town-road, N.W.
Thompson, Alfred, London Hospital.
Weddell, William Henry, Stamford, Lincolnshire.

The following gentleman also on the same day passed his primary professional examination :—

Tyrrell, Frederick, St. Mary's Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

INGLIS, THOMAS, L.R.C.P. & S. Edin.—Assistant-Physician at the Royal Edinburgh Asylum, Morningside.

LOW, WILLIAM THOMAS, M.D. Edin., M.R.C.S.—House-Physician to the Seamen's Hospital, Greenwich, S.E., *vice* Andrew Duncan, M.B. Lond., resigned.

MILITARY APPOINTMENTS.

WAR OFFICE—MEDICAL DEPARTMENT.—Surgeon-Major George M'Gusty Carolan, Surgeon-Major Alexander Clark Ross, M.D., and Surgeon-Major James Jardine, M.D., retire upon temporary half-pay; Surgeon-Major William Lapsley retires upon half-pay; Surgeon William Raymond Kynsey to be transferred for a period not exceeding five years to the half-pay list (without half-pay), he having been appointed Principal Civil Medical Officer in Ceylon; Surgeon Thomas Abraham Jerningham Cocksedge retires upon temporary half-pay; Surgeon William Venour to be Surgeon-Major, *vice* Charles Gray, retired upon temporary half-pay; Surgeon John Adcock, M.D., to be Surgeon-Major, *vice* Thomas Blatherwick, retired upon half-pay; Surgeon John Alfred Illingworth to be Surgeon-Major, *vice* John Duff, M.D., deceased; Surgeon Robert Alexander Peter Grant to be Surgeon-Major, *vice* Edwin Parsonage, M.D., retired upon temporary half-pay; Surgeon Alexander Thomson, M.D., to be Surgeon-Major, *vice* Andrew Leith Adams, M.D., retired upon half-pay. The surname of the officer promoted to the rank of Deputy Surgeon-General, in the *Gazette* of March 31, 1874, is Woolfryes, and not Woolfreyes, as hitherto stated. The undermentioned gentlemen to be Surgeons:—Charles Edward Harrison, Barnard William Wellings, James Stevenson Forrester, Robert Smith, M.B., Francis Wollaston Trevor, M.B., Timothy Mullane, M.D., Harvie Scott, M.B., William Campbell, M.B., Robert Henry Gardner, M.B., James M'Gann, James Powell, Sydney Herbert Carter, M.B., William Allan May, George Deane Bourke, Hamilton George Gardner, M.B., and John Hoysted.

BREVET.—Surgeon-Major Edward William Young, M.D., retired on half-pay, to have the honorary rank of Deputy Surgeon-General. Surgeon-Major William Lapsley to have the honorary rank of Deputy Surgeon-General, on retiring upon half-pay. First-Class Apothecary John Rehill, Bengal Medical Service, to have the local and honorary rank of Surgeon.

BIRTHS.

ASBURY.—On March 3, at Cheshunt, the wife of C. J. Asbury, L.R.C.P., M.R.C.S., late of Broxbourne, of a daughter.

EVANS.—On March 5, at Drumcree Cottage, Westmeath, the wife of Usher W. Evans, M.D., Deputy Inspector-General, half-pay, of a daughter.

PAUL.—On March 4, at 40, Queensborough-terrace, Kensington-gardens, the wife of Dr. J. L. Paul, Surgeon-Major Indian Army, of a son.

SMITH.—On March 6, at 1, Park-place, Cheltenham, the wife of Frederick A. A. Smith, M.D., of a son.

MARRIAGES.

GOLDSMITH—ARMSTRONG.—On January 26, at Indore, Septimus Jesse Goldsmith, L.R.C.P. Lond., M.R.C.S. Eng., Bombay Medical Service, youngest son of George Goldsmith, A.M., of the Middle Temple, barrister, to Jane Isabella, only daughter of the late Lieut.-Colonel Armstrong, of the late 51st Madras N.I., and granddaughter of the late General Pierce.

MCCONAGHY—MOODY.—On March 6, at Bombay, John M. McConaghy, M.D., Surgeon Bengal Medical Service, to Sarah Louisa, elder daughter of John Moody, Staff-Surgeon R.N., of Great Warley, Essex. (By telegram.)

PART—NORTON.—On March 2, at St. Mark's, Hamilton-terrace, St. John's-wood, James Part, M.D., F.R.C.S., of 89, Camden-road, to Louisa Catherine, youngest daughter of the late Richard Norton, Esq.

DEATHS.

DAVIES, ANNE, beloved wife of W. St. George Davies, M.D., at 72, Hove-villas, Brighton, on March 7, aged 78.

FOX, WILLIAM EDWARD, formerly of Worcester-terrace, Clifton, son of the late Dr. Edward Long Fox, of Brislington House, at The Rookery, Brislington, on March 7, in his 64th year.

MOUAT, MARIA SANKEY, widow of the late James Mouat, M.D., formerly of the 13th Light Dragoons and 15th Hussars, at her residence, 8, Sheffield-gardens, Kensington, W., on March 5.

MURLEY, STEPHEN HEMSTED, M.R.C.S., at 8, Montpelier-grove, Cheltenham, on February 28, aged 87.

REYNOLDS, FRANCES ANNE, last surviving daughter of Cornwall Reynolds, Surgeon R.N., formerly of Hackney, on February 16, in her 75th year.

TUCKEY, ELIZA, wife of Charles Caulfield Tuckey, M.B., at St. Dunstan's, Canterbury, on March 3.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

BRADFORD INFIRMARY AND DISPENSARY.—Physician. Candidates must be duly qualified. Applications, with testimonials, to Mr. Charles Woodcock, Secretary, 65, Market-street, Bradford, on or before June 12.

BRADFORD INFIRMARY AND DISPENSARY.—Resident Medical Officer. Candidates must be duly qualified and registered. Applications, with testimonials, to Mr. Charles Woodcock, Secretary, 65, Market-street, Bradford, on or before April 2.

BRISTOL GENERAL HOSPITAL.—Physician's Assistant. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before March 6.

COVENTRY AND WARWICKSHIRE HOSPITAL, COVENTRY.—House-Surgeon and Dispenser. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before March 25.

DEVON AND EXETER HOSPITAL.—House-Surgeon and Apothecary. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before March 13.

DOVER UNION.—Medical Officer and Public Vaccinator. Candidates must be duly qualified and registered. Applications, with testimonials, to Mr. T. Fox, Clerk to the Guardians, 2, Townwall-street, Dover, on or before March 19.

FARRINGDON GENERAL DISPENSARY AND LYING-IN CHARITY, 17, BARTLETT'S-BUILDINGS, HOLBORN.—Two Physicians. Candidates must be F. or M.R.C.P. London. Applications, with testimonials, to the Honorary Secretary, S. Green, 10, St. Swithin's-lane, on or before March 27.

HOSPITAL FOR SICK CHILDREN, 49, GREAT ORMOND-STREET.—Physician and Assistant-Physician. Candidates must be F. or M.R.C.P. London. Applications, with testimonials, to the Secretary, on or before March 18.

LIVERPOOL ROYAL INFIRMARY.—Resident Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to the Chairman of the Committee, on or before April 10.

QUEEN'S HOSPITAL, BIRMINGHAM.—House-Surgeon and Dispenser. Candidates must be duly qualified. Applications, with testimonials, to Captain Foshroke, at the Hospital, on or before March 25.

ROYAL EDINBURGH ASYLUM.—Assistant-Physician. Applications, with testimonials, to Dr. Clouston.

ST. THOMAS'S HOSPITAL.—Assistant Obstetric Physician. Candidates must be medical graduates of a University in the United Kingdom. Applications, with testimonials, to the Treasurer, at St. Thomas's Hospital, Westminster-bridge.

SHEFFIELD PUBLIC HOSPITAL AND DISPENSARY.—Assistant House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to Dr. J. C. Hall, Honorary Secretary.

STRATTON UNION.—Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to Mr. W. Pickard, Clerk to the Guardians, on or before March 20.

TORBAY INFIRMARY, TORQUAY.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Honorary Secretary, Hemsworth, Torquay.

WORCESTER COUNTY AND CITY LUNATIC ASYLUM, POWICK, NEAR WORCESTER.—Second Assistant Medical Officer. Candidates must be unmarried, qualified, and registered. Applications, with testimonials, to Dr. Sherlock, at the Asylum, on or before April 5.

WEST BROMWICH DISTRICT HOSPITAL.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Honorary Secretary, P. D. Bennett, Esq., on or before March 22.

WEST NORFOLK AND LYNN HOSPITAL.—Resident Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to the Weekly Board, at the Hospital, immediately.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Axbridge Union.—Mr. T. McClure has resigned the Second District; area 5130; population 1791; salary £30 per annum.

Halifax Union.—Mr. Nowell has resigned the Southowram District; area 3283; population 19,346; salary £50 per annum.

Henstead Union.—Mr. A. C. Findlay has resigned the Second District; area 8799; population 2386; salary £40 per annum.

Mansfield Union.—Mr. John S. Turner has resigned the Fifth District; area 4748; population 4327; salary £32 10s. per annum.

Spilsby Union.—Mr. Thimbleby has resigned the Spilsby East District; area 15,346; population 4893; salary £40 per annum.

Woburn Union.—Mr. W. T. G. Hicks has resigned the Toddington District; area 11,791; population 4736; salary £85 per annum.

APPOINTMENTS.

Brighton Borough and Eastern Division of Sussex.—Edward H. Moore Mem. Phar. Soc., as Analyst.

Chorlton Union.—George S. Symmons, M.R.C.S. Eng., L.S.A., to the Workhouse.

Greenwich Union.—Philip Thornton, M.R.C.S. Eng., L.S.A., L.R.C.P. Edin., to the Workhouse.

Nantwich Union.—Alex. R. Haughey, M.D. Edin., M.R.C.S. Eng., to the Crewe District.

DEATH OF LUSCHKA.—The death is announced, on March 1, of Professor Hubert v. Luschka, of Tübingen, one of the most renowned of recent anatomists.

The Queen has been pleased to appoint John Hamilton, Esq., Fellow of the Royal College of Surgeons in Ireland, to be Surgeon-in-Ordinary to her Majesty in Ireland, in the room of Robert Adams, Esq., M.D., deceased.

Sir Charles Lyell, Bart.—By the death of this gentleman a vacancy is created in the Trustees of the Hunterian Collection of the Royal College of Surgeons, to which the deceased gentleman was elected with the Earl of Ducie in 1857.

Medical Graduates in the United States.—The medical colleges of the United States graduated in the year 1874 three thousand students.

It is satisfactory to find that the action of the Local Government Board met with a ready compliance with its demands, on the part of the Chelsea Water Company, in so far as it was possible to improve the condition of the water supplied by the Company, and in consequence the Board did not deem it necessary to proceed to enforce the penalties the Company had incurred.

Mortality of London.—During last week 1880 deaths were registered in the metropolis, showing a death-rate of 28 per 1000. To the seven principal diseases of the zymotic class 162 deaths were referred, against 168 and 176 in the two previous weeks. These 162 deaths were 79 below the average number from the same diseases, and were equal to an annual rate of 2·5 per 1000.

Payment in Kind.—A physician of North Guilford, Conn., recently attempted to collect a bill of $50 for professional services, when it was offset by a formidable bill for dinners, horse-baitings, and presents of fruits, milk, and vegetables, all of which had been tendered ostensibly out of goodwill. Strange to say, the patient's offset was held to be valid in a New Haven court, and the doctor had to pay $7 to get square.—*New York Medical Record*, January 23.

Surgeoncy to Kilmainham Gaol, County Dublin.—A vacancy has occurred through the death of Dr. William Thornhill, which melancholy event took place recently from an attack of apoplexy. A large number of candidates have entered the field for the vacant appointment, which is to be filled up on Thursday, the 18th inst. Among the names of candidates mentioned are those of Mr. William Stokes, Dr. J. Rutherford Kirkpatrick, Dr. George F. Duffey, Dr. Hawtrey Benson, Dr. E. C. MacDowel, etc.

Advice to a Medical Witness.—"When you go upon the stand as a witness, go well informed, but not too full of learning in the matters about which you are to testify. Confine yourself to facts, and do not be forced into theories any further than you can help. Use the simplest language you can adopt, and omit as far as practicable purely professional terms and phrases. Speak English and not Latin, for the jurors are not ancient Romans. Remember that the witness-box is the place in which to tell the plain truth, not to display learning. Meet quick questions with slow answers. Answer long questions with few words. Above all, keep cool."—*New York Medical Record*, January 2.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

M.R.C.S. Eng., St. Kitt's.—They are not.

L. M., Pontefract.—We should think not.

G. F. R.—We understand that Mr. John Wood will be nominated to fill the chair vacated by Mr. Hilton. This gentleman is in every respect well qualified by his deep knowledge and great experience for the appointment; moreover, King's College Hospital is unrepresented at the Board. There is already one Guy's man on it.

Variola.—The natives of New England had an idea that the whites carried the small-pox poison in bottles for the destruction of the Indians—a fable which was encouraged by the settlers in order to make themselves feared.

F.R.C.S. Exam.—Yes, the last gentleman elected a member of the Court of Examiners from the Council of the College was Mr. Holden; Mr. Gay is the next in seniority; Mr. Erasmus Wilson, we are informed, declines the honour. Mr. Henry Lee, who is Surgeon to St. George's Hospital, was formerly Surgeon to King's College Hospital, and Demonstrator of Anatomy. He is a Jacksonian Prize Essayist.

D. W.—Dr. Maunsell was the editor and founder of the *Dublin Medical Press.*

U. Lond., and Associate, King's College.—At the present moment the Court of Examiners of the College of Surgeons consists of nine members; Mr. Hilton, of Guy's, having resigned. There are eleven recognised metropolitan hospitals, all of which are represented on the Court with the exception of King's College, the Middlesex, and the Westminster. For St. Bartholomew's there are two representatives—viz., Messrs. Holden and Savory. The President of the College, Mr. Le Gros Clark, is of St. Thomas's; Mr. H. Hancock, of the Charing-cross; Mr. T. B. Curling, of the London; Mr. H. S. Smith, of St. Mary's; Mr. J. Birkett, of Guy's; Mr. J. Marshall, of University College; and Mr. Timothy Holmes, of St. George's. All are members of the Council with the exception of Messrs. Savory and Holmes. The election, which is in the hands of the Council, will take place next Wednesday.

Junius.—Mr. Bransby Cooper, nephew of Sir Astley, died suddenly at the Athenæum Club, on August 18, 1853.

Bucks.—The Forbes-Mackenzie Act to regulate the sale of beer and spirits in Scotland was passed in 1853.

C. L. C.—The first anniversary meeting of the British Medical Association was held at the Bridge House Hotel on October 30, 1837; Dr. Webster presided. A petition was adopted for the institution of a National Faculty of Medicine.

Septimus.—The Queen visited the Hospital for Consumption, at Brompton, on March 14, 1865.

V. R.—Dr. Thomas Mayo was eighty-one years of age at the time of his death, which took place on January 13, 1871.

L. B. N.—Dr. William Hodgson died on March 2, 1851, at Hemmington-terrace, Islington, at the extraordinary age of 106. He possessed his faculties most perfectly up to the period of his decease, and died at last of bronchitis.

M. O., Deptford.—Sir Charles Scudamore, M.D., F.R.S., received the honour of knighthood in 1829 from the Duke of Northumberland, then Lord-Lieutenant of Ireland, to whom he was professional attendant.

The late Hounslow Inquest.

To the Editor of the Medical Times and Gazette.

Sir,—My name appearing in the *Medical Times and Gazette* of last week with reference to the above case, and your recommendation that for the future I should be more careful in giving certificates of death, is likely to do me serious injury with those who do not at present know me. Having been in incessant practice for upwards of thirty-five years, my position does not warrant your strictures, which I trust you will withdraw on reading the facts of the case. I attended the deceased housekeeper for eighteen years; latterly she had suffered from irregular circulation, often connected with heart disease, digitalis always relieving her; she was in constant attendance at my surgery for a fortnight up to within three days of her death, and under my treatment. A nearer practitioner saw her within half an hour of her sudden death, which I attributed to disease of the heart. Had I had the least doubt of the cause of the same, I should have insisted on a post-mortem examination, or refused the certificate. Can it be material for the ends of justice when a legally qualified medical man has attended, where there has been no injury, and no suspicion of foul play, that a distressing post-mortem examination should be made, and an expensive inquest held, to prove that death arose from disease not within, but just outside the pericardium? I wish it to be understood that I have no antagonistic feeling against Dr. Diplock: he was for many years connected with a late member of my firm; I know him to be a just, painstaking, and upright gentleman. I was the only medical man in this town who supported him at his election, and believe him to be the best coroner we have had in this district since the days of Stirling. Hounslow is afflicted with two summoning officers of the Coroner (the High-street being divided into two parishes)—Meads, a barber, and Hoades, a bill-sticker—the latter being the one in question who called on me after the burial order had been made out by the Registrar, stating "that he had stopped my certificate, that an inquest ought to be held, and unless I wrote to the Coroner he should go up and see him." I explained I had long attended the deceased, and had given a certificate of death.

To show the excess of zeal of this same paid official, let me state a case:—Some time since, in such weather as this, a poor patient of mine, who had been three months under my care with bronchial disease, tried to work, and from exposure to the east wind came to my surgery at dusk in great suffering from congestion of the lungs. I advised warmth and proper remedies. At eleven o'clock that night my assistant was called to him, who found a doctor (who is not now in Hounslow) leaving the house, who told him the man was dead, and who went direct to Hoades, who communicated with the Coroner; an inquest was ordered, and I became cognisant of it only through the inspector of police, who called on me a few days after, giving me just time to write to Dr. Diplock, who properly countermanded the inquest. An overworked coroner is much in the hands of his summoning officers, who now have a pecuniary interest in inquests. If left in the hands of the metropolitan police, whose district includes an area of many miles round London, they would when in difficulty take the advice of their divisional surgeon, who would consult with the doctor who saw or attended the deceased, and the coroner would order inquests only when absolutely necessary,—saving the country much expense, doing away with much distress and suspicion, which for a time always attends an inquest and post-mortem examination in crowded houses of our poor. I need not now mention the rich, who are at present defending themselves.

I am, &c.,

J. R. A. Douglas.

COMMUNICATIONS have been received from—

Mr. O. Brown, London; Mr. A. W. Blyth, Barnstaple; Mr. Haynes Walton, London; Surgeon-Major Logie, London; Dr. Sparks, London; The Registrar of Apothecaries' Hall, London; Mr. J. W. Hulke, London; Dr. Hare, London; Mr. Cooper, London; The Honorary Secretary of the West Kent Medico-Chirurgical Society; The Registrar-General, Edinburgh; L. M.; Mr. Vincent, London; The Honorary Secretary of the Harveian Society; The Honorary Secretary of the Statistical Society; Dr. J. Laing, Skene; Dr. A. Roberts, London; Mr. H. Moaris, London; Mr. J. Hutchinson, London; Mr. C. Orton, Newcastle-under-Lyme; Mr. J. Chatto, London.

BOOKS AND PAMPHLETS RECEIVED—

Atthill's Clinical Lectures on Diseases Peculiar to Women, 3rd edition—Ophthalmic Notes by Dr. C. R. Agnew—Seguin on Spinal Paralysis—Seguin's Description of a Peculiar Paraplegiform Affection—Seguin on the Inhibitory Arrest of the Act of Sneezing, and its Therapeutical Applications.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—National Food and Fuel Reformer—Philadelphia Medical Times—Pharmaceutical Journal—Centralblatt für die Medicinischen Wissenschaften—La France Médicale—North British Daily Mail—Iron—Practitioner—Canada Medical and Surgical Journal.

APPOINTMENTS FOR THE WEEK.

March 13. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 9 a.m. and 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

Royal Institution, 3 p.m. Prof. W. K. Clifford, "On the General Features of the History of Science."

15. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

Medical Society of London, 8 p.m. The President's Address. Dr. Jagielski, "On Spirometry," illustrated by a new instrument.

Royal College of Surgeons of England, 4 p.m. Professor W. K. Parker, "On the Structure and Development of the Skull."

16. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Pathological Society, 8½ p.m. Mr. Hutchinson—Skin Disease in Infant in association with Disease of Nervous System (living specimen). Mr. Barwell—1. Myeloid Sarcoma of Head of Humerus; 2. Mixed Tumour of Wrist. Mr. Godlee—Blood-Cyst formed in a Sarcoma. Mr. John Wood—Tumour of Scapula. Mr. Knowsley Thornton—1. Ovarian Cyst with Papillomatous Growths in its Interior; 2. Cancer of Ovary. Dr. Julius Pollock—Worms in Right Ventricle of Heart of Dog. Dr. Crisp—1. Specimens of Tubercle in Pheasants; 2. Cancer in Common Fowl; 3. Brain and Cord of Fowl. Mr. Maunder—A Fatty Tumour. Dr. Duka—Dry Gangrene of Lower Extremities. Mr. Fairbie Clarke—Prolapsus Linguæ.

Royal Institution, 3 p.m. Mr. A. H. Garrod, "On Animal Locomotion—on Land, in the Air, and in Water."

Statistical Society, 7¾ p.m. Mr. Geo. H. Darwin, "Marriages between Cousins in England, and their Effects." Mr. Henry Jeula, "The Mercantile Navies of the World in the years 1870 and 1874 Compared."

17. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Royal College of Physicians, 5 p.m. Lumleian Lectures—Dr. Beale, "On Life, and on Vital Action in Health and Disease."

Royal College of Surgeons of England, 4 p.m. Professor W. K. Parker, "On the Structure and Development of the Skull."

18. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.

Harveian Society, 8 p.m. Dr. Cheadle, "On a Case of Duchenne's Paralysis;" "On a Case of Morphœa Alba." Mr. Jenner Browne, "On the Treatment of Simple Catarrh of the Nose, Throat, and Ear."

Royal Institution, 3 p.m. Prof. Tyndall, "On Electricity."

19. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

Medical Microscopical Society, 8 p.m. Mr. Geo. Giles—Specimens.

Royal Institution (Weekly Evening Meeting, 8 p.m.), 9 p.m. Dr. R. Liebreich, "On the Real and Ideal in Portraiture."

Royal College of Physicians, 5 p.m. Lumleian Lectures—Dr. Beale, "On Life, and on Vital Action in Health and Disease."

Royal College of Surgeons of England, 4 p.m. Professor W. K. Parker, "On the Structure and Development of the Skull."

VITAL STATISTICS OF LONDON.

Week ending Saturday, March 6.

BIRTHS.

Births of Boys, 1319; Girls, 1211; Total, 2530.
Average of 10 corresponding years 1865-74, 2276·8.

DEATHS.

	Males	Females.	Total.
Deaths during the week	1001	879	1880
Average of the ten years 1865-74	766·0	747·0	1513·0
Average corrected to increased population	...	...	1619
Deaths of people aged 80 and upwards	...	...	87

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	1	3	6	...	16	1	1	1	5
North	751729	...	1	4	4	11	...	3	...	6
Central ...	334369	...	...	1	...	3	...	1	...	...
East	639111	...	2	5	2	12	...	2	5	1
South	967692	1	6	20	7	16	...	8	1	6
Total	3254260	2	12	36	13	58	1	15	7	18

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·664 in.
Mean temperature	33·9°
Highest point of thermometer	48·7°
Lowest point of thermometer	25·5°
Mean dew-point temperature	29·5°
General direction of wind	N.E.
Whole amount of rain in the week	0·21 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, March 6, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1875.)	Births Registered during the week ending Mar. 6.	Deaths Registered during the week ending Mar. 6.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3445160	45·7	2530	1880	48·7	25·5	33·9	1·06	0·21	0·53
Portsmouth ...	122632	27·3	93	59	...	22·5	...	...	0·62	1·57
Norwich	82812	11·1	41	59	43·0	29·0	32·5	0·28	0·05	0·13
Bristol	196186	44·1	132	128	50·4	29·4	34·4	1·33	0·34	0·86
Wolverhampton ...	71718	21·1	67	55	48·0	28·2	32·4	0·22	0·39	0·99
Birmingham ...	366325	43·6	315	223	46·5	27·4	32·9	0·59	0·40	1·02
Leicester	109830	34·3	84	59	46·0	26·0	33·1	0·62	0·36	0·91
Nottingham ...	92251	46·2	57	67	45·1	28·1	32·9	0·50	0·23	0·58
Liverpool	516063	99·1	415	329	51·2	29·5	34·7	1·50	0·23	0·58
Manchester ...	356626	83·1	262	253	49·5	30·8	35·7	2·06	0·35	0·89
Salford	135720	26·3	101	105	49·8	28·9	34·5	1·39	0·35	0·89
Oldham	87437	18·7	60	55	...	...	...	...	...	...
Bradford	168305	23·3	123	102	40·0	30·2	32·7	0·39	0·16	0·41
Leeds	285118	13·2	230	145	41·0	31·0	33·3	0·73	0·24	0·61
Sheffield	267881	13·6	228	155	41·0	28·5	32·5	0·28	0·59	1·50
Hull	133932	36·8	98	67	40·0	26·0	33·0	0·56	0·63	1·60
Sunderland ...	106342	32·2	66	50	52·0	30·0	37·4	3·00	0·16	0·41
Newcastle-on-Tyne	137065	25·5	114	65	40·0	29·0	33·0	0·56	0·32	0·81
Edinburgh	211626	30·5	119	104	44·0	29·0	36·3	2·39	...	...
Glasgow	531765	88·1	454	331	42·5	27·6	34·8	1·56	0·20	0·51
Dublin	314666	31·3	192	213	51·0	32·1	38·7	3·72	0·75	1·90
Total of 21 Towns in United Kingdm	7739490	37·0	5781	4495	54·0	22·5	34·1	1·17	0·35	0·89

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·66 in. The highest was 29·84 in. on Thursday at noon, and the lowest 29·51 in. at the end of the week.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

THE LUMLEIAN LECTURES: ON LIFE AND ON VITAL ACTION IN HEALTH AND DISEASE.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS, LONDON.

By LIONEL S. BEALE, M.B., F.R.S.,
Physician to King's College Hospital.

Lecture I.

Objections to Physical Doctrines of Life—Of Living Matter, or Bioplasm, and of Formed Material.

Mr. President and Gentlemen,—The nature of life is a question which has engaged the attention of the most thoughtful of every age, and was, perhaps, one of the first enigmas that philosophic man essayed to solve. For more than two thousand years, the greatest among poets, philosophers, naturalists, divines, mathematicians, and, in later days, chemists, anatomists, physicists, surgeons, and physicians, have thought, and speculated, and investigated in the hope of finding out what life was. But physicists, as well as those who are opposed to their conclusions, are still obliged to speak of the *mystery of life*, and we may feel quite sure that this large question will engage the attention of philosophers yet to be, and will supply a theme for many an essay ere the problem will be finally solved.

Can there be one amongst us who, contemplating the marvellous phenomena of man's organism from the first dawn of life to birth, and through infancy and childhood to maturity, old age, and death, has not longed to know more about the exact nature of the changes he observes and the causes of them than he can learn at this time? And surely he who has studied and pondered over the minute changes accompanying the development and growth of tissues, the phenomena occurring in the same structures in disease, and the not less marvellous fact of their cessation at death, must have witnessed, with sorrow and disappointment, attempts upon the part of some of the most popular of our scientific teachers to revert to doctrines almost identical with those held in the time of Lucretius, to stop speculation, save in one direction only, and to force the public to believe that all these wonderful changes are mechanical; to assure us, in short, that these and the phenomena of all worlds—beginning, duration, and end—are to be summed up in that grotesque formula: from fiery cloud to fiery cloud. It would be more to the point if physical authority, instead of decreeing such final solution of the great problem of being, would, with the help of physics, give a more complete answer to the question "What am I?" than has yet been obtained, and clearly show that the *why*, the *how*, and the *whither* need no longer puzzle the understanding.

The general conclusions we may feel inclined to accept will be much affected by the particular views to which we may lean concerning the nature of the changes occurring in matter that is alive; and it will be found that vital theories cannot be fully discussed without touching upon the most profound of our thoughts. It is not, therefore, surprising that, by the advocacy of rival doctrines, feelings should be aroused which are not favourable to the steady prosecution of scientific investigation, or compatible with calm deliberation and the discovery of truth. The discussion of such questions cannot be carried on, even in England, without warm controversy; and, occasionally, scientific ardour seems to sanction tactics which one would suppose had emanated from the code of the political propagandist rather than from that of the searcher after scientific truth.

With a tenacity of purpose worthy of a better cause, it has been affirmed again and again that physical and chemical processes *constitute* the life of the higher animals; and, at this time, there is a considerable party who believe and teach physical doctrines of life. Nevertheless, it can hardly be doubted that of those who speak thus confidently, many are perfectly aware that there are certain phenomena which occur in everything living that cannot be explained by physics and chemistry. No explanation is offered of the particular phenomena in question, but, in direct contravention of the principles upon which science rests, it is asserted that all phenomena are physical; some investigators apparently preferring to strengthen a party manifesting a certain definite tendency in thought, than to aim at scientific accuracy and work on in a spirit of scientific independence.

Free speculation and the framing of hypotheses stimulates and encourages enquiry, and ought not to be opposed, but scientific speculation must be controlled by observation and experiment. Even purely conjectural propositions, which arise from time to time in the mind, not unfrequently form the starting-point of new lines of scientific inquiry. Nay, I believe that but for the mental pleasure derived from speculation and contemplation, it is doubtful whether original observers would be able to complete the tasks they set themselves to perform,—tasks often lasting for months or years, and depending upon the steady prosecution of observation and experiment, in the course of which failure, disappointment, and the consciousness of lost time will be found to make a large item in the account. Scientific men must exercise their imagination, though at the same time they must control it. Observers probably differ from one another less as regards capacity for imagining than in the judgment they display in the publication of the results of imaginative inquiry. One man, perhaps, may examine carefully and then cast away hosts of ideas that another would gladly seize upon and bring under public notice at the earliest possible moment as thoughts that ought to move the world. Anyone having enthusiasm, who pursues a definite line of inquiry, will naturally desire to press on into the region just beyond the limits of observation and experiment; and this tendency is advantageous, for it often leads to new discovery. But of late scientific men, boasting of their exactness, have tried to drag us into very remote regions of conjecture, and insist that we shall accept, as literally true, all they discover in their imagination concerning the potentialities of imaginary atoms.

And not only so, but it has been more than suggested that some of the facts of the imagination upon which certain very old doctrines, recently revived, are based, cannot be made evident to people generally, but are only thoroughly understood by a very limited number of privileged persons. It is, therefore, a necessity that information so distributed should only be dispensable by a select few. But if we really study some of the hasty generalisations recently put forward, we shall find that after all they are little more than the opinions of one or two scientific speculators, having remarkable confidence in the infallible nature of their own opinions. Their unbounded faith has led many to accept their statements as literally true; and, by degrees, a powerful party has been formed. Now, no reasonable objection ought to be made to a combination among those who agree in their views of nature for the purpose of spreading the truths they have discovered, and endeavouring to gain for them the greatest publicity. The more widely and the more quickly facts are spread after they have been proved to be true, the better for investigators and for students. But that a few scientific men who have committed themselves to a particular set of doctrines, or that any one scientific man should, upon matters of science, speak as it were *ex cathedrâ*, and declare a particular doctrine concerning the origin and formation of all things to be absolutely true, should praise in highly extravagant terms those who side with him, and stigmatise those who do not at once accept his views, or who differ from him in opinion, as unworthy of credit, or as weak, or foolish, or savage, cannot be right or to the advantage of science. Such a course, if supported by many scientific men, and if sanctioned by public opinion, would surely be extremely prejudicial to liberty of thought and freedom of inquiry, for would it not soon lead to the establishment of a power that, instead of proposing, would decree; and, being convinced of its infallibility, would not hesitate to promulgate it? Nay, there is manifestly, at this time, a strong desire to establish a new power in connexion with science and philosophy which would be contrary to the first principles of English thought and destructive of progress.

I venture to think that enthusiastic disciples of physical life science have recently seized far too much of the world of life and assumed that it was their own, and have claimed privileges which do not and ought not to belong to investigators and teachers—especially the privilege of enjoying with only a very few other highly gifted persons a monopoly of the work of extracting scientific truth from the depths of the imagination. If some of the hypotheses now very popular can only be understood by a very small number of scientific men, is it impossible that the facts and arguments advanced against them should be made intelligible to a very large number of intelligent persons?

Many of this College, following the noble example set by the most illustrious of their predecessors, have done their utmost to extend the boundaries of medical science, and among our number are not a few who have taken an active part in the purely scientific work of the present century. The scientific as well as the practical aspect of medicine has ever been well represented in the College Lectures, but many circumstances seem to me to render it desirable that those among us who are favoured by circumstances, and have a natural bent for scientific pursuits, should do their utmost to maintain the high reputation for pure science won by their predecessors; and, as far as they have the power, hand down the honoured precepts to those who shall succeed. Such considerations, Sir, I hope may afford some justification for the course I shall take in directing attention to debated questions connected with life, which I fear may be deemed by some out of place here, in the Theatre of the Royal College of Physicians. But I may also plead, that one who has long been a teacher of physiology, and has had the honour of receiving a Baly Medal, may not unnaturally desire to ask this College and the profession to consider with him phenomena of the greatest interest, and which are most intimately connected with individual life, in a state of health and disease. But above all, I have been affected by the circumstance that at this time we are overwhelmed and confused with the most conflicting statements as regards even the simplest facts of life. We have no solid foundation upon which to build the fundamental principles of our science, for are we not, many times in each year, enjoined to accept as true the doctrines of a purely conjectural philosophy, based upon conjectural discoveries concerning matter and atomic phenomena?

To the doctrines now generally taught and fast becoming very widely diffused, I am and have been strongly opposed. In certain particulars those doctrines are in conflict with views based upon well-observed facts, in relation to the growth and multiplication of every known form of living matter, and the formation of the tissues of living beings. Many observations, though repeated again and again, must be entirely erroneous if the positive statements recently made concerning the phenomena of living beings are true. It may be presumptuous, perhaps, to suggest that the conclusions arrived at by me many years ago ought not to have been wholly ignored by authorities, who have expressed themselves in very confident language concerning the physical nature of life; but people have been informed again and again that *all* the phenomena of living beings are due to physical changes, although it has been pointed out that phenomena characteristic of every kind of living matter cannot be so explained. I have for many years pleaded in vain, that, for example, an attempt should be made to explain the movements of an amœba or a mucus-corpuscle by physico-chemical action. But instead of being answered, I am twitted with belonging to an institution famous for its orthodoxy. Old assertions are again repeated, and it is dogmatically declared, in the plainest language, that *all living things are machines*, and *that all their actions are mechanical*.

It is, therefore, right, as it seems to me, now to proceed a step further, and challenge the supporters of the physical theory of life to publicly reply to the objections urged against the statements they have made. For has not the time arrived when the facts and arguments upon both sides might be summed up, and judgment given, whether the physical doctrine of life is justified by the scientific knowledge of the time in which we live; or whether, on the other hand, it is not a thoroughly unscientific inference, based only upon the facts of the imagination, and opposed to facts of observation?

In the physical domain, as has been well said, consequence follows its antecedent with unerring certainty. What will happen under certain given circumstances can be stated with exactness and premised beforehand. But it is not so with the living world. It has yet to be proved that every change there is a direct consequence of antecedent physical change. We cannot predicate of vital as we can of physical phenomena. We have not the certainty of physical law. Nevertheless, with amazing confidence—not, however, resulting from knowledge—some declare that the difference is to be easily accounted for by the greater complexity of the circumstances and conditions which obtain as regards vital phenomena. When, it is affirmed, by further investigation these circumstances shall have been fully investigated, man, we are assured, will be able to define, with absolute certainty and unerring precision, the particular living form which shall result from the development, under certain given conditions, of a particle of colourless transparent matter which represents the earliest stage of being of countless numbers of very different creatures. And yet changes, characteristic of every form of living matter, have been scarcely alluded to by the upholders of this notion. It must indeed have struck many as a remarkable fact that so little has lately been said concerning the relation of life to matter. The connexion between mind and body, mind and brain, mind and matter, has been very fully discussed; but the question of the connexion between life and body has received far less attention, although the determination of the last is the preliminary inquiry which would naturally be presented for solution before the nature and relations of mind were touched upon.

Surely we who have been studying life in many forms, and under varying conditions—who have, from early age, been familiar with the tissues and structural changes occurring in man and animals in health and disease—ought to carefully examine the current statements about the physics of life, and try to prevent the wider diffusion of mere mechanical views, at least until it shall have been proved that they rest upon some solid foundation. We have been assured, over and over again, that we must accept a particular doctrine or nothing; but surely the alternative is not a very terrible one, for is it not conceivable that some may prefer being stigmatised as believers in nothing to the privilege of accepting as literally true highly conjectural propositions?

Ought we not to urge those who have assumed the responsibility of teaching physical doctrines of life to publicly reveal the facts, and clearly state the arguments upon which they rely for the establishment of the doctrines they assert to be true—doctrines which seem to be based upon mere discoveries of the imagination, though they are, it is to be regretted, believed and taught in the most ancient of our seats of learning, where, strange to say, Socratic philosophy and caution are still inculcated?

Among the doctrines referred to are the following:—

The sun forms living beings.

The brain and all organs have been built by the sun.

All the actions of all things living are mechanical.

All things living are machines.

Living organisms, as well as crystals, are the products of molecular forces.

The mind, the intellect, the will, thoughts and emotions, as well as the body, were once latent in a fiery cloud.

The present world and all its inhabitants, past and present, as well as those to come, lay potentially in the matter which was once cosmic dust.

The lowest forms of living approximate very closely to non-living material.

Only matter and material forces—only atoms and atomic forces—have been and are concerned in the formation of all things, living as well as non-living.

Up to this time no one has succeeded in showing that the above propositions contain the vestige of a sub-stratum of truth, and it would have been easy to have added several others to the above list, of which the same remark would be correct. Those who force such views upon public attention incur a serious responsibility, but I am not sure if scientific men who strongly disapprove of the course taken, and who know full well that many of the extravagant assertions now made in the name of science, and from a scientific platform, cannot be supported by facts, do not, by their silence, incur a responsibility equally grave, inasmuch as they permit arguments which they know to be unsound to be advanced in the name of science without objecting to them.

And now, Sir, I think I cannot better show how fully sensible I am of the high honour you have conferred upon me by appointing me to deliver these lectures to the College and the profession, than by asking of you permission to resign whatever authority the position of Lumleian Lecturer may have given; for I would come before you as a student, who, after studying and working for many years, desires, in as plain a way and as briefly as he can, to speak of some of the things he has seen, and is anxious to indicate, as far as he is able to do so, the broad general principles which seem to be deducible from his observations.

Much of what I have to tell is simple, and will easily be understood, and there is nothing that I have found out which might not have been found out by another had the same means of inquiry been adopted, and had the work been patiently

carried on for as long a time. Far from laying claim to the possession of any unusual powers or privileges of investigation, I shall be quite content if I am credited with power of being able to see as correctly as my contemporaries.

The preparations upon which my inferences are based have been shown to others, and not a few were exhibited in this theatre soon after they had been made. It is upon demonstration that I rely, and if I am not convinced that opponents who have never seen my specimens know much more about them than I do, who have carefully studied them for hours under very high magnifying powers on many different occasions, I hope I shall not be considered a very unreasonable and prejudiced person.

In the course of six lectures which I delivered to the College in the spring of 1861, and which were published soon afterwards, and in the course of the same year translated into German by my friend Prof. Victor Carus, of Leipzig, I directed attention to the remarkable characters of *living matter*, and pointed out how this could be distinguished throughout nature.(a)

I also showed that in nutrition the pabulum always gained access to the living matter, and that by and out of this latter alone, tissue was formed, the very matter that was once living becoming converted into the tissue. Specimens of the living matter were exhibited, some of which were taken from the lowest organisms, and others from the tissues of the higher vegetables and animals, and from man. The varying proportion of living matter in corresponding tissues at different ages was also demonstrated in cuticle, cartilage, muscle, nerve, and other tissues. The living matter was called *germinal matter*, which term has been since replaced by the short and more convenient word *bioplasm;* and the matter formed from it was termed *formed material*, because it was shown that all tissue, "intercellular substance," and matters resulting from changes in the so-called cell were formed from the bioplasm only.

It was also shown that masses of bioplasm, after reaching a certain size—usually less than the $\frac{1}{1000}$th of an inch in diameter—underwent division, and that as soon as any mass of bioplasm attained a certain definite size (which differs in different creatures and textures, but which is constant for the same), it divided, or portions moved away, and at length detached themselves from it. If the bioplasm were to continue to grow, the distance to be traversed by the nutrient matter before the inmost parts were reached would soon become so great that these would be practically beyond reach, and could not be nourished or subjected to the constant action of currents of fluid. Death would begin in the central part of such a mass, and would soon involve particle after particle as its ravages extended outwards, until the whole of the living mass was dead. There are many circumstances connected with the life of a mass of bioplasm which render its growth without division and subdivision a most improbable event. With the exception of that fanciful sheet of living matter once supposed to grow in the sea at very great depths—never seen, but received in undoubting faith by the critical Strauss—that so-called Bathybius which was evolved from the depths of the imagination at a time when a primeval physical basis of all life was particularly wanted by certain advocates of evolution; with this exception, I repeat, large masses of living matter exist not.

In man and the higher animals, it is the exception to find a single mass of bioplasm which measures as much as the one-thousandth of an inch in any direction. It is not wonderful that particles of matter so small, especially as they are also colourless and structureless, should have been for a long time passed over as of little importance, and almost ignored by some anatomists. In many drawings of tissues which contain numerous masses of bioplasm, not one is represented, for it was supposed that the tissue was formed independently of such particles. But the evidence in favour of the view that it is from these small masses of living matter that all tissue grows is incontrovertible. Without them nothing characteristic of a living organism is formed. These, and not the formed tissues, are the seat of nutrition, formation, and differentiation, and in them is the sole source of metabolic power.

(a) As much misconception has arisen as to the exact date of my observations on account of frequent references on the part of authorities to observations of Max. Schultze and Kühne, while mine were wholly ignored, it is only right to draw attention to the fact that Max. Schultze's "Das Protoplasma" was published in 1863, nearly two years after my lectures appeared, while Kühne's "Untersuchungen über das Protoplasma" did not appear till in 1864.

It was not to be expected that conclusions differing so widely from those entertained at the time by most observers, and so opposed to the general inferences concerning the nature of vital phenomena, would be accepted without the most thorough criticism. For that every conscientious worker ought to hope. I have been at all times ready to demonstrate the facts upon which my conclusions are based, and have been prepared to modify my views or abandon them if errors should be discovered and mistakes plainly pointed out. Every student of nature must be ready to have his conclusions at least considerably modified by those who follow him, and who go over the same ground with advantages necessarily greater than those which he, as a labourer in what was then a new field, could enjoy.

Nor can an observer living in times when materialism happens to be in the ascendant, at least among scientific men, and who is so unfortunate in his observations as to light upon facts which seem to him to support a view of the nature of life not in accordance with the tendency of the thought of his day, expect that his researches will be very kindly received or considerately treated. All this must be accepted, but is it not very doubtful whether the energy displayed during the last few years in pressing ill-founded and extravagant generalisations upon public attention will be of advantage, either by exciting an increased desire for scientific information, or by raising science in the esteem of well-educated persons?

It is, indeed, difficult for an observer to decide upon the course he ought to take in these days to bring his observations under the notice of other persons interested in similar inquiries. No doubt a certain humility of demeanour towards some who, I venture to think, assume that they occupy a position not sanctioned by custom, nor to be defended as an innovation likely to promote the interests of science, might obtain for an observer the privilege of working without serious opposition, and perhaps without hostile notice. But I venture to think that although a scientific man ought not to take any active steps to force his views before his contemporaries, or to gain for them the greatest possible notoriety, he may fairly expect that his results should be considered and weighed under the same advantages as those enjoyed by other members of the scientific body. Of course he should be careful not to excite opposition, but it would be unreasonable to expect him to be always making efforts to conciliate possible and probable opponents, or to passively submit to be roughly silenced by a clique, because his views and opinions are opposed to unproved and unprovable dicta promulgated by them.

In theory at least, as it seems to me, every worker appeals to, and ought to be protected by, scientific public opinion, which, perhaps hardly as yet existing in England, is slowly, but it is to be hoped surely, developing itself. An observer should endeavour to accurately describe what he has seen; and, having published the results of his inquiries, should announce, in the only way open to him, that such a work has been completed, and can be obtained by those who desire to see it. It will, however, save under very exceptional circumstances, hardly be possible for him to get attention directed to his observations without some sacrifice of independence to which no real worker will like to submit, although the only alternative may be to be ignored or condemned as one not fitted to survive in the struggle for intellectual existence.

(To be continued.)

ABSTRACT OF

THE CROONIAN LECTURES ON DISEASE OF THE SUPRA-RENAL CAPSULES.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS, LONDON.

By E. HEADLAM GREENHOW, M.D., F.R.C.P., F.R.S.,
Physician to, and Lecturer on Medicine at, the Middlesex Hospital.

Lecture I.

Dr. Greenhow commenced his first lecture with a short sketch of the life of Dr. Addison. Dr. Addison was born in the year 1795 at Long Benton, a village in Northumberland, near Newcastle-upon-Tyne. His father, who was a grocer and flour-dealer, designed him for the law; but personal predilections induced him to embrace the profession of medicine. He was first sent to a school kept at a roadside cottage by one John Rutter, a parish clerk, from whom some years later, Robert, the son of George Stevenson, received elementary

education in the same house. He was subsequently removed to a school of a higher class; and thence he went to Edinburgh, and became a medical student. After passing through the necessary curriculum, he took the degree of M.D., and was enabled to come to London, where he first became House-Surgeon to the Lock Hospital, and subsequently Physician to the Carey-street Dispensary, and probably also to the Royal Infirmary for Women and Children in the Waterloo-road. Soon after his arrival in London, he entered as a pupil at Guy's Hospital, and in a comparatively short time he was raised to be a member of the medical staff. In this position he speedily made for himself a great reputation as a practical physician and clinical teacher. A wide experience acquired in such various fields of study, together with his own great natural powers of insight, sufficiently explain the apparently intuitive knowledge of disease, and the almost unrivalled powers of diagnosis, which formed the basis of his great and real success in professional life. For his success was real; it was not small, if estimated in the lower sense by pecuniary results; but, if estimated in the far higher sense by his achievements and reputation, his success was great indeed, and such as only a favoured few can hope to equal. In some subjects he was far in advance of his day. Pathological truths which he enunciated thirty years ago, with respect to diseases of the lungs, have only recently won their way to general acceptance. The discovery with which his name will ever be associated was published to the medical world nearly twenty years ago, and has not yet been generally accepted, nor even generally understood. Dr. Addison died at Brighton in June, 1860, and was interred in Cumberland, from which county his family had sprung.

Dr. Addison had been nearly thirty years on the medical staff of Guy's Hospital when he discovered the disease to which the name of "Addison's disease" has been applied. To quote his own words, he had for a long period observed a form of general anæmia occurring without discoverable cause in cases in which there had been no previous loss of blood, no exhausting diarrhœa, no chlorosis, no purpura, no renal glandular tumours or malignant disease, and which he, therefore, designated idiopathic anæmia—a disease which presented in every instance the same general character, pursued a similar course, and, with scarcely a single exception, was followed at a variable period by the same fatal result. He further stated that the leading characteristic features of the state to which he directed attention were anæmia, general languor and debility, remarkable feebleness of the heart's action, irritability of stomach, and a peculiar change of colour in the skin, occurring in connexion with a diseased condition of the supra-renal capsules. To complete the picture, he added that there were occasional actual vomitings, palpitation, and breathlessness on exertion, indications of a disturbed cerebral circulation, a strongly marked tendency to the formation of fat, in striking contrast to the failure and exhaustion observable in every other respect. He had, therefore, before his eye a distinct, definite morbid state, the nature and cause of which he sought to discover; and his discovery, when made at length, was no chance hit, but the result of long and careful investigation. After the careful exclusion of all other morbid conditions, he referred the symptoms to a disease which he found seated in the supra-renal capsules.

As with respect to most other discoveries, several previous observers had stumbled upon the facts which Dr. Addison had discovered. Bright, Sibley, and Kirkes had seen and described similar cases, and an almost typical case had occurred long before in the Hull Hospital. Soon after the publication of Dr. Addison's monograph, Mr. Jonathan Hutchinson gave a wide-spread impulse to the discussion of the subject, by collecting and publishing all the cases he could obtain, bearing upon the question of the reality of the disease and its relation to a morbid process in the supra-renal capsules. Dr. Wilks, in a succession of papers published in the *Guy's Hospital Reports*, described all the chief symptoms of the disease, and more especially the pathological appearances in the supra-renal capsules, in a large number of cases, and he further brought forward the truth that all genuine cases of the disease are due to one and the same characteristic lesion of the supra-renal capsules.

Notwithstanding the misconceptions which have prevented the general recognition of Dr. Addison's discovery, we have made, as has been said, much advance in the knowledge of the disease since Dr. Addison's time. More than 300 cases have now been recorded. Many of these are imperfect, and others are obviously not cases of Addison's disease at all. But by far the larger number are true cases of the disease, while a considerable number are what may be termed typical cases—*i.e.*, cases in which no pathological lesion of any importance was found, except the one particular lesion in the supra-renal capsules. Eight of these typical cases have come under Dr. Greenhow's own care or observation, several of them in the Middlesex Hospital. The lecturer next drew a picture of Addison's disease. There are—progressive asthenia, having often originated without any apparent cause, seldom dating from any definite period; an indescribable aspect of listlessness or depression; great langnor and indisposition for exertion; almost invariably a remarkable weakness of the heart's action; a small, feeble, compressible pulse; loss of appetite; irritability of the stomach; nausea and retching. There are usually more or less severe and frequent pains in the loins and epigastrium, and not uncommonly tenderness on pressure in one or both hypochondria; a rigidity of the abdominal muscles, as if instinctively contracted to protect deep-seated parts from pressure. In advanced cases, vomiting is seldom absent, and it is sometimes spontaneous and irrepressible. There are usually breathlessness, palpitation on making any muscular effort, frequent sighing or yawning, and sometimes a persistent hiccough; generally, faintness or giddiness on rising, or even on being raised up in bed. There is, however, in uncomplicated cases, comparatively little or no real emaciation; on the contrary, together with some appearance of partial wasting, there is always a fair amount, and often a considerable excess, of subcutaneous fat, and the skin remains soft and smooth. The temperature, as a rule, is below the normal. The skin and extremities are cool, if not cold, to the touch. The urine is often small in quantity, and generally of low specific gravity, and deficient in solid constituents. The bowels are mostly confined, the tongue usually ruddy and moist until the advent of typhoid symptoms during the last days of life. The mind is often clear to the last; but so great is the prostration in the later stage of the disease, that the patient lies in a drowsy and semi-comatose state, from which he can only be roused by questions addressed to him, and he then gives pertinent, though slow and monosyllabic, answers. In this stage of the disease, the temperature falls considerably below the normal, and death takes place by asthenia, and sometimes at the last almost suddenly, apparently in syncope. There is, on the other hand, in many cases, towards the close of life, incoherence or delirium, sometimes low muttering, sometimes more loud and active, and in these cases death often takes place in coma. In one of Dr. Greenhow's most typical cases, the patient had a convulsive fit, and lay for hours before death with firmly closed jaws and great rigidity of the muscles of the abdomen and extremities. He was seemingly unconscious, but whenever he was touched convulsive twitchings took place, either of the face or of the whole body. Various other symptoms, such as vertigo, numbness or anæsthesia of the face and arms, and more rarely of the lower extremities, dimness of sight, flashes of light before the eyes, noise in the ears, deafness, tremors, rigors, and even epileptiform and other seizures, have been recorded as occurring in the course of the disease, and in a few as having been the principal symptoms observed, except the invariable languor and general debility.

Along with these constitutional symptoms of Addison's disease, there is a gradual darkening of the skin on various parts of the body, or even the whole body, which, when fully developed, is very remarkable, and gives the patient the appearance of belonging to one of the dark races of mankind. Most frequently it has a dusky, smoky, or yellowish-brown hue; sometimes it is of a greenish-brown colour, and when deepest approaches in parts the tint of negro skin. The discoloration is never uniform over all parts of the body; it commences paler, and becomes deeper on the exposed parts, the face, neck, dorsum of the hands and fingers, and all those parts which are naturally the seat of pigment on the general surface. Sometimes there is universal discoloration, but more frequently it is only distinctly obvious on certain parts. Even in the latter case, however, it probably affects in some degree the whole cutaneous surface, as Dr. Greenhow has proved by microscopical examination. The transitions from the dark to the paler shades of discoloration on different parts of the body are never abrupt. There is, however, one marked exception to this. When the skin has suffered any injury, the injured parts not only become much darker than the surrounding portions of the surface, but present defined margins, coinciding with the extent of the cutaneous injury. Such dark patches gradually fade away, and before death cease to

be visible. It does not require, however, actual abrasion of the skin to excite a greater deposit of pigment in certain parts. Slight local irritation of the surface appears in a few cases to have produced the same effect. Dr. Greenhow has seen dark streaks on the skin corresponding with the lines of pressure exerted on particular parts by petticoat-strings and garters; and the same circumstance has been noticed by others. In a case recorded by Dr. Nicholson in 1873, it is stated that the patient, a baker's lad, presented on his shoulders dark stripes corresponding to the bands by which the basket he carried was slung at his back.

The discoloration of Addison's disease is also frequently observed upon the mucous membranes of the cheeks and gums, upon the tongue, and on the lips, where it takes the form of an irregular bluish-black streak, running longways near the junction of the mucous membrane with the outer skin. It is seen on the gums and buccal mucous membrane in the form of irregular stains and patches, mostly brownish, with an ill-defined border. These stains on the gums and buccal mucous membrane form another point of analogy between the discoloration in Addison's disease and the pigmentation natural to the dark races of men; for several Lascars who have come under Dr. Greenhow's care in hospital have presented on the same parts stains similar to those described. The discoloration of the tongue appears usually in the form of sharply defined stains of a purplish blue, or somewhat inky hue, which in Dr. Greenhow's cases have always been situated near the free margin of the organ. The conjunctivæ always remain normal.

The discoloration of the skin in Addison's disease, therefore, usually begins and eventually becomes deepest on those parts which are naturally most liable to become pigmented, either by exposure to the sun and air or by the excitement of certain physiological processes. To these may be added such parts as may accidentally be subjected to the excitement of local irritation. In other words, this peculiar change of colour is merely an exaggerated, and therefore a morbid, development of a natural physiological process. On microscopical examination the discoloration has seemed to be due to a deposit of yellowish-brown pigment in the deeper layers of the epidermis, while the more superficial layers of the outer skin mostly remain free from pigment. Dr. Greenhow has, however, found in several cases traces of pigment in some of the more superficial scales of the epidermis, and also pigment-granules deposited here and there in the cutis. The colouring matter in the patches on the tongue is deposited in a corresponding situation with the stain on the skin, the superficial layer of epithelium remaining quite free from pigment.

It would be obvious, from this description, that the differences between the normal colour of the skin of the negro and the abnormal pigmentation of Addison's disease are merely differences of degree; although in the former physiological conditions, and in the latter pathological causes, have operated to produce them.

(To be continued.)

THE DUKE OF DEVONSHIRE has been elected President of the Chesterfield and North Derbyshire Hospital and Dispensary. His Grace has presented a large case of books for the use of the patients.

AGE OF CESSATION OF CHILD-BEARING.—In a paper read at the New York Medical Library Association, and reported in the *Philadelphia Medical Times*, December 12, Dr. Fordyce Barker reviews the various cases of advanced age at which child-bearing has been alleged to have taken place. One of these he has met with in his own practice, of the authenticity of which there can be no doubt. In this a lady, who was born on May 5, 1801, was delivered of a child on May 6, 1852, and of another in July, 1853. He has known two other instances of women over fifty having become mothers. His general conclusion is thus stated—"After the most careful and laborious research, I can find but one authentic case, based on the evidence of a respectable medical man, who carefully investigated the documentary proof of the fact, where a woman who had reached the age of fifty-five has given birth to a child. This case is recorded by Dr. Davies, Hertford, England (*London Medical Gazette*, vol. xxxix.). . . . In conclusion, I feel warranted in stating the proposition that the laws of physiology, the experience of mankind, and the decisions of courts of law justify a medical witness in declaring that a woman over fifty-five years of age is past the period of child-bearing."

ORIGINAL COMMUNICATIONS.

ON THE SANITARY STATE OF CLIFTON.

By THOMAS GREEN, M.D. Edin., F.R.C.S.,
Consulting Surgeon to the Bristol Royal Infirmary, etc.

STATEMENTS have recently been made, both in the medical journals and in the public press, on the sanitary state of Clifton, which can leave but one impression on the public mind, and that a most unfavourable one as to the present sanitary state of Clifton. It has been stated that "facts have been adduced which point to the condition of the Clifton sewer system as a facile escape of sewer-air into the houses, and is responsible for some recent cases of awful mischief and wide-spread disease of a less fatal kind."(a) In fairness, and for the sake of truth, I ask you to allow me to state that the "awful mischief" exists only in imagination; and, as to "wide-spread disease of a less fatal kind," I beg to give a positive and emphatic denial to the existence of anything of the kind. Clifton is now—as it has long been—one of the healthiest, if not the healthiest, town in England; and, from all that I can learn at present from some of its leading medical men, from fixed residents, and from my own daily knowledge of the place, I feel justified in asserting that it is remarkably healthy at the present moment. Its death-rate is only eleven in the thousand, and, on examining the register for the last few months, I find there is no death registered from any form of fever, either typhoid or scarlet, or from any epidemic or contagious disease whatever. Before making these statements I made inquiries from some of the leading medical practitioners of Clifton—Mr. Burroughs, Mr. Greig, and Mr. Cross,—and learned from them that they knew nothing whatever of the existence of fever or any other form of disease resulting from sewer-gas, and were as much astonished as myself in hearing the unfounded reports in circulation respecting the present sanitary state of Clifton.

It may be true that there has been an escape of sewer-gas into a few of the houses of Clifton, and consequent sickness in those houses. I cannot prove its non-existence, as I know nothing whatever about it, but in the few cases I have seen reported it has arisen, not from any fault in the sewer system of Clifton, but from some fault in the drainage of the houses themselves. If the structural arrangements of any house, either in Clifton, or anywhere, or everywhere, are faulty and imperfect, be it cottage or palace, sewer-gas will enter into that house and do its work. Traps and ejects are the proper mechanical contrivances to keep it out: if they are not properly constructed, in proper working order, and sufficiently flushed, then those who place reliance on such safeguards to keep out the enemy, live in an atmosphere of delusion, and, what is worse, in an atmosphere polluted by sewer-gas, which most surely will do its work; sooner or later the enemy will enter, either from the public sewer, or, I believe, most frequently from the drain of the house itself, which is obstructed, and contains an accumulation of sewage matter. From statements made in the papers it might appear that lazy and incompetent workmen have not done their work efficiently, and that rats will make their way into houses and cannot be kept out; and where they enter, sewer-gas follows. The answer to all this is very simple: employ none but competent and respectable tradesmen, who in their turn employ respectable workmen. If this be done, I take leave to assert that the escape of sewer-gas into houses can be as effectually prevented as the escape of coal-gas can. Sewer-gas, like coal-gas, is a most subtle agent, and will escape through the most minute fissure or aperture. Hence the necessity in both cases that all the canals through which either has to pass should be hermetically closed.

Plumbers and masons are the tradesmen employed to do the work of house-drainage. It is the everyday work of plumbers to make their work so secure that an escape of gas of either kind is impossible. Masons can do the same, but it requires care to make their work air-tight; especially in the joints where lead-work and masonry meet, care is required to make them secure.

There is one all-important agent in the work of house-drainage which too often is entirely neglected. Pipes and drains are not equal to the work they have to do without sufficient flushing. There ought to be a sufficient quantity of

(a) *British Medical Journal*, November 7, 1874.

water passing from every closet and sink—in fact, from every opening in different parts of the house communicating with the main house-drain—to carry their contents from the house into the public sewer, and, of course, sufficient to keep constantly the traps and ejects filled with enough water to keep them in a proper state to do what they are intended for.

I believe but very few give attention to the daily flushing of their drains. If this is neglected, then accumulations take place in some part or other of the canals, which ultimately cause choking or obstruction in them, sewage matter is retained, this soon decomposes, concentrated sewer-gas is generated, which forces its way backwards, and, when highly condensed, it may be sufficient to force through the ejects, even if properly filled with water; but should they not, then its escape into houses is the more quick and certain, and too often the public drain is supposed to be the cause of all the mischief that follows.

It is generally thought that the water used for household purposes is enough for flushing the drains. Of course the quantity used varies in each house according to circumstances; but, taking the average amount so used, it will not be found sufficient. Some gallons of water should be thrown down daily for the special purpose of flushing. This can be done freely in wet weather without drawing too much from the usual water-supply; but prudence would suggest not to use more than is actually necessary in dry weather, when the supply may be getting scarce. It may be safely asserted that if sufficient flushing be used, the ejects in proper working order, and the main drain of the house clear, then the daily refuse of a house ought to be carried into the public sewer by the following day.

As far as my own observation goes, the escape of sewer-gas into houses is mostly caused by obstruction in some part of the main drain of the house. A few weeks ago my senses detected the smell of sewage in a house I was visiting. At my suggestion the drains were opened, and the one passing from the servants' closet was choked throughout its whole extent by broken ware, rags, human hair, and seven dead rats. I feel convinced that one or other, if not all of those matters, are by far the most frequent causes of the escape of sewage exhalation into houses. Human hair is the most frequent of all; careless and lazy servants are the actors in this work of mischief, and they often pay the penalty in their own persons, being the first attacked by sewer fever.

The statements made in the local papers pointed to a want of ventilation in the public drains as the cause of the escape of gas into the houses in which it had entered, at the same time admitting that the ejects and other structural arrangements were imperfect. The Board of Health were urged to ventilate the main sewers. This they have not done, and for a sufficient reason: they entirely disbelieve the prevalence of fever at Clifton, or any other disease arising from sewer-gas. The chairman of the Sanitary Committee—Mr. Terrell, himself a member of the profession—declared in his place at the Committee that the reports about the state of Clifton were "altogether untrue and highly injurious." The active and intelligent officer of health, Dr. Davies, also emphatically denied that cases of blood poisoning existed at Clifton.

The Board of Health have done nothing in the way of ventilating the public drains, and for what must appear a most sufficient reason, which is—that no plan is at present known by which they can be efficiently and safely ventilated. Numerous suggestions have been made for accomplishing this end, the one most recommended being ventilating shafts, which, however, I believe, in common with many who have thought much about the subject, would make matters worse, and in certain conditions of the weather would so pollute the surrounding atmosphere as to make it unfit to breathe. Hence the sanitary authority of Bristol do not feel justified in erecting them, or in spending the public money in what after all can be nothing better than an experiment.

In the recent consideration of this subject the question has arisen, Can the exhalations from sewage matters produce fever, or is the presence of fever germs necessary for its production? Experience has convinced me that sewage, when mixed in any way whatever with water used for drinking, will produce fever; and, as well, that the exhalation from sewage, when sufficiently concentrated, will do the same, and in both cases without the possibility of fever germs having been in existence. I take this opportunity to express my entire disbelief in this fever germ hypothesis, which is, that specific germs pass off with the excreta of fever patients, and generate fever in those who use the water into which they may find their way through the escape of sewage into wells. I no more believe in them than I believed in the existence of cholera germs, which were supposed to be discovered a few years ago, were demonstrated, and, I believe, carried conviction to the Central Board of Health in London, but the College of Physicians proved them to be nothing more than granules of arrowroot. We are told that a foreign observer, Klein, has discovered and demonstrated fever germs. If these germs are submitted to the scrutinising gaze of the College of Physicians, the same result may follow as with cholera germs.

I cannot close these remarks without directing attention to a statement in the *Medical Journal* of October 10, headed "Sanitary Neglect in High Places."

A special commissioner, in making some remarks on the sanitary condition of Aberdare and Merthyr Districts, writes as follows:—"That for the most serious and injurious conditions which have come under his observation, those occupying the highest positions are responsible, sanitary neglect being largely traceable to members of Parliament, justices of the peace, who have not the plea of poverty to put forward as an excuse for their glaring shortcomings." If this be true—and I fear there is too much truth in it—we must not wonder if princes, peers, and peasants alike suffer in health and life from defective sanitary arrangements in their dwellings.

There are certain conditions required to keep those dwellings in a healthy state; which are efficient drainage, a sufficient supply of pure water and fresh air. Common sense will, I think, approve of these suggestions: they may be but truisms, and to urge them may be little better than to repeat a "thrice-told tale," but we know well that too many neglect to give attention to those truths, and suffer from loss of health, perhaps of life, for their neglect.

Before concluding, I beg to add that the agitation of this question in Bristol has not succeeded in ventilating the sewers, but it has succeeded too well in doing serious injury to Clifton. That beautiful place is, I believe, now the healthiest town in England, which is the more remarkable and significant when looked at in contrast with many towns of England, where fever has been far more prevalent during the past year than for several preceding years; and yet, from statements such as those which have gone the round of the journals, it would appear that Clifton is at the present moment little better than a fever stricken place; and I beg to repeat that a more unfounded notion could not have occupied the public mind. Since those statements have been made, the lodging-houses of Clifton and places of public resort have been nearly empty, and hence a cruel wrong has been done to a large and deserving class, many of whom have seen better days, and are struggling hard to pay their way and get a living by their lodgings; but for the present their occupation is gone,—not only is a serious injury done to them, but a great injustice is done to the public, or at least to those amongst them who seek in change of scene and air the restoration of health and a cure for all their ailments, real or imaginary. In no place in England could they find everything more conducive to health than at Clifton, containing as it does everything that can possibly promote it—a complete system of drainage, an abundant supply of good water, and air of the purest kind.

Amongst its other attractions, Clifton possesses, in its fine and extensive downs, a spot where not only the purest air can be breathed, but, as well, the eye can look upon scenes of unsurpassed beauty, of which I once heard Mr. Everet, the eloquent American minister, say "that he had there seen as splendid a panorama as the eye ever looked upon." Those who frequent those downs may, when the wind is favourable, inhale the fresh breeze direct from the Bristol Channel, softened and tempered by passing over six or eight miles of thickly-wooded and fertile country, and animation given to the whole by ships from all parts of the world passing up the river to the old port of Bristol. Those who take pleasure in such things may, at the proper season, hear the notes of the nightingale in the extensive woods at the opposite side of the river.

Clifton has a great advantage as a winter residence in the mildness of its temperature in some of its sheltered parts. I write this on December 21, when the thermometer stands nearly everywhere at or below the freezing point, and the ground is covered with snow. This morning, together with my friend Mr. Burroughs, I saw the thermometer standing at 62° in the open air in front of one of the houses in the West

Mall; the pavement was quite dry, and those who chose could walk up and down there and feel the freshness of early spring. I much doubt whether the most favoured spots in the South of England could surpass this.

It may be right to say that, being a member of the Corporation of Bristol, which is as well the Board of Health for the city, I felt it a duty, at a recent meeting of the Council, to make a statement similar to that contained in the above remarks. It would not be safe to do this in the presence of forty or fifty gentlemen, most of them living at Clifton, unless that statement was strictly correct.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

CASES OF FRACTURE OF THE SKULL.

(*Continued from page* 281.)

THE MIDDLESEX HOSPITAL.

Case 3.—Fracture of Base of Skull, with escape of Cerebro-Spinal Fluid—Recovery.

(Under the care of Mr. MORRIS.)

[From Notes by Mr. LEE MACINTIRE, the Dresser.]

ALFRED W., aged fifty-two, a grocer, was admitted into Broderip ward on September 15, 1874, in a semi-stupid state. He had been drinking, and was knocked down by another man, who struck him a blow on the mouth. In falling backwards he hit his head against a lamp-post.

On admission there was a small scalp-wound above the right ear; the lower lip was contused and cut on the mucous surface; and there was a continuous oozing of blood from the left ear. The blood is described as thin in character.

September 16.—The stupidity about his manner which was noticed when first admitted, and which probably was entirely due to the drink which he had just previously taken, soon passed off. He seems now quite well in every respect, excepting, however, that the oozing of thin blood from the left ear continues. Temperature 99°; pulse 96. Bowels have been freely open. Spoon diet; ice-bag to head.

19th.—Suffers occasional headache. No blood escapes from the left ear now, but there is a slight occasional discharge of a watery fluid from the same ear.

20th.—A plugget of cotton-wool which was yesterday inserted into left earhole was found, on removal this morning, to be saturated with what looked like blood-stained serum. With the exception of a slight headache occasionally he feels quite well, and thinks it strange and unreasonable that objection is made to his going out, and even to his getting up. He cannot hear the ticking of a watch held close to his left ear, but recognises the kind of noise when the watch is applied near to the right ear.

21st.—Slight headache; the cotton-wool in left ear is stained with discharge.

29th.—Still discharge from left ear; has occasional headache, and some singing noise in the left ear; keeps his bed, and is still on spoon diet and bread and butter.

October 3.—Has been getting up for a short time the last three days; he has no giddiness or headache when up; there is still a little discharge from the ear; was allowed meat diet for the first time to-day.

8th.—Discharged convalescent, with instructions to take great care, and to keep very quiet for some time to come.

Remarks.—The continuous escape, in the first place, of "*thin*" blood, then of what looked like blood-stained serum, and subsequently of a watery fluid, together with the loss of power of hearing on the same side, all point to the existence of a fracture through the petrous bone, with laceration of the cerebral membranes. On the other hand, the absence of any symptom of concussion or cerebral irritation proves that the brain could not have been injured by the accident to any appreciable extent.

The next case is one of much interest, and though by no means very uncommon in its nature or its termination, is yet pregnant with instruction when looked at from a clinical point of view. First, it teaches us the same lesson as the three preceding cases—viz., that fracture of the base may occur without injury to the brain, or any immediate consequent brain symptoms; but it teaches the lesson much more forcibly, for the patients in two of those instances were rendered insensible for a time, whereas in this case the man after a few moments protested he felt quite well, and proceeded on his journey as though nothing had happened. Secondly, it shows the necessity of immediate rest after an injury to the head, even though no cerebral disturbance is produced. After fracture of the base of the skull without immediate symptoms, death may, and does often, follow in one of two ways: either within thirty-six or forty-eight hours from hæmorrhage slowly going on, perhaps from a branch of the middle meningeal artery, dissecting off the dura mater from the bones and producing compression of the brain, as in this case; or it may be after several days, or even after three or four weeks, from inflammation and suppuration of the membranes of the brain. Death in the manner first named might possibly often be prevented by immediate and prolonged rest and the early application of ice; whilst death from meningitis would no doubt much oftener than is now the case follow fractures of the skull, were not the rules of absolute rest, low diet, and cold applications to the head as commonly insisted on as they are.

Case 4.—Fracture of Skull—Extensive Hæmorrhage between Dura Mater and Cranium—Death in Twelve Hours.

For notes of the following case, which occurred in country practice, we are indebted to Mr. Lucas, the able Resident Medical Officer at the Middlesex Hospital, by whom the post-mortem examination was made.

W. C., aged thirty-one years, a well-built labourer, while leading a young horse along the roadside, attempted to get upon his back, and in doing so fell backwards under the horse, the animal stamping upon the left side of his chest and head. He was stunned, but recovered his consciousness in a few moments; and, protesting he felt quite well, proceeded on his journey. No unsteadiness of gait was noticed by the bystanders; but he was observed to retrace his steps for some hundred yards, and then, recollecting his mistake, to turn round and continue his journey in the right direction for a distance of five miles. He complained of headache during his walk, but of no other inconvenience. After putting the horse up, he went to bed, and soon fell into a sound sleep. His breathing at first was noticed to be rather heavy, but after two or three hours it became stertorous, and his friends, becoming alarmed, sent for medical aid; but the patient died before any could be procured. A period of twelve hours had supervened between the time of the accident and his death.

At the post-mortem examination a large bruise was seen on the left side of the chest, but no other external mark of injury. On reflecting the scalp some extravasated blood was observed beneath the skin immediately above the left ear. On opening the head, the dura mater lining the middle fossa of the skull was seen stripped off from the bone, and a clot of blood equal to an orange occupied a space between it and the skull, compressing the brain in this region; there was no laceration of brain substance. On removing the clot, a fracture presented itself, extending through the squamous portion of the temporal bone across the middle fossa of the skull to the body of the sphenoid; but it did not appear to run beyond this point. The lungs were engorged with blood, and the kidneys were congested, otherwise the organs were healthy.

KING'S COLLEGE HOSPITAL.

CASE OF CHRONIC BRIGHT'S DISEASE.

(Under the care of Dr. BEALE.)

THE following notes are abstracted from the report of Mr. George Batterbury, Medical Registrar:—

G. L., aged fifty-seven years, employed at a printing-office, was admitted as an in-patient, under the care of Dr. Beale, on November 11, 1874.

History.—Patient states that he was quite well up to four years ago, when he had sudden and unaccountable hæmorrhage, from the nose. He afterwards passed blood at stool, which continued more or less until nine months ago. About twelve months ago he observed that his sight became weaker. This continued much the same until two weeks ago, when the dimness of vision became much increased. He also lost his appetite, and felt very weak. On November 8 he noticed that his urine was of a very red colour. Has always been quite temperate.

State on Admission.—Is fairly nourished; pupils of both eyes greatly contracted; skiu dry; arteries generally atheromatous; tongue dry, with brown fur at the back; no œdema of the legs or scrotum; urine smoky, slightly acid, specific gravity 1010, contains about one-fifth albumen; area of cardiac dulness slightly increased.

November 17.—Complained last night of pain in the right side of the head. Was delirious part of the night, and required watching to be kept in bed. To take one drop of croton oil in half an ounce of castor oil, and an enema containing an ounce of castor oil to be administered. Passed a little blood per rectum after the enema. Mouth drawn to the right side. Systolic bruit audible at apex.

18th.—Remains in same condition. To take pulv. jalapæ co. gr. xxx. every other morning.

19th.—Tongue black. Urine smoky and scanty, contains nearly one-half albumen; passed nine ounces only during the last twenty-four hours.

23rd.—Delirious during the night. Complains of pain at back of the head.

27th.—Bowels still constipated. Urine pale and clear.

28th.—In a state of stupor.

December 1.—Remains in a state of stupor; passes his urine unconsciously. Urine contains one-sixth albumen. To-day he vomited a quantity of dark-brown matter.

Patient remained in about the same condition until his death on December 3.

Autopsy.—A fibroid tumour about the size of a walnut was found in the skull on the right side, attached to the dura mater, and resting on the great wing of the sphenoid external to the foramen rotundum. There was a depression in the brain corresponding to the tumour. There was a large hæmorrhage in the brain, breaking down the septum lucidum. A portion of the brain-substance in the right hemisphere was stained of a reddish colour. The cerebral arteries generally were atheromatous. Heart hypertrophied; weight twenty ounces; mitral valve thickened. Liver healthy. Kidneys contracted and granular.

Fracture of the Clavicle by Muscular Action.—In a former paper, M. Delens has shown that fractures of the internal end of the clavicle are in more than two-thirds of the cases produced by muscular action. In the present article, in which he treats of fracture of the body of the bone, he shows that, although this arises from muscular contraction less frequently, yet this occurrence is not so very rare, as he has met with three cases in his own practice, and has found records of sixteen others. These have been usually met with in men from twenty-five to sixty years of age, and on the right side. The influence of debilitating diatheses—especially syphilis, and local changes in the bone, from osteitis, gummy tumours, etc.—are the predisposing causes of these fractures.—*Archives Générales*, March.

The Sulphuret of Carbon in Chronic and Atonic Ulcers.—M. Guillaumet writes in warm terms on the value of this substance, first introduced by M. Michel in 1867, and since abundantly tried in Dr. Costilhes' wards at the St. Lazare, in cases in which all other remedies have failed. Owing to its nauseous odour, it is applied as rapidly as possible over the surface of the wound, by means of a morsel of charpie, the surface being then covered over with a fine powder of nitrate of bismuth or starch. In recent ulcerations, one or two applications suffice, but five or six applications may be required in old ulcers before any appreciable modification is obtained; but then cicatrisation advances rapidly. The following are the conclusions arrived at:—1. Sulphuret of carbon is a very powerful cicatriser. 2. Its action is rapid and quite local, not producing any of the accidents which attend the prolonged inhalation of its vapours. 3. Its application is accompanied by pain, which is sometimes sharp, proportioned to the susceptibility of the patient, but in most patients of very short duration; it is immediately followed by a period of anæsthesia, which, however, is not constantly present. When it exists, it lasts for several hours, while the painful period does not last more than from twenty to sixty seconds. 4. The sulphuret acts upon wounds of different origin and nature (syphilitic, scrofulous, diphtheritic, etc.), and modifies all of them advantageously. 5. It is a valuable agent in the treatment of all wounds and ulcers which possess the common characters of chronicity and atony.—*Journal de Thérap.*, February 10.

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Medical Times and Gazette.

SATURDAY, MARCH 20, 1875.

THE DRAINAGE OF THE EDINBURGH ROYAL INFIRMARY.

For some time past the question of the drainage of the new Edinburgh Infirmary buildings has occupied the attention of the Town Council and the Infirmary managers. It appears that the original arrangement regarding the drainage of the new buildings was that the sewage should be carried westward. This disposition of the drains was provided for in the Bill submitted to Parliament, and was adopted as an apparently final settlement of the matter. But either the alteration by which the buildings have been carried further southwards, or a modification in the intentions of the managers, has led to the proposal of a new direction of drainage, which would lead the sewage of the Infirmary into one of the main sewers of the city. At a meeting of contributors to the Royal Infirmary held on January 19, the proposal to join the Infirmary drain with the St. Leonard's sewer at Hope Park End was discussed, and Sir Robert Christison affirmed that there was no more danger of infection from the drains of the Infirmary than from those passing through other parts of the city. Notwithstanding Sir Robert Christison's high position as a medical man and a leader in public affairs, this statement has not been generally accepted. The St. Leonard's drain passes through, perhaps, the most densely populated districts of Edinburgh, and the inhabitants of those districts and some of their municipal representatives have expressed disapproval of the scheme and doubt regarding the practical accuracy of Sir Robert Christison's opinion. They express their belief that the junction of the Infirmary with the St. Leonard's drainage would materially heighten the risk of infection by fever poisons to those inhabiting the line of the conjoint drain. At a meeting of those opposed to the scheme it was resolved to petition both the Town Council and Parliament not to yield to the influence which would be

used to secure their approval of the obnoxious proposal. At that meeting Dr. Coghill stated that it had been abundantly and undeniably proved that the spread of infectious diseases could be traced to sewage emanations, and that such a concentration of tainted excreta as passed through infirmary drains would naturally increase the risk of infection. He likewise made the important statement that there was not a single trap connected with any drain in the St. Leonard's district, through which it is proposed that the Hospital drainage should flow. Dr. T. A. G. Balfour declined to accept Sir Robert Christison's dictum, and entered at great length into the consideration of the whole question relating to infection through drains, and has since published a letter addressed to the managers of the Royal Infirmary, which seems to embody the leading points of his speech. He opposed the assertion of Sir Robert Christison by a statement of the principal theories regarding the origin of the specific poison of typhoid fever. His motive was to show that whether we agreed with Dr. Murchison that the poison was spontaneously generated by a peculiar decomposition or fermentation of animal matter, or with Dr. Budd that it was generated only in the stools of typhoid patients, Sir Robert Christison's statement was equally unsound. He quoted well-known instances in which it is apparently proved beyond doubt that typhoid fever may originate from sewer emanations. After expressing grave doubts of the reliability of any method of trapping at present in use, he stated that in the present instance trapping would be specially inefficacious, inasmuch as the St. Leonard's sewer ended by a large open mouth facing the north-east, and when a strong wind blew from that direction the pressure of gases was so great as to render traps useless in resisting the passage of drainage air into dwelling-houses. On the subject of traps the opinions of Dr. Parkes and Mr. Higginson were opposed to the statement of Sir Robert Christison, that "if the communications of private houses with drains were properly constructed no danger could arise, even though infected matter should be in the drains."

It was necessary that the Edinburgh Town Council should express an opinion on this important subject, and the Lord Provost's and Public Health Committees of the Council met on Thursday last to consider a report from a committee of Infirmary managers signed by Sir Robert Christison, and another from a joint sub-committee of their own members, regarding the new proposal for Infirmary drainage. The report from the Managers' Committee stated that the ratepayers of St. Leonard's district had "fallen into an error in representing the sewage of the Infirmary as peculiarly noxious and charged with infection, inasmuch as the number of cases of the most infectious diseases—such as small-pox or scarlatina — is always very limited, and those of common fevers, which are much less virulently infectious, rarely exceed thirty, and cannot exceed fifty." The report goes on to say that as such a limited number of patients rarely communicates infection to those in immediate attendance upon the fever-stricken, it is hard to believe that danger can arise through the intervention of a drain to people half a mile distant. It is stated that never at any time when epidemics were raging in any of the public institutions of Edinburgh had it been suspected that infection was caused along the line of drainage, and immunity from drain-poisoning is promised by the employment of a furnace through which all the air from the hospital drains will be drawn, so as effectually to destroy all noxious matters.

The joint sub-committee appointed to advise the Town Council submitted a report which in every particular was antagonistic to that of the Managers' Committee. The leading man on the sub-committee was Dr. Littlejohn, the Medical Officer of Health. The report submitted drew attention to the fact that no information was conveyed by the Committee of Managers as to the means proposed to be adopted for purposes of ventilation and deodorisation. It adverted to the fact that recent experiments had shown that the ventilation of sewers by furnaces was likely to prove a failure, adduced the opinions of medical men regarding the propagation of infectious diseases, and dealt with the statement of the managers that the junction of the Infirmary drainage with the St. Leonard's sewer could only be detrimental to the public were the drain to be allowed to communicate with the houses by the faulty construction of sewers, cisterns, etc., for which the managers were not responsible. Dr. Littlejohn and his associates stated that as evidence existed that the Infirmary sewage was specifically infectious, it would be unreasonable to send it through the main sewer when the only measure to render its transit safe would be the thorough trapping and reconstruction of all the collateral drains and extensive rearrangement of sink and closet communications over the whole drainage area. As a step towards a compromise, they suggested that a separation of the ordinary Infirmary sewage from that originating from infectious cases should be effected, so that the general and innocuous matter could be passed into the St. Leonard's drain, while the excreta of fever-wards should be disinfected in charcoal commodes, and then disposed of in a manner to be subsequently determined on. Supplementary to this arrangement, it was proposed that all clothes, etc., used by fever patients should be disinfected previously to being sent to the general wash-house. Finally, it was pointed out in this report that Dr. J. B. Russel (the Medical Officer of Health for the City of Glasgow) and Dr. Littlejohn believed in the absolute necessity for the separation of infectious from general sewage, and that the Medical Department of the Privy Council in London and the Board of Supervision in Edinburgh, when consulted by local authorities under the Public Health Act, generally insisted on the separate treatment of sewage from hospitals for infectious diseases. The joint committees agreed to accept their sub-committee's report, and determined by a majority of nineteen to two to oppose in Parliament the proposed method of Infirmary drainage. Subsequently the matter was considered at a meeting of the Town Council. It was pointed out that the flow through the main St. Leonard's trunk was so rapid that there was no time for the occurrence of that decomposition which is necessary before infection would be produced in ordinary cases. With this drain, however, there were five junctions, which had not such a run, into which house-drains emptied themselves directly, and where accumulation might take place. The alternative drain—that towards the west—was so sluggish as to be altogether unsuited for the reception of the Infirmary sewage, more especially as all the house-drains opened directly into the main trunk. The system of separation and disinfection mentioned above was advanced, and after a very general and interesting debate a motion approving of the plan advocated by Dr. Littlejohn and his associates was adopted by a majority of twenty to seven. The amendment was that the Infirmary should have an independent system of drainage, so as to obviate the passage of infectious material through the city sewers. The terms of the motion have been approved by the Infirmary managers.

It is difficult to say whether the managers of the Infirmary have been wise in adopting the proposals of the Town Council. Doubtless, it is absolutely necessary that the two bodies should avoid litigation; and it is gratifying to hear that the managers of the Infirmary did not intend to push the matter in Parliament against the wishes of the Municipality. Still, in a large sanitary question, security is even a more important feature than concord; and it is possible that the use of earth or charcoal commodes may not be a satisfactory solution of the difficulty which is at present vexing the Royal Infirmary

managers and the Edinburgh Town Council. In the first place, scientific men, and such medical officers as have had experience of earth-stools on a large scale, are not at all convinced that they are reliable as disinfectants of infectious or untainted excreta. In the second place, fever patients are, or used to be, to a considerable extent treated in the ordinary wards of the Royal Infirmary, and the system of charcoal or earth commodes would require to be extended to the general wards for the use of such patients before absolute security could be attained, even on the system suggested by Dr. Littlejohn and his fellows. There certainly are some men who would side with Sir Robert Christison, when he advocates the doctrine that the exhalations from drains connected with fever wards are innocuous if house-drains are properly guarded; but the majority of those who have devoted time and attention to the subject would, we think, agree that such exhalations are at least to be dreaded. A recent and very reliable statement of the question is to be found in Sir William Jenner's introductory address to the Clinical Society, published by us on the 20th ult. "Most of us," he says, "have met with cases in which the breathing of greatly diluted sewer-gas continuously for some time, especially at night, has seemed to be able to produce typhoid fever *de novo*." Sir William Jenner adduces in the same address a case which illustrates this proposition. On the whole, the solution of the question which would be most probable to redound to the credit of the Infirmary managers and the municipality of Edinburgh would be the construction of a drain exclusively for the new Infirmary. The scheme would involve considerable primary outlay—say from £7000 to £10,000,—but the result would not fail to be permanently satisfactory. At the same time, it is in many respects gratifying that the difficulty has been met without the necessity of resorting to such counter-legislation as would involve a large expenditure of Infirmary funds, and cause unnecessary antagonism between the managers of the Royal Infirmary and the ratepayers, who contribute largely to the support of the institution.

HOMŒOPATHY RAMPANT.

In the last number of the *Homœopathic Review* is an article in which we are severely taken to task, inasmuch as the publishers of this journal considered it advisable to reject an advertisement relating to certain lectures delivered at the Homœopathic Hospital. The *British Medical Journal* is likewise called to account for the same offence; whilst the *Lancet*, which admitted to its columns the advertisement in question—probably quite unconsciously—is handsomely patted on the back, though elsewhere dealt with in the accustomed fashion, as regards a very silly review of Phillips's Materia Medica. We know not how it is, but the believers in the homœopathic creed seem to be a more than usually irritable race, for time after time we find them attacking those of our belief in the columns of this *Review* without just cause, though it is not often that we find them so virulent as on the present occasion. To begin with the article alluded to above: in it the statement is made or insinuated that the *Medical Times and Gazette* is solely the property of the Messrs. Churchill. It may as well be known once for all that this is not the case. Neither do these or any other gentlemen in the slightest degree interfere with the conduct of this journal in any respect: for whatever appears in it the editor is alone responsible.

So much to clear the way. Let us see what next. This refusal to insert the advertisement seems to have given rise to much irritation in the mind of the author of the article, for he proceeds next to call names, saying that the thing is "unjustifiable and cowardly," and that we have persistently (but whether knowingly or ignorantly appeareth not) misrepresented homœopathic doctrines. Between the two is a great gulf, morally speaking, but it is not clear which is here insinuated, for in one breath we are accused of misrepresentation, in the other of ignorance. Fortunately the *Review* contains the lectures about which so much fuss is made. They have been delivered by Dr. Dudgeon and Dr. R. Hughes, and the former at least has some idea of what he has got to defend.

The first statement made by Dr. Dudgeon was a reply to that accusation of dishonesty so often urged against the practice of some homœopaths—viz., that of also prescribing drugs other than the so-called homœopathic remedies. Ordinarily this allegation is met by a direct negative; Dr. Dudgeon admits it, and claims privilege. But how an honest and upright professor of homœopathic doctrines can conscientiously do this we know not; nevertheless, such is the modern homœopathic profession of faith.

Next he attempts a defence of the principle *similia similibus*, and of Hahnemann in connexion with it; but he says not a word as to the whole fundamental value of the doctrine of similars. That a remedy or drug should be most useful when giving rise to symptoms the most nearly similar to those of any disease, is at least an intelligible proposition. But here a depth is interposed, for if a remedy practically identical in its signs with the disease were to be given, it would only add to the intensity of the disease. Such a proposition is utterly unintelligible. Then he comes to what all reasonable homœopaths have to do—to apologise for Hahnemann. Not the stoutest homœopath that breathes can now face and accept the doctrine "*es liegt psora zu grunde*," nor can they swallow all the provings of the Materia Medica *pura*.

In his second lecture Dr. Dudgeon attempts to make headway against the fact we have before now asserted as essential to homœopathy (probably one of our misrepresentations), and which we now make bold to repeat. To a homœopath pathology is naught; disease to him is but a bundle of symptoms which have to be fitted as closely as possible to the supposed action of a drug—if there is any treatment at all. Pathology may be studied by him as a matter of curiosity, the same as any other division of natural science; but as it did not exist in the time of Hahnemann in any shape deserving the name, so the homœopathic system there and then fully formed must of necessity preclude special reference to anything save the sound and healthy and diseased systems as manifested in symptoms. In the end, Dr. Dudgeon "insisted on the importance of ascertaining and removing the exciting cause of disease in every case where this was possible." Surely this is good sound sense, but bad homœopathy.

Proceeding further, the lecturer again repudiated the authority of the father of homœopathic doctrine as given in his work on chronic diseases, and again upon the absurdity of his doctrine of dynamisation when treating of the difficulty of the dose; for, in truth, the modern homœopaths are greatly vexed on this subject. Some say it is no part or essential part of homœopathy. They forget the quarrel of its author with the German apothecaries, and the necessity he was under of sending medicine in letters and the like; and the great original had an easy conscience. At all events, there are two schools now—the high dilutionists and the low. How a man dealing in average doses of mother-tinctures can can be said to hold with one who deals only with high dilutions—say the 300th—we cannot comprehend; the notable results must be vastly different. Well might Dr. Dudgeon say, in conclusion, that it is only a practical trial that will produce conviction of the usefulness of homœopathy. Intellectually, it is naught; practically, it is foolishness.

We have thus far dealt with Dr. Dudgeon, and we have given his lectures a much better advertisement than was perhaps desired. It is often asserted by homœopaths that we know nothing of homœopathy. We both know it and despise it as a system of medical practice.

GUILTY, OR INSANE?

A CASE has just been tried at Lancaster which offers some points of peculiar interest to the medical practitioner. A man of the name of John Kavanagh was tried for the wilful murder of Joseph Wilkinson. It appeared from the evidence, which was long and somewhat complicated, that the prisoner was a cousin of the deceased, and visited him at Ulverstone, where he lived in a state of independence. Up to August last there had been no quarrel between them, but about that time a dispute arose, which ended in Wilkinson turning the prisoner out of his house. Soon after this the prisoner was summoned before the magistrates for threatening to take Wilkinson's life, and he declared that he had been obliged to make the threat in self-defence; but some circumstances led to the suspicion that Kavanagh was of unsound mind, and he was accordingly examined by Dr. Robinson, of Ulverstone, and Dr. Taylor, who deposed that he was of unsound mind. Upon this evidence, the prisoner was sent to the Workhouse on July 30; but, in a week's time, a further inquiry was held by Mr. Fell, the chairman of the Petty Sessional Division, at which Wilkinson attended, and at which the doctor again certified that the prisoner was of unsound mind; but the chairman decided that he was not of unsound mind, and he was discharged. Subsequently to this the prisoner on two or three occasions went to Wilkinson's house and was said to have used threatening language. On September 5 the prisoner, who was sober, called on Wilkinson, who was drunk, and the two repaired to a neighbouring public-house, where they remained drinking rum until nearly ten o'clock at night. It was then suggested that they should go home. Wilkinson agreed, provided the landlord would go with them, but said he would not go alone "with a dangerous rascal like the prisoner." The prisoner then purchased a bottle of rum, and the three adjourned to Wilkinson's house, where they continued drinking in the kitchen until near midnight, when the landlord went home, and the prisoner went to bed, leaving Wilkinson in the chair: he was very tipsy, the other two were sober. Wilkinson remained in the kitchen all night, and when the servant came down in the morning, he was apparently asleep in the chair. Mrs. Wilkinson and the prisoner came down later, and tried in vain to rouse Mr. Wilkinson; but it was not till the prisoner had had his breakfast and gone away that Mrs. Wilkinson became alarmed, and sent for Dr. Robinson, who came, and found that Wilkinson was suffering from the effects of laudanum, as demonstrated by the usual signs of poisoning by that agent—extreme pallor, contraction of the pupils, difficulty of breathing, and coldness. In the course of the afternoon the patient was galvanised, with the effect of causing considerable vomiting and of bringing Wilkinson to his senses for the time; but he again sank, and on the following morning died, the "immediate cause of death being congestion of the lungs, a consequence of the dose of opium." The post-mortem examination disclosed only faint traces of opium, and the vomit had been thrown away; but the doctor called for the prosecution was positive as to the cause of death, speaking from the symptoms; and when the prisoner was taken into custody, he said that he had given laudanum to Wilkinson to keep him quiet, and that the bottle was on the top of the bed in which he had slept that night, where it was found accordingly. The prosecution insisted that the prisoner had put laudanum into the rum with the intention of murdering Wilkinson. To show a motive they called a servant, who proved that in the previous July there had been an improper intimacy between the prisoner and Mrs. Wilkinson, and that she had caught them in open adultery. Mrs. Wilkinson was called as a witness, and on being asked whether the allegation was true or not, said she "did not remember"—an answer which created some sensation. The Surgeon of the Gaol and the Governor of the Castle were called to prove that, in their judgment, the prisoner was perfectly sane, and that the opinions of Drs. Robinson and Taylor to the contrary were not reliable. As to the latter, it was also argued that they could not be depended upon, on the ground that the doctors had been led to come to that conclusion because they thought the prisoner was suffering from a pure delusion when he said (as he did, before the magistrates) that he was in danger of his life from the Wilkinsons; when, in point of fact, this was not a delusion, but there had in reality been a quarrel, which the prisoner exaggerated in order to defend himself before the magistrates. For the defence, it was denied that the death of Mr. Wilkinson had been caused by laudanum at all; the quantity taken was less than half an ounce, and to anyone accustomed to it such a dose would not act as a poison. It was suggested that death was caused either by apoplexy or alcoholic poisoning. The prisoner's action in giving Wilkinson the laudanum to keep him quiet might have been a creditable one. Moreover, the prisoner was, in fact, insane, and not accountable for his actions; and this was proved both from the doctor's evidence and from his own conduct.

The learned Judge, in summing up the case, said that there were two perfectly distinct questions for the jury—(1) Did the prisoner, by the administration of laudanum, cause the death of Wilkinson? (2) Was he at the time responsible for his actions? Was he aware or not that the act was wrong? As to the first question, if the prisoner improperly gave to the deceased any quantity of laudanum—even such a quantity as might not in all probability cause death,—still, if death ensued, he would be responsible for the consequences of the act. As to the second question, in order to find the prisoner not guilty on that ground, they must find that at the time of the offence the prisoner's mind was in such a state of derangement that he did not know the consequences of his act; or knowing them, was not able to distinguish whether the act was a right or wrong one.

The jury, after an absence of about an hour, returned into Court, and said they found the prisoner guilty of administering the laudanum to the deceased, but were not entirely agreed as to the intent with which it was so administered, some of their number thinking that it was done in order to effect an unlawful purpose, but not with the intention of killing.

His Lordship told the jury that unless the prisoner in committing the act intended at the least to do some grievous harm to Wilkinson he would not be guilty of murder.

The jury again retired, and, after a consultation of about twenty minutes, found a verdict of guilty of murder, but were understood to recommend the prisoner to mercy. Sentence of death was passed in the usual form.

This is a most unsatisfactory trial in every respect; and if it cannot be brought for argument before the court for Crown cases reserved, the verdict will surely be commended to the consideration and revision of the Home Secretary? It seems strange, indeed, that the certificates of two surgeons of experience as to the insanity of the prisoner should have been overruled by a chairman of petty sessions; and it is of the highest importance that the grounds upon which he arrived at his conclusion should be known. Certainly, the subsequent acts of the prisoner would seem to corroborate the correctness of the opinion of Drs. Robinson and Taylor. We do not see that any evidence was adduced in support of the statement for the prosecution, that the prisoner's dread of Wilkinson was *not* a pure delusion; nor do we see that Drs. Robinson and Taylor were examined as to the state of the prisoner's mind. The trial, we repeat, appears to us most unsatisfactory and defective.

THE WEEK.

TOPICS OF THE DAY.

The following remarkable case is worthy of note, as an excellent illustration of the great caution which should be exercised in accepting evidence of identification:—A short time ago an inquest was held on the body of an unknown woman, twenty-four years of age, which was taken from the River Avon, and bore such injuries as to lead the medical man to conclude, in the absence of all symptoms of drowning, that the deceased had been murdered and then placed in the river; and, after some evidence had been received, the inquest was adjourned to allow of time for the collection of evidence as to who the unfortunate woman was, etc. On opening the adjourned inquest, the Coroner commented upon the strange case of mistaken identity which had occurred in connexion with the case. "In the course of their inquiries the Bath police met with a woman who stated that the description of the deceased corresponded with the appearance of a woman who had cohabited with a bargeman, and between whom there had been a violent disagreement at Bath previous to their departure in the barge for Bristol. The woman was taken by the police to see the body, and, after a minute examination, which extended to a scrutiny of the teeth, the condition of which confirmed the woman in her opinion, she positively stated the deceased was the woman she referred to. This identification was positive, and was singularly correct both in general and in detail; and the woman's testimony would have been unhesitatingly placed before the jury for their acceptance but for one circumstance—the simple fact that the woman so carefully examined and so minutely described had been found alive." The lesson to juries and others is such a good one, that it is worthy of being placed on record.

The expediency, as is alleged, of some modification of the law affecting coroners was urged upon the Home Secretary at a "private" interview with him, last week, by the Mayor, Town Council, and others of Manchester. It is asserted that the result of this conference was highly satisfactory. The precise nature, however, of the satisfaction, the "private" character of the meeting has at present precluded us from ascertaining.

The registration and classification of the diseases and cases of sickness of seamen in our ports could not fail to afford statistics most valuable and useful in showing the special maladies that render sailors unseaworthy. The Medical Officer of Health of the Port of London, in his last report, proposes to classify the cases of sickness found in the port, so that the Port Sanitary Authority may possess a registration of disease affecting the seafaring population.

The circumstances attending the death of Mary Jane Rushworth at the Clayton Workhouse—a case to which, it will be remembered, we drew attention a short time since—have just been investigated by an inspector from the Local Government Board. The evidence shows that one of the nurses in charge of the deceased was an imbecile named Alice Parker. The inspector at once, in terms of strong animadversion, spoke of the employment of such a woman to take care of the deceased, and ordered that, in future, care should be taken that no patient was left in charge of an imbecile. He also suggested the instant dismissal of another of the nurses who had shown herself unfit for her duties.

A writer of a letter signed "Scrutator," in Tuesday's *Times*, calls attention to the extraordinary number of inquests which are held in the Workhouse of St. Pancras. He says—"Taking the number of deaths and inquests in most of the metropolitan workhouses during the year ended Christmas, 1874, the figures stand as follows:—St. Pancras Workhouse, deaths 344, inquests 56, or 16 per cent., or 1 in 6; in Marylebone Workhouse, deaths 505, inquests 8; Holborn, deaths 505, inquests 12; Islington, 260, inquests 3; St. Saviour's, 456, inquests 12; St. George's Union, 362, inquests 12; Greenwich, 221, inquests 3; City of London, 283, inquests 3; Strand, 87, inquests 0; Hackney, 167, inquests 1; St. Olave's, 214, inquests 4; Westminster, 133, inquests 6; Mile-end, 144, inquests 5; Chelsea, 58, inquests 2; Kensington, 21, inquests 1; Paddington, 164, inquests 4; and so on. Whitechapel is the only workhouse which stands at all near St. Pancras in its proportion of inquests to deaths—the deaths being 354, and the inquests 39, or 11 per cent., as against 16·2 in St. Pancras." We agree with the writer in thinking this high proportion of inquests demands an inquiry. Unfortunately, St. Pancras Workhouse has for years past had an unenviable notoriety for the excessive number of inquests held within it. Now, have all these inquests been necessary? and if so, who has been to blame for that necessity? The public have a right to demand that these questions shall be answered if "Scrutator's" statistics are correct.

The great increase of and encouragement given to baby-farming render it imperative, as Mr. Justice Lush remarked at the Exeter Assizes on Tuesday, when passing sentence on a baby-farmer, "to vigorously suppress it or efficiently regulate it." Betsey Binmore, a baby-farmer at Newton Abbot, was sentenced to twelve years' penal servitude for manslaughter. A child died, of which she had had the care for three months. Medical evidence showed that the child was starved to death. Three other children had died in her house within eighteen months.

An inquest was held last Saturday on the body of Louis Fournie, aged six years, the son of a French artist residing at Gaysford-street, St. George's-road, Southwark. From the evidence adduced, it appeared that at the end of last month the boy caught a cold, and suffered from bronchitis. On March 2 he was seen by Dr. Peter De Villiery, who, it may be mentioned, obtained his diploma at Strasburg in 1848. He ordered the boy to be kept without food, and that croton oil should be rubbed over the body. The mother swore that the boy was, by Dr. De Villiery's direction, kept without food till the 6th inst., and that no warning was given that the child was in any danger. On the 7th he died. Mr. Gibson Brown, a surgeon in the Brixton-road, who had examined the body, said that the brain was congested and the lungs inflamed; but he condemned the treatment, and said that the continued application of the croton oil must have been most painful; and that he considered the cause of death was starvation. Dr. De Villiery himself was also examined, and said that he saw the child every day, and believed that the use of the croton oil, and also the abstinence from food, were both rightly ordered, "the latter because the child was 'frightfully' feverish." The jury, however, returned a verdict that "The deceased died from bronchitis and starvation, accelerated by the treatment of the medical man, although not amounting to criminality." For the grammar of the verdict we are not responsible, but with the sense of it we think the profession at large will agree. It is only fair to say that Dr. P. De Villiery has since written to the *Times*, saying, among other rather irrelevant matters, that though he did order the use of croton oil liniment, croton oil had been applied before he saw the child; that when the fever had abated he "ordered veal-broth, also Spanish wine with a little water"; and that the child "succumbed to a malady so often fatal, (1) owing to the delay in calling in medical advice (four days); (2) through a want of proper control over the child; (3) owing to the complication of diseases and the boy's unhealthy constitution." It seems a pity that Dr. De Villiery was not able to impress the jury with this account, and with a due sense of the import of all the other details he has since confided to the columns of the *Times*. But we must add that

Dr. P. De Villiery's name does not appear to have gained a place in either the "Medical Register" or the "Medical Directory."

Dr. Alfred Meadows has been elected a corresponding member of the Medical Society of St. Petersburg.

THE HOSPITAL SUNDAY FUND.

A large and influential meeting of the Council of the Hospital Sunday Fund was held at the Mansion House on the 16th inst., presided over by the Lord Mayor, to consider what course should be taken with regard to the resolutions adopted, at the instance of Dr. Morell-Mackenzie, at a recent public meeting, the resolutions in question entailing a material alteration in the basis of distribution of the Fund, and also in the constitution of the Distribution Committee. The Secretary read letters from Earl Cadogan, Sir Henry Daubeny, Sir James Paget, and Mr. W. H. Smith, M.P., expressing strong disapproval of Dr. Mackenzie's resolutions, and intimating their desire to retire from the Council, and one from the Rev. Dr. Parker in favour of the propositions. The Rev. W. G. Humphrey inquired whether the public meeting referred to was held under any authority; and the Lord Mayor, in reply, explained that it was convened by him in accordance with a resolution proposed at the annual meeting in January last by Cardinal Manning, to the effect that a committee be appointed to examine and report on the claims of special hospitals in particular, and generally on the basis on which the grants from the Hospital Sunday Fund ought to be made; it was to receive such report that the meeting in question was called, and there could be no doubt as to its legality. The Bishop of London said the Fund was probably the only institution in the world which allowed its affairs to be settled by persons from whom no qualification was required. The Rev. Dr. Kennedy remarked that the constituency of the Fund was not the general indiscriminate public, but the contributors, and the Council must in future give power to the various congregations to send delegates to their meetings. The Rev. Professor Marks observed that if the alternative was the adoption of the new resolutions, dictated as they were by a party and a clique, or the dissolution of the Council, he should infinitely prefer the latter course—a sentiment which was received with much applause. He further suggested that the clergy by whom the money was raised should be called together to determine the course to be adopted. Sir Rutherford Alcock then moved, and the Rev. T. J. Rowsell seconded, the following proposition:—"That the Council declines to act upon the resolutions passed at the public meeting on the 8th inst., believing that those relating to the constitution of the Distribution Committee, and restricting its discretionary power, would, if carried into effect, prove adverse to the just and generally satisfactory administration of the Fund." An amendment was proposed by Mr. R. Brudenell Carter—"That this Council, having been appointed by the annual public meeting held on January 4 last to make arrangements for the collection and distribution of the Hospital Sunday Fund for the current year, declines to hold itself bound by, or to accept otherwise than as recommendations worthy of being considered, the resolutions of any meeting held during its tenure of office." The Bishop of London, in seconding this, said he could not conceive that the Council could be bound by the resolutions of Dr. Mackenzie. The Fund had been taken up with a great deal of benevolence and zeal, and a constitution had never seemed till now to have been thought of. At present there was nothing to prevent a crowd of people coming to the Mansion House to vote any proposition they chose with regard to the Fund. The Rev. Canon Miller remarked that he had seen many public meetings, but he never remembered one which was so absolutely disgraceful in its conduct as that which assembled on the 8th instant. It was a noisy and packed gathering; a perfect scandal to those who formed it. If Sir Sydney Waterlow had descended to the use of his opponent's tactics, he might have brought five hundred medical students to vote the other way. Unless the resolutions were reversed, the Fund would have received its death-blow, and he, for one, would never preach for it again. The Rev. Canon Harvey wished to remind Dr. Mackenzie and his followers that the Fund had to be collected before it could be distributed, and if the resolutions were acted upon, he, like Canon Miller, must entirely withdraw his support. The amendment of Mr. Brudenell Carter was eventually carried almost unanimously. It was then proposed, seconded, and carried—"That, before any further action be taken, the ministers of religion in the metropolis, with two members of each congregation, be invited to a conference at the Mansion House to be held on the subject."

The result of all these disagreements must, if great care be not taken and much mutual compromise be not exercised, be the break-up of the Council, by the loss of some of its best and most influential members; and should these not be exercised, the ultimate fate of Hospital Sunday in the metropolis may very easily be predicted.

THE HAMPSTEAD HOSPITAL.

We suppose that the Hampstead Hospital Site question must be regarded as a settled matter, but if there is still a chance that the Asylums Board will reconsider their decision, the following "personal statement," or plaintive remonstrance, from such a man as Sir Rowland Hill, K.C.B.—the Rowland Hill of the penny postage—should have some weight. Sir Rowland Hill has circulated this statement among the members of both Houses of Parliament:—

"The proposed Fever Hospital, against which in its earliest stage, now about seven years ago, I protested to the proper authorities, will not only seriously increase the injury to my property already produced by the erection of its temporary predecessor, but will renew and seriously augment an injury to health and comfort, from which, both on my own account and that of Lady Hill, I naturally shrink, yet cannot escape, since, being both at an advanced age (nearly fourscore) and in feeble and precarious health, we are utterly unfit for removal. The extent of the evil will readily appear when I state that the hospital grounds are for 300 yards conterminous with my own premises, and are with their buildings in full view from the windows of my house, and further, that the road by which the sick are conveyed thereto, and the dead removed therefrom, is so close at hand (being within eight yards of my house) that when I look out from the room where I pass nearly the whole of the day, and, still more, when I am on the balcony, to which I am now almost entirely confined for my enjoyment of fresh air, and absolutely so for my daily walks, I have the whole sickening traffic (which amounted, I am informed, during the small-pox period to more than 7300 diseased and 1300 dead) almost literally under my eyes—a state of things which thwarts in no small degree the generosity with which it pleased her Majesty, the Parliament, and the nation to requite the labours under which my health has sunk. That the injury to property is by no means limited to my own will be seen by reference to the appended 'Joint Reply,' paragraphs 21 to 23. Were the infliction inevitable I must bear it, in common with other sufferers, as best I could; but other and less objectionable sites can undoubtedly be obtained; indeed, another and well-isolated site, also in this parish, which has been pronounced by one of the highest medical authorities to be superior to that now held by the Asylums Board, has been offered as a substitute to the managers, who nevertheless appear determined to persist in the unwarrantable design of making their temporary hospital permanent in its present position, and of extending its range of cases to all infectious diseases. Upon all grounds, public and private, I cannot but hope that the execution of such design will not be allowed to proceed any further without the fullest and fairest inquiry by some competent and independent authority.—Rowland Hill."

We must allow, in justification of the decision of the Asylums Board, that their opponents have not adduced any

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distinct evidence of infection having spread from the Hospital during its use as a small-pox hospital; and we bow to the necessity that the axiom that "the greatest good of the greatest number" must rule the decision, if the finally-determined-on site is the best that can be found; but we must be permitted to regret that the last days of so distinguished a public servant as Sir Rowland Hill should be so sadly clouded and disturbed, even if the alleged necessity is a real one.

ACCIDENTAL EXPLOSIONS.

In his discourse at the Royal Institution on the evening of Friday, the 12th inst., Professor Abel gave a remarkably full and suggestive account of the chief classes of so-called "accidental" explosions. The number of such explosions in this country is nothing less than appalling. The most simple class comprehends accidents due to the bursting of a vessel in which air or other gas is powerfully compressed. Such, for example, was the unfortunate explosion of the torpedo at the Royal Arsenal last year; and boiler explosions in manufactories and kitchens constitute by far the greater number of the kind. It is lamentable to think how many of these accidents are due to defective condition of the boilers. The second class of explosions are referable to the firing of a mixture of inflammable gas and air. These chiefly occur in coal-mines; and it is remarkable how difficult it is to induce miners to use the safety lamp. It is now certain, however, that explosions may occur in mines without actual carelessness. A connexion has lately been traced between the occurrence of explosions and great meteorological disturbances. The flame from blasting operations may also reach the explosive mixture; and it has been known for some time that a strong current of gas projected against a safety lamp may drive the flame through the meshes of the gauze. Quite recently the highly interesting and important discovery has been made that a possibility of ignition of an explosive atmosphere by the flame of a safety lamp exists in the effect of the transmission of a sound wave to the flame. Thus a shot fired in blasting at one part of a mine may have the effect of driving the flame of a safety lamp through the gauze at another and distant part.

The next class of explosions are due to the ignition of illuminating agents, such as petroleum and its allied compounds. There are two groups of these compounds—(1) those volatilising at 140° or more, and (2) those volatilising at a temperature as low as 40°—such as petroleum spirits, benzine, benzoline, naphtha, etc. Professor Abel pointed out that so-called "explosions" of lamps and barrels containing these oils are not true explosions, but cases of ignition. The popular notion that paraffin is explosive has probably arisen from the fact that its vapour, diffused in sufficient quantity through the air, forms an inflammable mixture; and such diffusion is not uncommon, on account of the ready evaporation of the liquid. The very volatile oils are at present not really more dangerous than the less volatile, because the sale of them is regulated by the Petroleum Act. Explosions have, perhaps, most frequently happened from impurity of the less volatile oils, in the shape of highly volatile ingredients which have not been removed by distillation. Wooden casks allow the volatile oils to leak through them, and it is certain that evaporation will occur even through the pores of the wood. The explosion on the Regent's Canal in October last was due to the ignition of a mixture of petroleum and air—probably by a light in the cabin, into which the petroleum vapour had found its way.

The last class of accidental explosions which Professor Abel described were those caused by explosives proper, such as the fulminates, gunpowder, gun-cotton, and dynamite. Some of these are dangerous in their manufacture unless extreme caution be adopted, such as fulminate and gunpowder. Gun-cotton and nitro-glycerine, on the other hand, may be manufactured with perfect safety, but impurities may be the means of developing dangerously active materials in them also, and may give rise to so-called "spontaneous" explosions. More instances of recklessness, however, occur in the *use* of such explosives. Professor Abel related some well-nigh incredible cases of "accidents" to miners and others from this cause. A gunpowder barrel is opened with a crowbar or a stone, or even with a red-hot poker! Dynamite is apt to freeze, and is taken to bed overnight by the workman who is to use it in the morning, or put into the oven while he eats his breakfast! Gale's process of diluting gunpowder is delusive; for, although the compound is safe, the manipulation is more dangerous than leaving it alone: the mere storage of gunpowder is a very insignificant source of danger. Even greater recklessness than any already described is exhibited in the transmission of explosives, as was shown in the explosion on the Canal. Legislation is urgently required on this subject, and will not be delayed much longer. The Select Committee appointed by the House of Commons have sent in their report, and a very comprehensive Bill has been drafted, and will soon be introduced. But, as Professor Abel pointed out, we must look to the general promotion of education, and the spread of scientific and technical knowledge among employers and the employed, if we wish to prevent "accidental" explosions.

THE DEBATE ON GERMS AS THE CAUSATION OF DISEASE: INTRODUCTION BY DR. BASTIAN.

We are requested by the Council of the Pathological Society, and gladly comply with the request, to publish the following abstract of Dr. Bastian's introduction to the Discussion on the Germ Theory, which is arranged to take place on Tuesday, April 6:—

The analogy between zymotic processes and fermentations is one which has been long recognised, though the "Germ Theory of Disease" in its present form is a doctrine of modern growth. It has been based on the supposed resemblance between the two sets of processes. Contagia came to be considered as allied to, if not identical with, ferments, and hence, after the promulgation of the Vital or Germ Theory of Fermentation by M. Pasteur, which was founded upon the belief that all true ferments were bacteria, torulæ, or allied organisms, it became an easy step to imagine, and even adopt the notion, that all contagia might also be similar low, independent organisms. Recognising the vast importance of such a doctrine for medical science, the writer was induced to undertake a series of researches, in order to test the validity of Pasteur's underlying doctrine of fermentation. Its general acceptance would almost of necessity have entailed most important modifications in our notions as to the true pathology, and consequently as to the treatment of the most important diseases to which the human race is liable. As a result of these researches, the truth of Pasteur's exclusive theory has been challenged in favour of broader physico-chemical doctrines of fermentation, and the whole question is now (as the writer supposes), in the opinion of most impartial critics, to be regarded as still *sub judice*. In the interval, therefore, we may look into this truth of the germ theory of disease from an independent point of view. The principal foundations of this theory seem to be of a theoretical nature. It is contended, with a considerable show of reason, that the multiplication of contagium within the body of the infected person is a process which can only be compared to organic growth and multiplication. There are, however, other means of accounting for the increase of contagium within the body, which will hereafter be more fully explained. In addition to the germ theory of disease in the most generally accepted sense of the term, there is a rival doctrine advocated by Dr. Beale, which will be briefly referred to.

Applicability of the Germ Theory to Virulent Inflammations and their Sequelæ (Gonorrhœa, Purulent Ophthalmia, Diph-

theria, Erysipelas, Hospital Gangrene, Pyæmia, Septicæmia, etc.). —The notion that bacteria have a causal connexion with the process of infection in these diseases having been stated, and its origin explained, an opposite doctrine is then announced—viz., that, instead of being themselves the infectious agents, or "carriers of infection," bacteria and their allies, when met with in diseased fluids and tissues, are for the most part actual pathological products engendered within the body. There is in fact, the writer contends, a bacterial degeneration, which, though not so common and wide-spread in its occurrence, and though a process involving phenomena of a different order, may claim to rank side by side with fatty degeneration.

The facts and arguments in favour of these respective views are then briefly summarised. It is true that some of the considerations advanced in support of the latter doctrine may be explained by the hypothesis that all the tissues of man and higher animals are densely interpenetrated by undeveloped and indistinguishable germs of the lowest organisms. This hypothesis is held by Dr. Beale; but it may be met, and, so far as it appears to be an answer to the writer's doctrine, set aside by evidence of the most convincing nature. But the notion (1) that germs of bacteria and allied organisms pre-exist (in some obscure way) within the tissues; (2) the notion that they enter from without, and are habitually very numerously distributed throughout the tissues of the body; or (3) that they are very commonly engendered by a process of degeneration taking place within tissue elements—all seem equally opposed to the views of Professor Lister, and inimical to the theoretical basis on which he has allowed his antiseptic system of treatment to rest, however admirable this system may be in itself.

Applicability of the Germ Theory to Artificial Tuberculosis, Syphilis, Typhoid, Typhus, Relapsing Fever, Cholera, Measles, Scarlatina, Small-pox, and other Contagious Fevers.—Although no real boundary line exists between the diseases considered in this section and those referred to in the last, the adoption of some such division is a matter of convenience in regard to the present discussion. Many of the facts and considerations previously advanced in support of the writer's doctrine as to the relation of bacteria and allied organisms to the latter class of diseases, are also applicable in regard to the present series. No positive facts of much weight seem to be forthcoming in favour of the germ theory as applied to contagious fevers. Although these affections have always been regarded as "blood diseases," in only one of them does it appear that independent living organisms are to be met with in the blood of affected individuals at any stage of the disease. There is, therefore, here a *primâ facie* inherent weakness in the whole theory, which a more thorough examination tends rather to confirm than dissipate. The facts and considerations which may be opposed to the existence of any causal relationship between bacteria and allied organisms and the specific contagious fevers are then briefly enumerated.

After some statements and explanations concerning the occurrence of organisms in the blood of relapsing-fever patients, and in connexion with diseased tissues in ovine, small-pox, and typhoid fever, as revealed by the researches of Dr. Klein, the writer will make some brief concluding statements concerning (1) Pasteur's recent important modifications of his germ theory of fermentation; (2) upon the degree of relationship existing between zymosis and fermentation; and (3) as to the probable mode of action of ferments and contagia.

MEMORIAL TO THE LATE SIR RANALD MARTIN.

A MEETING will be held at Willis's Rooms, King's-street, St. James's, on Thursday, March 25, at four o'clock, to consider the subject of a memorial to the late Sir Ranald Martin, C.B. Sir T. Galbraith Logan, K.C.B., will occupy the chair.

THE VACANT JACKSONIAN PROFESSORSHIP IN THE UNIVERSITY OF CAMBRIDGE.

AT the meeting of the Senate of the University of Cambridge on the 13th inst., Professor Latham strongly urged the consideration of the propriety of making the Jacksonian Professor a Professor of Preventive Medicine, State Medicine, or Public Health. The Council of the Senate had recommended *inter alia* that the Jacksonian Professor should in future be attached to the Board of Natural Sciences, and not to the Mathematical Board, and that additional duties should be laid upon him. Dr. Latham argued that Mr. Jackson's will showed that his intention evidently was to encourage the study of a mixture of physics and physic. The expressions in the will pointed clearly to a Professorship of Public Health or State Medicine. The University had only this year established an examination in this very subject, and yet students there had no special opportunity of studying the subjects of that examination. Mr. Jackson had mentioned one particular disease, the gout, as a subject for special attention; had he lived in these days he might, perhaps, have named typhoid fever, and directed investigations of the effects of town drainage, cesspools, etc. The Master of St. Peter's also thought that the Professor might very well give lectures in sanitary science. Dr. Campion held that the University would go against the will if the new Professor were not primarily a chemist. He trusted that the Vice-Chancellor would abstain for the present from announcing a vacancy, and he urged that if application was made to the Queen in Council, the opportunity should be taken of obtaining, at the same time, a change in the Board of Electors. Professor Humphry believed that any of the subjects —organic chemistry, or physiology, or therapeutics and the prevention of disease—would fairly fulfil the intentions of the founder. The Vice-Chancellor, in closing the discussion, observed that, under the circumstances, the question was not freely open to be treated as if there were unlimited time.

The Council of the Senate, at their meeting on the 15th, considered the remarks made by the Senate on the 13th, and so far modified their previous report as to add that "they propose to offer to the Senate early next term a grace appointing a syndicate to consider the propriety of establishing a Professorship of Mechanism and Engineering." It would appear that the lectures of the late Jacksonian Professor were chiefly devoted to the former of these subjects.

NORTH LONDON (UNIVERSITY COLLEGE) HOSPITAL.

THE anniversary dinner in aid of the funds of the North London (University College) Hospital was held at Willis's Rooms, King-street, on Tuesday, Lord Houghton in the chair. Amongst those present were Sir M. Wilson, M.P., Mr. Julian Goldsmid, M.P., Mr. Corbett, M.P., and a large number of professors and members of the University. In proposing the toast of the evening, "The Prosperity of the North London (University College) Hospital," the Chairman said that when he was a student of Cambridge, he recollected that both in Cambridge and in Oxford the new University was looked upon with something like contempt. It was admitted indeed that it might do something for the education of medical students, but that as for classics and mathematics nothing could be expected from the new rival. He recollected that when its first Chancellor visited Cambridge he did not know whether he was received with more enthusiasm as the Duke of Cambridge or disregard as Chancellor of the University of London. As for himself, he became a matriculated student of the University when he left Cambridge, and he did not regret that step. The University had succeeded in the first instance as a school of medicine, but as theory without practice was not sufficient, a hospital was built in 1833 for the illustration of the science. It had produced many eminent men, many of whom were his personal friends, and he might refer to one in particular—the

late Dr. Elliotson—who, if he had been treated with more lenity at a time when novel views were abroad, might have retained his hold on the affections and esteem of all who knew him. They were aware that there was danger of hospitals becoming themselves sources of infection, but he believed that University Hospital was not only sound and healthy in itself, but a first-rate school of medicine and surgery. He did not think he need say another word in recommending the hospital to gentlemen who were so well acquainted with its merits. The toast having been drunk with all honours, the Secretary read a list of subscriptions amounting to £700, including £20 from the chairman.

A NEW POINT IN THE DIAGNOSIS OF OVARIAN DISEASE.

At the Pathological Society, last Tuesday, Mr. Spencer Wells mentioned a very striking fact in illustration of the practical use of the microscope in the treatment and prognosis of disease. He has long taught that single cysts near the ovary may be truly ovarian (excessive growth of one Graafian follicle) or extra-ovarian (dilatation and growth of part of the remnants of the Wolffian body, or parovarium). And he has found that, while the extra-ovarian cysts are often radically cured by a single tapping, the cyst contracting and never refilling, the true ovarian single cysts are almost certain to fill again. He had also shown that the contents of the parovarian cysts consisted of little more than pure water, with scarcely any albumen, or only a little albuminate of soda, the specific gravity seldom exceeding 1005. Mr. Thornton has recently discovered that the fluid in some single ovarian cysts contains little groups of cells, which he believes are only formed from the lining membrane of the Graafian follicle; and the presence of these cells, with the higher specific gravity and the amount of albumen or paralbumen in the fluid, are sufficient to enable a surgeon to say after tapping a single cyst whether it is likely to be radically cured by tapping only, or whether it is almost certain to refill and require ovariotomy.

THE LONDON MEDICAL SCHOOL FOR WOMEN.

It is said that eighteen young ladies have been studying medicine in Henrietta-street School of Medicine during the session now closing. Since the opening of the School several changes in the tutorial staff have taken place. The following is, we believe, a correct list of the lecturers:—Anatomy, Mr. Reeves, Demonstrator of Anatomy at the London Hospital; Physiology, Mr. Rivington, Lecturer on Anatomy at the London Hospital; Chemistry, Mr. Heaton, Lecturer on Chemistry at Charing-cross Hospital; Botany, Dr. Stokoe, Lecturer on Botany at Guy's Hospital; Materia Medica, Dr. Octavius Sturges, Lecturer on Forensic Medicine at Westminster Hospital; Midwifery, Mrs. Garrett-Anderson; Forensic Medicine, Dr. Dupré, Lecturer on Chemistry at Westminster Hospital; Surgery, Mr. Berkeley Hill, Teacher of Practical Surgery at University College Hospital; Ophthalmic Surgery, Mr. Critchett; Pathology, Dr. Charlton Bastian, of University College Hospital, and Dr. Cheadle, Lecturer on Pathology at St. Mary's Hospital; Comparative Anatomy, Dr. Murie. Mr. Arthur Trehern Norton, Lecturer on Anatomy at St. Mary's Hospital, fills the office of Dean.

THE CONTAMINATION OF WATER IN HOUSES.

Although, with one exception, the quality of the water lately supplied by the metropolitan companies may be pronounced to have been fairly good, nevertheless Major Bolton has appended the following caution to his last monthly report:—"Every care should be taken to prevent contamination of water from the gases generated by sewage, which are extremely liable to flow back into the cisterns, and become absorbed by the water, unless the overflow-pipe is brought outside the house, and the end left exposed to the air, instead of being carried into the drain. This plan will effect an object of great importance, by getting rid of the poisonous effluvia and gases from the drains which would otherwise ascend through the pipe, and not only be partly absorbed by the water in the cistern, but be partly mixed with the air in the houses, thereby becoming a cause of fever and disease. The attention of all householders ought to be given to their cisterns, which should be frequently cleaned out, more especially after periods of flood and turbidity."

In addition to this caution, it would be well worth the attention of sanitary inspectors and others to note the position of the cisterns themselves, particularly in neighbourhoods where epidemic diseases are prevalent. In many instances the dust-hole and the cistern will be found to be in close proximity, the latter with defective lids admitting all sorts of pollution from the former.

DISTRIBUTION OF THE LIVERPOOL HOSPITAL SUNDAY FUND.

The Committee of Distribution of the Liverpool Hospital Sunday Fund have divided the result of the collections—£9300—among the various medical charities in the following proportions:—Royal Infirmary (270 beds), £2883; Royal Southern Hospital (200 beds), £1348; Northern Hospital (144 beds), £1348; the dispensaries, £930; District Nursing Society, £651; Ladies' Charity and Lying-in Hospital (37 beds), £651; Infirmary for Children (80 beds), £465; Eye and Ear Infirmary (40 beds), £372; Homœopathic Dispensary, £186; Cancer Hospital (25 beds), £93; Stanley Hospital (20 beds), £93; Hospital for Infectious Diseases, £93; Hospital for Consumption (12 beds), £93; St. Paul's Eye and Ear Hospital (14 beds), £46 10s.; Dental Hospital, £23 5s.; St. George's Hospital for Diseases of the Skin, £23 5s.

ROYAL COLLEGE OF SURGEONS.

At a special meeting of the Council, on Wednesday, the 17th inst., Mr. John Cooper Forster was elected a member of the Court of Examiners, in the vacancy occasioned by the resignation of Mr. John Hilton. Mr. Forster, who is a Fellow of the College by examination, is Surgeon and Lecturer on Surgery at Guy's Hospital, and has been a valuable contributor to the advancement of chirurgical science by his many papers published in the *Transactions* of the Pathological and Clinical Societies, of which he is a Fellow, and also in the pages of the *Medical Times and Gazette*.

THE ROYAL HOSPITAL FOR DISEASES OF THE CHEST.

At the annual meeting of the subscribers to the Royal Hospital for Diseases of the Chest, City-road, on Monday last, it was reported that during the past year 168 in-patients had been treated at the hospital, of whom 148 had been discharged cured or relieved, 12 had died, and 8 remained under treatment. The present building being insufficient to meet the pressing demands for admission, it has been decided to build a new hospital affording accommodation for fifty additional patients, at an estimated cost, including the site, of £15,000. The building will not be commenced until two-thirds of the sum required has been subscribed, of which £4500 has already been received.

THE PATHOLOGICAL SOCIETY AND DR. HOGGAN.

The following resolution was passed at the meeting of the Council of the Pathological Society on Tuesday last:—"That, inasmuch as it is contrary to propriety, and opposed to the advancement of science, that secrecy should be observed with regard to the mode of preparation of any specimen brought before the Society, the Council resolve that Dr. Hoggan's communication on Melanotic Sarcoma in the Cod, and Specimens from a case of General Cancer, which were illustrated by specimens, the mode of preparation of which he declined to explain to the Society, be not admitted into the *Transactions*."

THE FORMATION OF INFLAMMABLE GASES IN THE STOMACH.

THERE were till lately only two cases on record in which inflammable gases had been eructated from the stomach and in both of them the gas burnt with a colourless flame. Dr. A. Ewald has lately reported a third case, in which the gas burnt with a yellow flame. The patient in whom this development of gas took place had suffered for many years rom digestive troubles, but without much impairment of his general health. The gas was not constantly produced, but there were days in which only the sour contents of the stomach were vomited. Some of the gas was collected over mercury and analysed, and it was found that about 50 per cent. of it consisted of nitrogen and oxygen, which were probably derived from air which had been swallowed; about 20 per cent. consisted of carbonic acid gas, and another 20 per cent. of hydrogen; while the remainder was carburetted hydrogen, with a trace of olefiant gas. The existence of carbonic acid gas and of hydrogen in the stomach is easily accounted for by the alcoholic, lactic, and butyric fermentation which analysis of its contents showed to have occurred, but the presence of carburetted hydrogen cannot be satisfactorily explained. This gas has previously only been detected in the large intestine, and Dr. Ewald failed to produce it experimentally by mixing various nitrogenous and non-nitrogenous articles of food with the contents of the patient's stomach, although carbonic acid, hydrogen, and nitrogen were evolved abundantly. The case is reported in Reichert and Du Bois-Reymond's *Archiv*, 1874, s. 217.

LONDON ANTHROPOLOGICAL SOCIETY.

AT a meeting of this Society on the 12th inst., Dr. Charnock, F.S.A., President, in the chair, after announcement of election of fellows and presents, Dr. T. Inman read a paper on "Life: its Attributes and Belongings." Reviewing the unsatisfactory theories and vague and mysterious phrases in which the subject was usually treated, the author contended that life exists as a power; shows its power in a distinctly defined method; it is essentially the same in each generation of each type of organism; and that its phenomena are constant in each genus within certain well-defined limits. Dr. Kelburne King read a paper "On Causes conducing to the Decadence of Nations." The author maintained that the race which for the time being possesses the greatest mixture of the Pelasgian, Iberian, Celtic, Teutonic, Slavonic, and Scandinavian elements will be found in the ascendant, but that as these elements separate and the original type of the race becomes purer, it will decline in power—a theory which Dr. King illustrated at large from the history of the world.

HEALTH OF MELBOURNE.

BY advices from Melbourne to January 28 last we learn that the mortality of Melbourne and the suburbs during the hot weather was very great: 279 deaths took place in one week, of which 196 were children. Among the adults there were no special causes of death, but the heat told terribly upon all children who were ailing. So soon as the cool weather set in there was a great decrease in the number of deaths.

PARLIAMENTARY.—MEDICAL OFFICERS OF PASSENGER SHIPS—DIPHTHERIA AT WOOLWICH—ARMY MEDICAL DEPARTMENT.

IN the House of Commons, on Thursday, March 11,

Sir C. Adderley, in reply to Captain Bedford Pim, said that a few foreign practitioners had been appointed to British passenger ships with diplomas of their own country, as provided for suitable cases under the Passengers Act. Neither British nor foreign subjects had, to his knowledge, been appointed as medical officers of passenger ships not duly authorised under the requirements of the Passengers Act, 1855, which, however, are specially excepted from the Medical List Act. Either of these practitioners, British or foreign, are therefore authorised to sign the usual and necessary professional certificates.

On Friday, March 12,

Mr. Hardy, replying to Mr. Sherriff, said that diphtheria broke out at Woolwich some months since, but it was not confined to the cottages on Woolwich Common in the occupation of married soldiers and their families. It extended into the town, where the proportion of fatal cases was greater than in the cottages upon the Common. These cottages were built about the beginning of the century, without due regard to sanitary arrangements, and when the epidemic broke out the Army Sanitary Committee recommended the adoption of certain remedial measures. This was done, but the steps taken did not seem to have been sufficient to stop the progress of the epidemic. It was intended at once to remove the 49th and 50th Brigade Depôts to Warley pending the completion of the necessary arrangements for accommodating them at Hounslow. By this means the unfortunate families would be removed out of the danger in which they had for some time been living.

On Monday, March 15,

Mr. Hardy, in reply to Dr. Playfair, said it was true that at the last examination for the Army Medical Department only eleven candidates offered themselves, but there were no vacancies to fill up. It was true that the first of the eight successful candidates in the late competition had only eighty-four marks beyond the last of the twenty successful candidates in the competition for the Indian Medical Service, but he was instructed to say that the eight candidates were well qualified for the posts which they were to fill.

AUTOBIOGRAPHICAL RECOLLECTIONS OF THE MEDICAL PROFESSION.

No. XXXIII.

By J. F. CLARKE, M.R.C.S.,

For nearly forty years on the Editorial Staff of the "Lancet."

First Medical Coroner for Middlesex—Opposition to Post-mortem Examinations—Persistent Objection to the Coroner's Accounts—Present State of the Question.

I HAVE stated that soon after Mr. Wakley had been elected Coroner for the Western Division of Middlesex his accounts were criticised in a most unwarrantable manner by some of the unpaid magistrates of the county. Exception was taken to every one of these accounts on the ground of the great expense incurred by the "too frequent orders for post-mortem examinations." Why, the very essence of the inquiry in almost all important cases depends on the medical evidence adduced. Without it the inquiry would be less than useless, and lead in some instances to the furtherance of crime and the immunity of the criminals. It is difficult to understand the conduct of the Middlesex magistrates, or at least a portion of them, which set itself in antagonism to the proceedings of a court which has to determine the "cause of death." In the case of Mr. Wakley it was at one time surmised that this antagonism had its origin in personal or political animosity; but this was certainly not the case, for the gentlemen who headed the movement were men of undoubted honour, and, I believe, actuated by the purest motives. But what a mistake! Had the Coroner been made of less "sterner stuff," these constant attacks upon him might have had the effect of coercing him into a dereliction of his duty, and consequently to the impairment of his influence and the interruption of the cause of justice. But Mr. Wakley was not the man to be influenced by such opposition. I believe a more conscientious judge never administered justice, and it would be an insult to his memory to attempt to extenuate his "fault." I believe that in his office of coroner he invariably acted upon principle, regardless of the consequences. On one or at most three occasions the magistrates disallowed the expenses of certain inquests, because they were unnecessary. But the "grent unpaid" in these instances overshot the mark,—the proceeding was illegal. Moreover, public opinion was against them, and they desisted from any further such dangerous experiments as to attempt to fetter the conduct of the most ancient judge of the kingdom. But still the opposition to the coroner's accounts on the score of extravagance with respect to the payment of medical witnesses continued. The effect of these proceedings upon

Mr. Wakley was most disastrous. His proud and intrepid spirit suffered fearfully under these attacks. Once, and once only, was he permitted to meet his opponents "face to face." He then vindicated the course he had pursued, and contended that he was justified in his conduct by the real necessities of the case. He was treated with scant courtesy, and never again made "personal appearance" to the indictment against him. I have no hesitation in saying that these attacks embittered the last days of Mr. Wakley, and I have not the slightest doubt shortened his life. "I am going to die," said he to me, "in a foreign land; if you outlive me, say that the magistrates have killed me."

On the death of Mr. Wakley, when the contest between Mr. Lewis and Dr. Lankester occurred, the subject of post-mortem examination expenses was made a prominent point by the lawyer-candidate. It is well known that the contest was fierce and severe, that the lawyer was backed by a large political society of which he was secretary, and that very large sums of money were spent on either side. But the Doctor was successful, much to the chagrin of the little knot of busybodies who had a grievance in the after-death examinations ordered by the coroner. Dr. Lankester, from the very first moment of his entering office as coroner, to the very last day of his existence, was the victim of the same relentless and cruel persecution. That he felt this severely those who knew him most can best testify. On his death, Dr. Hardwicke was elected by a very large majority over his lawyer opponent; and this, too, without the expenditure of large sums or the expenses of paid canvassing. One would have thought that as the freeholders of Middlesex had ignored by their votes the advocacy of Messrs. Morley and Laurie these gentlemen would have ceased their opposition. But this was not the case, and the same unseemly attack was made on Dr. Hardwicke's first account. And so at the present moment stands this very important question. The magistrates are in a fix under the present Acts of Parliament. They have really no power to disallow the expenses of an inquest—at least, under ordinary circumstances. They know this; they know that the coroner is tolerably independent of them with respect to his tenure of office, and that there is no power of removing him except for such a breach of honour or of good conduct which would amount *de facto* to felony. It is a mistake to suppose that a coroner is removable, like a stipendiary or other magistrate, at the will of a Government or of the Lord Chancellor. He holds his office by a power greater than that of Governments or Chancellors; he is elected by the freeholders, and holds office on as high a tenure as the judges themselves. Fortunately this is the case, or it might otherwise have given rise to an infringement of the coroner's rights, and above all to influence him in times of great political excitement, when the liberties of the people might be in his hands. With respect to the question of medical or legal coroners, it is in a nutshell. No great legal knowledge is required; the inquiry is a preliminary one, but of such a character that it should be entrusted to a judge who is well and fully acquainted with medical jurisprudence. It is a remarkable fact that during the last thirty-five years not a single case of a mandamus to quash an inquisition held before a medical coroner has been made in the Court of Queen's Bench. No more convincing proof of the efficiency of the medical coroner could be adduced. It is worthy of remark that, as far as I know, not a single memorial has been presented to the magistrates by the freeholders or ratepayers of Middlesex. On the contrary, the "agitation" would appear to be confined to three or four busy gentlemen who would seem to suppose themselves the "people of England."

After years of unseemly squabbling and of useless agitation, the magistrates have at length formed a sub-committee to determine what course to pursue, if any, for the curtailment of the expenses of inquests. They must go to Parliament for this purpose, and it is not difficult to foretell that the subject will be treated there as one of the utmost importance, and not simply as one of the disbursement of a few pounds extra in post-mortem examinations. The truth is that the Medical Witnesses Act is a stumbling-block in the way of any such reform as that contemplated. No one at the present day would attempt to repeal that Act, and he would be a bold Minister indeed who would attempt to fetter the action of the coroner by any unnecessary or vexatious trammels. The House of Commons would surely hesitate long before they placed the coroner—a now independent and venerable bulwark of the liberties of the people—under the constraint of an irresponsible board of magistrates, whose politics might occasionally interfere with the welfare of the State. I shall be glad to see the question settled in some satisfactory manner. But it is hard that the members of the medical profession, who have done so much to elevate the character of the coroner's court, improve the evidence adduced before it, and make its verdict respected, should be charged with extravagance and a careless disbursement of the public money.

FROM ABROAD.

Disturbances of the Nervous System in Diabetes.

Prof. Bouchardat, who is about to publish a work on diabetes, summing up his vast experience in relation to this disease, has inserted a short chapter from it, bearing the above heading, in the *Bulletin de Thérapeutique* for February 28.

The various disturbances of the nervous system in glycosuria are, he observes, of great frequency. *Partial Anæsthesia* he believes to be of much more common occurrence than might be supposed from the actual results of his experience, inasmuch that he has not always paid suitable attention to this point, and many cases must have escaped his notice. He has observed it in the lower extremities, the thorax, and the face. *Cutaneous Hyperæsthesia* is more easily detected, but is more rare, and he has only met with it exceptionally. *Cramps* are one of the most frequent symptoms of intense glycosuria having induced a general impoverishment of the economy. These cramps, which cause so much suffering to the patient and occur generally at night, especially attack the lower extremities. They are the companions of glycosuric anæmia, and generally yield to regimen and a well-ordered plan. *Insomnia* is necessarily one of the most constant inconveniences of diabetes, owing to the frequent micturition which becomes imperative. It is only towards the morning the patient can get a little sleep; doubtless because then, owing to the time that has elapsed since the last meal and since drinking in the evening, the super-secretion of urine is at its minimum. Regimen, by considerably reducing the quantity of this, suppresses a cause of insomnia. In order to secure good sleep we must insist on exercise, and fix an interval of four or five hours between the last meal and the time of going to bed. *Pains:* Many patients complain of pain in the region of the kidneys or the dorsal region, or (more rarely) in the lower extremities and the articulations. They also may suffer from numbness of the lower limbs, or from coldness or a sense of burning pain in the extremities. *Paralyses* must be regarded, not as symptoms, but as complications of glycosuria. *Defective Memory:* It is remarkable that the modifications which the memory undergoes in old diabetics have not been insisted upon in the monographs. It is a symptom that is seldomest wanting in diabetic patients who have reached the turn of life; for if the memory enfeebles with years in the normal state as 1, it does so in diabetes as 10,—in a word, all the blows which strike the economy by the progress of age are far more forcible in diabetes than in any other disease. But what is remarkable is the rapidity with which all these unfavourable phenomena of old age disappear under the influence of a properly conducted hygienic regimen: most of these patients become visibly younger. *Aptitude for Work:* Diabetics become, with the progress of their disease, indolent, fearing intellectual labour, and less and less fit (with some exceptions) for cerebral exertion. But all intellectual activity returns quickly under suitable treatment. With many of these patients their listlessness is quite astonishing, notwithstanding whatever may be done to stimulate in them the natural feeling of conservation. An irresistible tendency to sleep after meals often persists. *Irascibility:* Diabetes often predisposes to this, and it requires both an excellent disposition and a good education to break through this inclination. The patient is moving in a vicious circle, for a paroxysm of rage causes the appearance or increases the quantity of sugar in the urine. This disposition to passion is especially met with among men. *Melancholia and Hypochondriasis:* Persons who have long suffered from diabetes, especially men, are cast down, discouraged, and melancholy. This is hypochondriasis in its slightest degree. Three causes contribute to this—the habit of indolence which glycosuria often brings on; premature impotence, which preys upon the patient's mind (and which, indeed, M. Bouchardat finds, is not so easily recovered from as some others of the conditions of diabetes);

and the reputed incurability of this disease. So great is the terror of this last, that the friends have often asked M. Bouchardat to conceal the name of the disease from the patient. This he has always resolutely refused to do, for a cure of the disease can only be obtained by the voluntary co-operation of the patient. Then the effects of treatment are so distinct, rapid, and easy of proof;—and what a pleasure to find onesdf growing young again!

THE OCCURRENCE OF HÆMORRHAGE AFTER ESMARCH'S METHOD.

M. Dutrait, one of the *internes* of the Lyons hospitals, in a communication to the *Lyon Médical* for March 7 and 14, furnishes some particulars of the cases in which hæmorrhage has followed the employment of Esmarch's method in that city. There, as elsewhere, he says, it has taken the place of the principal assistant at operations, and he suspects that there has been some of that indiscriminateness in its adoption which characterises the reception of all novelties. At first its incontestable advantages were alone remarked upon, but now it has been employed with sufficient frequency to allow of a mature judgment being delivered, and several questions of practical importance receiving solutions. In this paper M. Dutrait confines himself to the question of the greater frequency with which hæmorrhage has been observed at Lyons. This he considers according to the three circumstances under which it may occur—viz., immediately after the operation, within twenty-four or thirty-six hours after it, and at the end of several days.

The *immediate* hæmorrhage which ensues on gradually diminishing the compression, although covering the whole surface with blood, is of little consequence, being, in fact, chiefly venous; and if, as recommended by M. Gayet, of Lyons, the remaining turns of the compressing bandage are suddenly loosened, the dark venous blood ceases to flow, the smaller arteries which can then be secured only yielding blood.

The *secondary* hæmorrhage, also, which takes place at a more or less remote period after the first twenty-four hours, has nothing peculiar about it after this procedure; but that which occurs within the twenty-four hours, and generally in from three to six hours (and which the author terms *hæmorrhagie précoce*, as distinguished from that occurring later), is a direct result of the procedure, inasmuch as it is much more rarely met with under other circumstances. There is a general bright red oozing without any tendency to spontaneous arrest; while besides this there are not infrequently jets of blood from small arteries that have escaped the ligature. This hæmorrhage is so often observed at Lyons that Dr. Dutrait can only characterise it as the ordinary occurrence; and the application of the apparatus is the same as that employed by Esmarch, except that the constricting-tube is generally replaced by several turns of bandage kept *in situ*. In the present paper notes are given of twenty-eight cases, and an observation by Prof. Courty, of Montpellier, is quoted, to the effect that so habitual is hæmorrhage in his cases that as much blood is lost as was supposed to be saved. Of twenty-eight major operations in which elastic compression has been employed, loss of blood occurred in eighteen, and in twelve at least to such an extent as to compel intervention. Hæmorrhage has been oftener met with in amputations than in excisions, and oftener in amputations for traumatic injury than for disease. In the author's opinion, as in that of other Lyons surgeons, the procedure may easily be dispensed with in amputations in which digital compression can be easily effected; but in operations upon the bones and joints its value is very great—in the so-called operations of conservative surgery. In fact, many operations of this kind would be impossible without its aid, and a number of small delicate ones are rendered more practicable, such as the sutures of tendons, ligatures of arteries, the removal of sequestra, the search for foreign bodies, etc., all of which become wonderfully simplified when blood no longer covers the tissues.

The hæmorrhage above described may be best avoided by observing certain precautions:—1. Tie all the arteries that are anatomically described, when they can be detected. 2. After the ligature wait a considerable time without applying any dressings. M. Ollier leaves his patient to recover himself gradually, and then returns to examine whether any hæmorrhage exists. 3. The paralysis of the vaso-motors is rendered more rapid by the employment of hot sponges, which are afterwards kept in contact with the wound for some instants. 4. If these means are thought to require too much time, a modification of the procedure contrived by M. Mollière may be adopted. After having carefully compressed the limb from its extremity, he arrests the application of the bandage at the level of the seat of the operation, and then applies another bandage a few centimetres higher up, terminating it as usual. In this way a space is kept filled with blood, which may be allowed to issue during the application of the ligatures—this greatly favouring the search for the smaller arteries, and the distinguishing them from veins. 5. Whenever it can be used without inconvenience, dressing the wound with *eau de Pagliari* gives great security. 6. The medullary arteries often bleed considerably, and sometimes exclusively; so that the perchloride or other styptic should not be neglected. 7. In all cases gentle and methodical compression should be applied to the limb. 8. For some hours the patient should be carefully watched, as the hæmorrhage is insidious, and especially when cotton-wool dressing is employed.

INSUSCEPTIBILITY TO VACCINATION.

Prof. Zeissl communicates to the *Allg. Wien. Med. Zeitung* of February 16 the following remarkable case:—N. L., born January, 1866, was vaccinated May, 1866, with original cow-pock lymph. The results in this boy were negative, although in other children who were vaccinated at the same time and with the same lymph success was complete. In June, 1866, he was vaccinated from arm to arm with the same result; and in August of the same year he and four other children were vaccinated from arm to arm. The vaccination succeeded in the four, but failed in N. L. In April, 1867, he was again vaccinated at the same time as his younger sister, M. L., with cow-pock lymph, and failure occurred in both children. In May, 1867, N. L. and his sister M. L. were again vaccinated with original cow-pock lymph, but while the vaccination succeeded in his sister it again failed in N. L. In September, 1868, the boy was again vaccinated with original cow-pock lymph, at the same time as another sister—H. L.; but although this succeeded in the sister it again failed in N. L. In December, 1871, he was vaccinated at the same time with a third sister, G. L., with humanised lymph, vesicles developing in the girl, but not in the boy. In May, 1871, he was yet again vaccinated with humanised lymph, and this eighth vaccination also remained without any result. After so many trials, the boy now having passed his fifth year, the parents objected to any more trials being made. In January, 1875, N. L. fell ill, so as to be sent home from school, and Prof. Zeissl was called in, being aware of the performance of these various vaccinations by skilful operators. The child's face and trunk were found to exhibit a copious eruption of varicella, which was accompanied by mild febrile action. "This case," Prof. Zeissl observes, "seems to me remarkable, not only because the child, in spite of eight attempts, could not be vaccinated, but chiefly because, notwithstanding these repeated failures, which should cause him to be regarded as non-inoculable, he became the subject not of true variola, but of varicella of so mild a character that the eruption was dried up at the end of six days."

THE DIAGNOSIS OF RED BLOOD-CORPUSCLES.

In the January number of the *American Journal of Medical Science*, Dr. Woodward, the well-known microscopist attached to the Medical Department of the United States Army, has a very instructive paper bearing the following title:—"On the Similarity between the Red Blood-Corpuscles of Man and those of certain other Mammals, especially of Dogs, considered in connexion with the Diagnosis of Blood-Stains in Criminal Cases." The immediate occasion of the production of the paper has arisen from one published by Dr. Joseph Richardson in the July number (*Med. Times and Gaz.*, Aug., 1874, p. 151) of the same journal, in which he asserted that, by means of high microscopic powers, the corpuscles of the blood of several of the domestic animals can be distinguished from those of man, even in the dried state. The statement was made in so unqualified a manner, that Dr. Woodward believes that its admission may be attended by great mischief in criminal cases; for although, in a communication from Dr. Richardson to Dr. Woodward, he excepts so important an animal as the dog, as also the monkey, he does not in his paper state that he does so. However, with this qualification Dr. Woodward is not content, and proceeds to show, from a minute examination of the admeasurements obtained by Gulliver, Welcker, and others, that the variations in size observed in the human subject, and the close similarity which obtains in domestic animals, quite preclude any statement such as this being made, even with regard to the corpuscles observed in the fresh state,

and render it utterly out of the question in dried blood-stains. He thus terminates his paper :—

"In conclusion, then, if the microscopist, summoned as a scientific expert to examine a suspected blood-stain, should succeed in soaking out the corpuscles in such a way as to enable him to recognise them to be circular discs, and to measure them, and should he then find their diameter come within the limit possible for human blood, his duty, in the present state of our knowledge, is clear. He must, of course, in his evidence present the facts as actually observed; but it is not justifiable for him to stop here. He has no right to conclude his testimony without making it clearly understood, both by judge and jury, that blood from the dog and several other animals would give stains possessing the same properties, and that neither by the microscope nor by any other means yet known to science can the expert determine that a given stain is composed of human blood, and that it could not have been derived from any other source. This course is imperatively demanded by common honesty, without which scientific experts may become more dangerous to society than the very criminals they are called upon to convict."

REVIEWS.

Traité des Maladies des Yeux. Par X. Galezowski. Deuxième édition. Paris. 1875.

A Treatise on Diseases of the Eyes. By X. Galezowski. Second edition.

It is to French surgeons that we are indebted for many of the most elaborate and complete treatises upon the diseases of the eye; and the writings of Desmarres, of Sichel, and of Wecker are brilliant examples of the work done by our French neighbours. The second edition of Galezowski's work may fairly be set in the same rank as the masterpieces just mentioned. If it is wanting in the smooth and continuous style of Wecker's work, it may be said that the fact that its chapters are made up of short and concise paragraphs, each with its own heading, makes it very valuable and convenient as a book of reference. A concise account of the anatomy and the physiology of the eye and its appendages adds much to the value of each section; and a very useful addition to this part of the subject is the short account of the development of the organ, a knowledge of which is indispensable to an intelligent study of some of the abnormal conditions which are very commonly met with. The work from first to last is profusely illustrated, and a large number of new instruments are figured. The ophthalmoscopic plates are most of them original and characteristic, but they are uncoloured, and thus are unlifelike. In his preface, the author has stated his intention of laying stress rather upon the treatment than upon the history and the diagnosis in many instances; and it is a question whether the many formulæ scattered through the volume would not have been more valuable had they been tabulated and placed by themselves. As regards individual portions of the work, it should be noted that Galezowski has given the name of "lachrymal" to that form of ophthalmia which is so often associated with slight imperfections of the lachrymal apparatus, and especially of the canaliculi, and which can only be cured by proper appreciation of this cause, which is so often overlooked.

The chapter on granular ophthalmia is very complete and well illustrated. The author joins issue at once with those who regard the gland follicles as the seat of the new growth or true granulation, and he insists upon the importance of the recognition of a variety of granulation which he terms "false," and which is due merely to the hypertrophy of existing papillæ. This chapter is likely to be of use to many who have to deal with this troublesome disease in schools, and it is of the greater value because, while the Belgian and French writers have long since given us very elaborate historical notices of this kind of ophthalmia, they have done little in teaching us how we may best eradicate it.

The author has paid great attention to that curious form of shingles which has been called "herpes ophthalmicus"; he acknowledges the value of Hutchinson's clinical observations on this subject, but he omits to mention the important fact which may be deduced from them—that the eyeball itself is generally only affected in those instances in which the nasal twigs of the nerve are implicated; neither is he quite correct in the assertion that the disease appears on one side only, and does not recur in the same patient.

In speaking of sympathetic inflammation, Galezowski describes a form of keratitis and of retinitis in addition to the irido-choroiditis generally recognised; he insists upon the necessity of early surgical interference, but he is inclined to speak more hopefully of the effect of iridectomy in sympathetic inflammation than do most surgeons. His views upon cataract and its treatment will not command entire assent in England at least, for he recommends an operation in the early stages of the disease, and does not object to hasten its development by a preliminary operation in which the capsule is opened. He thinks very lightly of the second operation, which he admits will always follow the attempt to remove an immature cataract; and this is the more to be noted because the last Ophthalmological Congress has proved beyond a doubt that a large number of cases of sympathetic ophthalmia have originated in the irritation produced by the contraction of large shreds of capsule which have been left after operations. In the case of cataracts with bulky nuclei, and in middle-aged subjects, he advises a flap operation combined with an iridectomy; but under other circumstances the method he practises is a very small semilunar flap downwards, just beyond and without the margin of the cornea. On those portions of the subject which treat of the ophthalmoscope and of the various diseases which it reveals, Galezowski speaks with great authority, and the chapter which he devotes to the description of the diseases of the fundus will appear to many the most interesting in the book. That on the various forms of paralysis which are met with in the cerebral nerves is exceedingly clear and to the point; and that very difficult subject, strabismus, is more satisfactorily explained than is the case in the writings of some authors of great repute. On the whole, the book is an exceedingly complete and trustworthy guide to the study of modern ophthalmology; it will be found an admirable book of reference, and will add to the estimation in which the writings of French surgeons on ophthalmology are held in this country.

FOREIGN AND COLONIAL CORRESPONDENCE.

FRANCE.

Paris, March 1.

Société des Bureaux de Bienfaisance—Domiciliary Treatment of the Sick *versus* Hospitals—MM. Gosselin and Broca on Cotton-Wool Dressing—Weather and Mortality in Paris.

You are doubtless aware that all the charitable institutions including the hospitals, in Paris are under the control of the Assistance Publique, a board composed of members of the profession and laymen, whose duty it is to afford succour to indigents, according to the requirements of each individual case, whether in the shape of money, the common necessaries of life, or medical or surgical treatment. The latter is provided at the hospitals, but as these have been found insufficient to accommodate the great numbers that daily apply for admission, a Bureau de Bienfaisance has been organised in each arrondissement, whose duty is analogous to that of the Board of Public Assistance. A certain number of medical men are appointed to the Bureau de Bienfaisance of each arrondissement or district, but until now their duty has been confined to affording medical aid, or in surgical cases to performing only the minor operations at the residence of the patients, the more serious cases being sent to the hospital. Whether the doctors attached to these bureaux find they have not sufficient to do (I know some who are worked off their legs), or whether they are actuated by other than purely humane motives, it is not for me to say; but I may inform you that the question of the gratuitous domiciliary treatment of the sick is again on the *tapis*, and has occupied no less than four sittings of the Société des Bureaux de Bienfaisance. In order to give effect to their case, these gentlemen must needs find fault with the hospitals, point out their defects, and show just cause why people cannot be as well treated at these institutions as at their own homes. They have certainly made out a strong case against hospitals, which they go so far as to stigmatise as sepulchres, necropoles; and as regards the results of capital operations in them, they suggest that the famous motto—*Voi che entrate, lasciate ogni speranza*—of Dante may be written over their door: but they have failed to prove that the

advantages of domiciliary treatment so far outweigh those of hospital treatment as to induce the authorities to adopt the former in preference to the latter. It cannot be denied that the idea is excellent; the object is a benevolent one; but I cannot see how it is to be carried out, as, constituted as society is at present, it would be simply impossible to meet the demands of the poorer classes, who unfortunately form the bulk of the population of all large cities.

I cannot even attempt to give anything like a full account of the proceedings of the above Society, nor yet an extract, so I must content myself with offering your readers a few of the principal arguments condemnatory of hospitals, which I extract from the proceedings. One of the principal charges brought against hospitals is the great mortality that takes place in them, and the causes are explained thus:—Purulent infection and erysipelas are almost constantly present, and the microscope has shown that the walls and curtains are loaded with miasmata, against which the surgeon is powerless. It is stated that so long as the Necker Hospital was the smallest of the Paris hospitals the mortality after operations was very small, but since it has been enlarged it has rivalled the other hospitals in lethality. The Lariboisière Hospital, which is looked upon as a model of its kind, constructed as it is on the strictest principles of hygiene, does not yield to its seniors in the number of deaths after great operations. The scrupulous cleanliness and the luxurious way in which some of the hospitals have been got up and maintained, seem to offer no guarantee against infection. The wards exhale an odour which is *sui generis* and indelible, and is compared to the odour emanating from dead bodies; and the buildings are so impregnated with it, that even the isolation of patients in separate rooms under the same roof has no effect in reducing the risks of infection. There is a saying that has become vulgar, that no operation of trephining has ever proved successful at the Hôtel-Dieu. A successful case of the Cæsarian operation, or even of ovariotomy, has never been heard of in the Paris hospitals; and as regards the latter operation, the Assistance Publique, at the instigation of some of the hospital surgeons, having made arrangements to have the operation performed in the country, it was attended with great success. This wholesale condemnation may be summed up thus:—Hospitals are, for capital operations, what maternities are for lying-in women—a sepulchre, a necropolis; and, quoting from some author, it was stated that it were better for a woman to be confined in the quarries than in a maternity hospital. The same remark may be applied to patients operated on.

This does not tally with the experiences of the lying-in hospitals in Great Britain—at least, in Ireland; and I am reminded of what I heard Professor Depaul say, at one of his clinical lectures, on the subject of the great mortality of lying-in women at the maternity hospitals. The explanation he offered seemed to me very plausible, which is, that it was not the hospital which was to blame, but that most of the patients who died in the hospitals were generally cases of difficult labour, in which a *sage-femme* or, perhaps, a medical man, after having for hours fruitlessly attempted to effect delivery, sent the patient to the hospital almost always in an exhausted, if not dying condition. These cases, of course, swell the mortality list, and when statistical reports are drawn up these facts are not taken into consideration; the plain figures are supposed to speak for themselves, and, after a time, reports are founded upon them, thus illustrating one of the causes of the fallacies of statistics.

As regards surgical cases, I have so frequently in former letters referred to the causes of the great mortality among them in the hospitals, that I need merely recall to mind what M. Maisonneuve, one of the most practical surgeons of the day, stated on the subject of hospitals and hospitalism—"It is not on the walls nor in the elements that the cause of the great lethality in surgical wards is to be sought, but it is to be found in the organism of the patient, the manner in which he is treated, or at our own fingers' ends." These are powerful words, and can hardly, I think, be gainsaid. Those who condemn hospitals, ought to picture to themselves the wretched condition of the poor in their own homes,—how helpless they are, how ill cared for, and how the surgeon himself would feel embarrassed to operate in a room where one has hardly space enough to turn. It has been stated that the filth and misery in which the poor are often enveloped,—that even overcrowding in wretched habitations, and the foul emanations from close privies, are preferable to the atmosphere of a hospital. This may be true to a certain extent; but it may be observed that if the patient possesses a certain amount of stamina, or vital force, he will be able to resist these deleterious influences. Should, however, he possess neither, he must succumb, whether he be in a palace or in a hut.

The moral influence of hospitals was then referred to. Dr. Passant, the reporter, stated that another great advantage to patients operated on in their own homes is that they continue to be in the midst of those nearest and dearest to them, whereas in a hospital they are surrounded by strangers, and they witness scenes in the wards, such as patients writhing in pain, and hear the death-moan of those next to them in bed,—which, of course, are great drawbacks; but M. Passant forgets that friends and relatives generally make the worst nurses, and by officious interference with the surgeon's prescriptions often retard the patient's recovery, if they do not hasten the fatal termination. As to the other objection—that of death-scenes in the wards—arrangements are generally made to withdraw a dying patient from the view of his neighbours, either by removing him from the ward or by drawing a curtain around him. M. Passant then enters into the inconveniences of the domiciliary treatment of surgical patients, such as the want of assistants, apparatus, etc., which, however, he disposes of in a very summary manner, and suggests measures to overcome these difficulties—measures which are not only most expensive, but simply impracticable.

In my last I referred to M. Gosselin's report on the efficacy of the cotton-wool dressing, as recommended and practised by M. A. Guérin, in which the former gentleman pointed out the advantages of this so-called new method. I have lately had an opportunity of seeing this dressing applied in a case of fracture of the thigh, in Professor Broca's ward at the Hôpital des Cliniques. The case was that of a little boy eleven years old, who was upset by a carriage, the wheels of which passed over his left thigh, which was fractured about its middle. This was accompanied by considerable extravasation of blood around the fracture, and by a wound of the leg of the same side; also by a contused wound on the internal border of the left hand, with comminuted fracture of the little finger, which latter was immediately set and the hand enveloped in cotton-wool. But considering the complicated nature of the lesions of the lower limb, M. Broca was somewhat puzzled as to the mode of dressing to be adopted in the present case, and discussed the subject at a clinical lecture. He began by reminding his hearers that the seat of the fracture in the thigh was favourable to the process of repair ("consolidation"). Fractures of the upper third of the femur, or subtrochanteric fractures as they are sometimes termed, are most unfavourable, and the most intractable of all the fractures, as there is no purchase on the fragments in this situation. The limb was shortened five centimetres (two inches), and M. Broca stated that he was afraid he would not be more successful than other surgeons in restoring it to its original length, as he did not know of any example in which the cure of this particular fracture took place without angular deformity and consequent shortening of the limb. Here the attendant complications have rendered the case even more difficult. M. Broca then passed in review the various methods that suggested themselves to his mind. Scultet's apparatus, he said, would not be convenient, as it would have to be removed every day for the examination and dressing of the wound. A "gouttière," or grooved splint affords but very imperfect support to the broken fragments; and, indeed, any other form of splints would be dangerous, on account of the great extravasation of blood. Taking all these circumstances into consideration, M. Broca decided upon the following plan of treatment:—He placed the affected limb in an extended position, enveloped it with cotton-wool, and supported the whole by a roller, the effect of this being compression and consequent stretching of the muscles, which in its turn would act by pushing the broken fragments of the bone into their proper position; in other words, this manner of putting up the limb would act exactly like an apparatus intended to produce gradual yet permanent extension. This was realised without the aid of any other mode of extension, as, after the dressing, the limb was found to be reduced to almost its normal length. I should have mentioned that M. Broca divided the dressing into two distinct parts, one for the upper, and the other for the lower portion of the limb. The object of this was to enable the surgeon to remove the lower portion for the examination and dressing of the wound without disturbing the limb, although this is contrary to the

rules laid down by M. Guérin for this particular method. M. Broca observed that the putting up of a fractured limb in this fashion would not insure complete immobility; but in the treatment of fractures, he added, this is not necessary at the commencement; it, however, becomes indispensable at a later period, in default of which the surgeon must not be surprised to have non-union or false joint. In the adult, union of a fractured femur is not effected before the fortieth day, and the process of repair or the formation of callus is completed about the sixtieth day; but in children this takes place more rapidly, so that in a case like the present the cotton-wool dressing must be removed about the twenty-first or twenty-fifth day, and replaced by splints. M. Broca then concluded his lecture by impressing upon his hearers the advantage the cotton-wool dressing had over the grooved splint so commonly used in such cases, and he illustrated the comfort afforded by the former by its application to cases of arthritis, in which affection patients suffer the most excruciating agony while the limb is confined in a grooved splint, but the moment this is replaced by the cotton-wool dressing the patient feels himself (to use a comparison) as if in Paradise.

Owing to the unfavourable change in the weather—which, from having been mild about a month ago, has become intensely cold,—sickness has been on the increase in Paris, and the mortality greater, not only as compared with the immediately preceding weeks, but with the corresponding periods of previous years. Thus, about a month ago—or, to speak more correctly, in the last week of January and the first week of February—the mortality fluctuated between 800 and 900, whereas it now amounts to upwards of 1000. In taking the correspouding periods in the last two years, we find that in 1873 the mortality amounted to 889, and in 1874 to 829. It was only during the late war, when the Parisians were exposed not only to one of the severest of winters, but under the most depressing circumstances, that the mortality rose to its present standard. The causes of this great mortality are, as usual, pulmonary affections (I use this term in its widest sense); but, strange to say, croup and diphtheritic affections are on the decline. Thus it may be seen that cold is not, after all, such a preservative agent as it has been represented to be; it is, on the contrary, fatal to human life—at least to that portion of it subject to the laws of civilisation, for under such circumstances the mortality is always in an inverse ratio as the surrounding temperature rises, excepting of course in cases of epidemics, from which, I am glad to say, Paris is at present free.

GENERAL CORRESPONDENCE.

THE OUTBREAK OF TYPHOID FEVER IN THE COUNTRY.

LETTER FROM MR. T. W. BLAKE.

[To the Editor of the Medical Times and Gazette.]

SIR,—It appears to me that, while members of our profession are holding varied and hypothetical views as to the infection or non-infection of typhoid fever, the general public are not sufficiently put on their guard to have the benefit of any doubt on the subject.

The outbreak at Binley, in my practice, published in your journal a fortnight ago, convinced me of the error of maintaining the public opinion of the non-infection of typhoid fever by contaminated air. The prevailing notion, that the fever poison must be conveyed into the system by some such vehicle as tainted food or water by the alimentary canal, to produce the enteric attack, should not be considered by the public the only source of contracting this fearful disease.

The Binley cases occurred in the month of December, during frost and cold weather, when fresh air could not be freely admitted—as at other seasons—into the very small rooms by the windows for the purpose of diluting a fever-polluted atmosphere contained in a small space; egress of the latter by the doorways and chimneys was the only safeguard in the way of ventilation to be then safely procured. Disinfectants were freely used, bed-curtains and carpets taken away, also excretions as soon as voided, the floors washed frequently with water containing Condy's fluid, and thorough cleanliness was strictly observed.

Judging from this outbreak of typhoid, which proved so fatal to the nurses, much danger exists in limited bed-room space, and in many middle-class dwellings and cottages the evil is apparent. On the other hand, my impression is that in spacious and lofty rooms, also in large hospital wards, the fever-poisoned air being well diluted with pure atmosphere proves to be comparatively harmless.

I am, &c., THOMAS WM. BLAKE.

Hurstbourne Tarrant, Andover, March 13.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

TUESDAY, FEBRUARY 23.

C. J. B. WILLIAMS, M.D., F.R.S., President, in the Chair.

CONTRIBUTION TO THE HISTORY OF LARYNGEAL PHTHISIS.

A PAPER by DR. WILLIAM MARCET was read on the above subject. The author divides his paper into two parts, the first being a short account of the history of laryngeal phthisis, and the second a record of his own observations on the subject. The second part begins with a remark that laryngeal phthisis is both a symptom and an extension of a pre-existing disease. It is a symptom, because, when clearly established by laryngoscopic examination, there is no doubt that the lungs either are or will shortly become tubercular, if not obviously so at the time; it is an extension of a disease, because, as a rule (he does not say invariably, although it may be so), the pulmonary tissue first becomes the seat of tubercular growth, mischief appearing subsequently in the larynx. The author's former connexion with the Hospital for Consumption and Diseases of the Chest at Brompton has given him a wide field for the investigation of laryngeal phthisis, of which he has availed himself, and he has reported in a tabular form seventy of these cases, or, rather, seventy cases of disease of the larynx in phthisis, in which both the physical signs of the chest and laryngoscopic appearances are faithfully recorded. This forms the groundwork of his communication. The author inquires into the main predisposing cause of laryngeal phthisis, and after examining the various trades and employments recorded in fifty-seven cases, comes to the conclusion that excessive use of the vocal organ is hardly, if at all, a predisposing cause of that affection. Out of the fifty-seven cases, thirty, or a proportion of about 53 per cent., were employed on indoor or sedentary and home work; while of 309 cases of phthisis attended by the author at the hospital in 1869, all of which were free from laryngeal disease, about eighty patients were employed on indoor and sedentary work, giving a proportion of 26 per cent. It would therefore appear that sedentary and indoor work has a marked influence as a predisposing cause of laryngeal phthisis. A case is recorded, however, where the disease broke out in a butcher's assistant, whose business it was to call out the weights of the meat on the scale, which appears to be a very laborious work for the vocal organ. It is remarkable that there is not a single street-hawker on the list of cases of laryngeal phthisis. Deficient out-of-doors exercise and want of pure air, together, it may safely be added, with neglect of the rules of hygiene, and mental anxiety, are the main predisposing causes of laryngeal phthisis. The disease, therefore, appears to be a low form of consumption, and requires as much, if not more, attention to be paid to the general state of health as to the local mischief. The author next alludes to a state of weakness of the muscles of the vocal cords occasionally met with in consumption, without there being any organic change in the larynx, and observes that in these cases the tensor muscles of the cords appear more often affected than the adductors; while in hysteria the latter set of muscles are more commonly at fault. Cases are given illustrating both kinds of affection. He afterwards proceeds to describe the appearance of the larynx in laryngeal phthisis, and insists on the presence of a white, milky, probably purulent mucous fluid in the laryngeal cavity as a means of diagnosis of phthisis. The prognosis, where organic disease is detected in the larynx, in cases of consumption is not favourable; still, much can be done towards relieving the pain and distress in the throat. The author then states that there is nothing contagious in laryngeal phthisis, although the expired air from the chest of a person suffering from the disease may be peculiarly irritating to the

throat of another in good health. He thinks that this irritating property of inspired air equally applies to phthisis without any affection of the larynx; indeed, he finds the air expired by a healthy individual often irritating to the larynx of another person. He cites his own experience on the subject, and remarks that his throat has frequently suffered from irritation in consequence of his being called upon to breathe near the mouths of his patients while using the laryngoscope in a succession of cases. Some remarks follow as to the unhealthy character of expired air in other respects, and then the author proceeds to describe the treatment he has adopted. The application to the larynx of a solution of iodine in olive oil, or of bromide of potassium in glycerine and gum-water, relieved the pain; and scarifications, when the larynx was much swollen, proved beneficial. Inhalations of iodine were also sometimes used with advantage. When the laryngeal mucous membrane was neither ulcerated nor much swollen, faradisation of the muscles of the larynx often succeeded in improving the voice. A few remarks were here introduced on climate: the author believes that wherever those who suffer from consumption in an acute form may be living, except perhaps if residing high up in the mountains, they will as a rule derive benefit from removing to a place higher up, although perhaps not distant from their residence, and possibly not more than from one hundred to three hundred feet above it. The post-mortem changes in the larynx were shortly noticed, and then the author proceeded to consider the cases he had brought forward. He began by relating the history of two patients with laryngeal affections who both recovered; one of them exhibited rather suspicious symptoms of phthisis, while the other case was one of acute laryngitis with aphonia accompanying pulmonary congestion. The conclusions derived from the consideration of the table of seventy cases of diseased larynx in phthisis, in all of which the physical signs of the chest are reported, were as follows:—1. More men than women were affected, in the proportion of about two of the former to one of the latter. 2. The ages recorded in fifty-five instances appear to show that most cases of laryngeal phthisis are met with between the ages of twenty and thirty years, or at that of thirty and above twenty. Dr. J. E. Pollock states ("Elements of Prognosis in Consumption") that there is a large preponderance of cases of phthisis between these very ages, and therefore, as far as age is concerned, the predisposition appears to apply equally to consumption whether the throat be affected or not. 3. That out of seventy cases of phthisis in which the larynx was affected, eight of them exhibited no visible organic change, with the exception of slight redness with congestion in two of the eight cases; tension of the vocal cords was deficient in five; in the three other cases adduction of the cords was deficient in two, and abnormal in one. 4. In thirty-one cases out of the seventy the epiglottis was affected (a statement of the nature of the change in every case is given). 5. Only thirteen cases are recorded of positive ulceration of the larynx out of the seventy—this proportion appears rather smaller than might have been anticipated. Patients with laryngeal ulcerations are, as a rule, older than those whose larynx, although affected, is not ulcerated. The mean age of the patients suffering from ulceration in the larynx was thirty-eight years, while the mean age of those whose larynx was free from ulceration was 29·7 years; the author concluding that want of nutrition due to age appears to act as a predisposing cause of laryngeal ulceration. 6. Dysphagia or difficulty in swallowing was noted in fourteen cases, but this symptom may perhaps have existed in others, although not recorded. As a rule there is pain and dysphagia whenever the epiglottis is affected, although where that organ is merely congested and streaked (without being indurated) by the presence of enlarged vessels, the discomfort may be very slight indeed, and hardly noticed by the patient. 7. Aphonia, or some alteration of the voice, was reported in fifty-nine out of the seventy cases. Of the other eleven it was concluded from the state of the larynx that the voice was probably weak or otherwise affected in nine.

After some illustrative and practical remarks by the President,

Dr. Drysdale said that it seemed to him, from observation of many cases, that the prognosis in laryngeal phthisis was fatal, except where the patient could go to a warmer climate. He had seen relief produced by the inhalation of iodine vapour. As to the diagnosis, there was a difficulty, as had been well pointed out by Dr. Marcet, in distinguishing between laryngeal phthisis and syphilitic disease of the larynx; especially in such cases as one to which he referred, in which laryngeal phthisis occurred in a patient who presented distinct signs of syphilis.

Dr. Thin said that in travelling in America he had visited Salt Lake City, and had obtained some interesting information from a medical man there. The plateau on which the city stood was about four thousand feet above the level of the sea. Among the native white population, he was informed, phthisis never occurred. Among the converts to Mormonism who came from the eastern parts of America and from Europe, there were sometimes persons, especially women, who had slight symptoms of phthisis before setting out; during the journey the disease often became much aggravated; but after their arrival, unless they were in the very last stage of the malady, arrest and cure of the disease almost invariably took place. He believed that this fact was not generally known. He doubted the propriety of making scarifications of the larynx in laryngeal phthisis, as he believed that the resulting effusion might have a source of tuberculous growth.

CLINICAL SOCIETY OF LONDON.

Friday, February 26.

George W. Callender, F.R.C.S., F.R.S., Vice-President, in the Chair.

(*Concluded from page 299.*)

Case of Exceeding Unfrequency of Pulse.

Mr. Puoin Thornton brought forward a case in which the pulse had at one time made only 16 beats in the minute, and which for some weeks did not reach higher than 24 per minute. He showed a sphygmographic tracing of it when at 20 beats. The patient was a young married woman, upon whom, in 1872, Mr. Thornton had performed tracheotomy for syphilitic laryngitis. Her pulse at the time of the operation was making 40 pulsations, and it was not until six weeks later, when she was re-admitted into the Hospital for Diseases of the Throat, in order to have the tracheotomy-tube removed, that the extraordinary unfrequency of her pulse was noticed. This infrequency had been accompanied by transient attacks of an epileptiform character. It appeared that in the summer of 1870 she was first seized with these fits, which at that time happened daily for about two months, the pulse averaging about 24 pulsations per minute. At the end of the two months she completely recovered, and remained in good health until the autumn of 1872. Mr. Thornton read an account of these attacks, which had been kindly sent to him by Dr. Ransom, of Nottingham, under whose care she had been in 1870. According to his account, a severe fit began with a sudden pallor of face, and complete loss of consciousness and motor power, the heart's action ceasing for several seconds (on one occasion, cessation of the heart's action was noted by stethoscope and watch for eighteen seconds). The respirations then became quickened and almost stertorous; the face flushed, and the eyes suffused, fixed, and turned upwards. She foamed at the mouth. After a time, consciousness returned; the expression became calm, no signs of distress remained, and the intellect became clear. After recovery, the pulse returned to its normal rate of 24 beats per minute. During the latter part of the illness she had hallucinations, which, after the fits were over, she clearly recognised as having been spectral illusions. The intensity of the fits was variable; they were sometimes so frequent that she had twelve in a quarter of an hour, and so transient that she was able on recovery to take up the thread of conversation. On one occasion, forty-five were counted in one hour. They occurred equally when she was in or out of bed, asleep or awake. Mr. Thornton remarked that the woman at the present time was in good health, her pulse being constant at 48. She was still periodically obliged to take iodide of potassium to stop the recurrence of the laryngitis, which occasionally threatened. He was at a loss to account for the curious phenomena, unless that the pneumogastric nerve might be presumed to be in some way affected by the specific poison. Unfortunately, the time of the syphilitic infection was in no way clear, for Dr. Goddard, of Pentonville, and Dr. Ransom had no recollection of her suffering from any of the usual sequelæ of syphilis. In his own mind there was no doubt that the unfrequency of the pulse was to be attributed to it. The instrument by which the tracings had been taken was one manufactured by Mayer

and Meltzer. A pressure of 350 grammes was used in each observation.

Mr. Callender asked if in the earlier observations any notice had been taken of the frequency of the pulse. Was the unfrequency only recent, or had it occurred early in life? There were cases of extreme slowness of pulse associated with some injuries to the head; in such a case one always tried to ascertain the frequency of the pulse before the accident. In some cases of slowness of circulation, the patient seemed to suffer greatly from cold; but a patient of Mr. Callender's recently (St. Bartholomew's) had a pulse of 32 only, whilst a more robust man there could not be.

A Member mentioned that in one of the earlier volumes of the *Medico-Chirurgical Transactions* there was a case recorded in which the pulse ranged from 25 to 27. After death it was found that the foramen magnum was so contracted that it would hardly admit the tip of the little finger; and there was hypertrophy of the superior cervical ganglion of the sympathetic nerve.

Dr. Symes Thompson remarked that the late Mr. Hodgson had a pulse which rarely exceeded 32; he was wont to draw especial attention to the fact that a slow pulse might exist for years without the production of any manifest symptom. He combated the notion that it meant a fatty heart. When the action was slow, any great exertion was apt to be exhausting, and exposure to cold was very hurtful.

Dr. Southey would like to ask whether Mr. Thornton had noticed that micturition was very frequent or the quantity of urine very large. When digitalis was used, the action of the heart being very slow, the quantity of urine was often very large, the pressure on the renal capillaries being great. A man, aged eighty, whose pulse had always been slow—usually from 18 to 20, and rarely reached 26 after exertion,—had noticed the slowness for many years. Were fits associated with slow pulse? In this case the epileptic convulsions would seem to be associated with diminished supply of blood to the brain.

Mr. Mahomed had taken sphygmographic tracings of a very slow pulse in a woman. The systole was not prolonged, but the diastole was much prolonged. Her pulse had been 65 before she was shut up in Paris during the siege, to which she attributed the change. Weakness, tendency to fainting fits, and the slow pulse had since ensued; the fainting being, perhaps, due to emptiness of the vessels of the brain.

Dr. Archibald Hewan mentioned his own case. Twenty years before, he had studied greatly; his pulse then was 72 in the minute. Afterwards it was found to be 55; from that point it had gradually decreased; eight years ago it was 24. Then Dr. B. Sanderson traced it with the sphygmograph. He had been abroad, never had a fit nor fainted, and could bear cold well. He had lately climbed a mountain many thousand feet high, and his pulse at the top was 40. His urine had not altered in any way; his digestion was very good, and he was in good health.

Dr. Althaus said that the Emperor Napoleon the First had a slow pulse, and always felt uncomfortable, except in the excitement of battle, when it would rise to 60 in the minute.

Mr. Thornton stated that the pulse of his patient had not before her illness been noticed to be very slow. At the time of the operation it was 40; a few weeks afterwards it was 16. There was no valvular disease in this case. He had never heard that the urine was very copious, and would judge it was not so.

Dr. A. Hewan mentioned that he had had rheumatic fever eight years ago, when his pulse did not rise above 32. Eight weeks ago he had gout and rheumatic pains, when his pulse quickly rose to 64 and 68; and then fell slowly to 32 and 28, at which it stood at present.

Excessive and Long-maintained High Temperature after Injury to the Spine—Recovery.

Mr. J. W. Teale read notes of this case, in which a temperature ranging from 108° to 122° and upwards had been maintained for a period of nearly nine weeks. The patient, Miss G., was thrown from her horse on September 5, 1874, as the animal was trying to take a five-barred gate at a standing jump. The horse fell upon the lady, and rolled two or three times backwards and forwards over her chest as she lay on the ground, which was covered with large rough stones. Temporary unconsciousness followed the accident, after which the patient was at once taken to Scarborough, and placed under the care of Mr. Teale. Her fifth and sixth left ribs were found to have sustained a simple fracture in the middle of their length; she was conscious, but collapsed, complained of great pain in the back, and was severely bruised at various parts of the body. For several days after the accident there was some feverishness; the temperature reached 101°, but became normal in a fortnight. The ribs united readily; and the patient was apparently convalescing, though she had pain and tenderness over the spine, especially about the sixth dorsal vertebra. On October 3, Mr. Pridgin Teale, of Leeds, saw the case in consultation; and it was considered that the pain and the slight feverishness which was again present were due to subacute inflammation of the spinal ligaments. Perfect rest on a water-bed was advised. During October the temperature remained at 100° or 101°; there was pain, with tenderness, over the spine; sleep was disturbed; occasional twitchings of the legs occurred; and there was a feeling as of a cord tied tightly round the waist. The arms were unaffected. Leeches and ice-bags to the spine were employed; but the temperature slowly rose, until, on November 3, it was 103·5°; on November 6, 106°; and on the 7th, 107°. The respirations were unaffected; the pulse did not exceed 100°. On November 7, Mr. Pridgin Teale again visited the patient, and it was then thought that she had inflammation of the spinal ligaments and intervertebral substances, and possibly of the membranes of the cord, but that the cord itself was not primarily affected, except by pressure of neighbouring inflamed parts, as there was no paralysis of sensation or motion about the legs or sphincters. It was determined to bring the system gently under the influence of mercury, by means of ointment applied to the thighs. On November 8 the temperature was 110°; on the 11th, 12th, and 13th it was 111°, 113°, and 114°; whilst on the 14th the index of the thermometer was buried in the bulb at the top of the instrument at a point above 122°. The pulse rose to 120°, and became small, thready, and at times scarcely perceptible. Rapid emaciation occurred; there was intense pain along the spine, which was relieved by frequent hypodermic injections of morphia, and death from exhaustion seemed imminent. At times the power of swallowing was lost, once for forty-eight hours; nutrient enemata were given, and ice-bags applied to the spine. On November 16 the mercurial ointment was removed, the gums being slightly tender; and there was from that date an improvement in the general symptoms, though the temperature remained still as high as ever. The power of swallowing returned; the pulse fell to 110, and improved in quality; the spinal pain diminished; the twitchings in the legs were less frequent, and the patient could raise the legs more freely. The extraordinarily high readings of the thermometer ceased now to cause alarm, the patient having lived so many weeks with a temperature hitherto supposed to be incompatible with life. On December 12 the tongue became suddenly swollen, causing great distress, which subsided in about twenty-four hours. Thenceforward more decided improvement set in. The appetite increased; flesh and power were regained more rapidly, though the temperature still ranged from 110° to 114°. On January 7, 1875, the temperature fell to 104°; on the 8th, to 102°; and on the 10th it was normal. On the 12th the patient could take a few steps about the room, a slight drag of the left leg being perceptible. On the 22nd she walked one hundred yards in the open air. Mr. Teale thought that the result proved that the cord itself had not been seriously implicated, and that an excessive and long-maintained high temperature was not necessarily destructive of life. In some further remarks he said that seven thermometers had at different times been used to register these high temperatures, four of which had been since verified at Kew. He exhibited the instruments and the accompanying certificates. Only one thermometer could be found which registered a temperature above 118°; that one was marked up to 122°, and with that instrument the highest readings were taken. On December 1, for the fifth time, the index was buried in the bulb; as it was then found it still remained, and had been brought to the meeting for inspection. It was marked to 122°; the index was in length equal to 3°, so that the temperature on December 1 would appear to have been at least 125°. The temperature was often taken in both axillæ at the same time; the instruments being reversed at each visit. The temperature between the thighs was generally found nearly to correspond with that registered in the armpits. Once, on December 10, the temperature in the rectum was taken, and was found to be 111°, that in the axillæ at the same time being 110·4°. The patient could never bear the thermometer to be placed beneath the tongue. The thermometers were inspected by two or three trustworthy

witnesses before and after each application, and the results were always immediately recorded in writing. No hot-water bottles were near the axillæ, as had been good-naturedly suggested. Sometimes, when the thermometrical readings were highest, the hands, feet, and forehead were icy cold. The urine, during the period of high temperature, was very scanty, and a mass of lithates; it was passed with difficulty into hot towels, so that neither the amount of urea it contained nor the specific gravity could be estimated; it was found to be free from albumen on three or four different occasions. The bowels were relieved every third day by enemata; the menses recurred once after the accident at the proper date, and were then suppressed until January 26, when they commenced and pursued a normal course. A large chart of the thermometric readings was exhibited to the members of the Society, and showed the rapid alteration of temperature which had occurred, without apparent alteration in the condition of the patient; thus, on November 12, at 10.10 p.m., the temperature was 113·6°; on the 13th, at 4 a.m., it was 122°; on the 13th, at 10 a.m., it was 114·3°. During seven weeks the temperature never fell below 108°, and rarely below 110°. Whether the high temperature was due to lesion of the ganglia of the sympathetic, Mr. Teale could not venture to surmise. There was never at any time distinct loss of sensation. The temperature was usually higher in the left than in the right axilla; the left leg was now slightly the weaker; and it was the left ribs which were broken.

At the close of his paper, Mr. J. W. Teale said he regretted that since it was sent in to the Secretary his patient had had a relapse, from which she was still in some degree suffering. After Miss G. had been convalescent for five weeks, he had reluctantly consented to her return home, and the effect of the railway journey of nearly 100 miles had been in some measure to bring back the pain in the back, and a return of the high temperature, which had ranged from 105° to 110°, and which was now again slowly falling. There had been, however, no return of the more serious symptoms which had previously caused so much anxiety.

Mr. Callender said that the temperature, pulse, and respirations of all his cases in St. Bartholomew's Hospital were taken twice daily. In no case of injury to the spine, with recovery, had he known the temperature to be above 107°. If the pulse and respiration, as well as the temperature, had been inserted on the chart, it would have been of service in elucidating the case.

Mr. Thornton said that, in the case just narrated by himself, when the pulse was ranging from 16 to 24, the temperature was normal.

Dr. Greenhow said that rarely before had a case so unique or interesting been related to that Society. Cases of hyperpyrexia in rheumatic and typhoid fevers had been often under his care, but a rise of temperature so high as that in this instance he had never witnessed. He had seen a patient with a temperature of 110°, but never one to recover. If a patient with fever had twitchings and a rising temperature, he had felt that, unless the temperature could be reduced by cold, death was almost certain. This case negatived all he had taught for years.

Dr. Farquharson said that the case afforded a very remarkable contrast to a case in which, with dislocation of the first dorsal vertebra and injury of the spinal cord, the temperature fell to 82°. Some observers held that, if the cord was injured near the brain, the temperature was high; others asserted the contrary. Dr. Murchison had laid it down that in fever a temperature of 107° was incompatible with life, even for a day. At post-mortem examinations in such cases, fatty degeneration of the brain and heart was found to have occurred.

Mr. Hutchinson expected that one would have to take into consideration the cause of the high temperature in the different cases, and that the maximum temperature laid down by authorities as compatible with life in fevers, would not apply to cases of injury to the spine. There were amongst these cases of injury two apparently opposite classes. After injury to the spine low in the neck, there might be very high or very low temperature without apparently any reason. A man who had received an injury to his cervical spine producing paraplegia, had a temperature which never rose above 4° below the normal. He was quite cold, even to the penis, which was turgid with blood, so that there was continual priapism; his face was quite cold, although he looked to be very well. He died on the fifth day. In such cases, however, there was mostly an exaltation of temperature, often to 110°, within twenty-four hours after the accident. He thought the mischief in Mr. Teale's case was in the spinal cord, although it was not a seriously disorganising disease.

Mr. Pridgin Teale wished to add his testimony to the accuracy with which the case had been recorded. He himself took the temperature when it was at 110°, and three weeks subsequently at 114°. It was clear that we must give up the idea that temperature *per se* was an element of high danger. No injuries apparently were capable of raising the temperature so quickly to a high degree as those of the nervous centres. A gentleman, who at 5 a.m. received a compound fracture of his skull with crush of brain, was found at 5 p.m. to have a temperature of 109°, and was then dying. With apoplexy the temperature of the body often rose enormously. He hoped the time would shortly come when physiology might be able to throw some further light on these various points.

Mr. J. W. Teale, in reply, said that the pulse of his patient never exceeded 120, and was usually between 90 and 100. The respirations were never anything but normal, though sometimes excessively feeble.

MEDICAL NEWS.

King and Queen's College of Physicians in Ireland.—At the usual monthly examination meetings of the College, held on Tuesday, Wednesday, and Thursday, March 9, 10, and 11, 1875, the licence to practise Medicine was granted to:—

Caldwell, Robert Alexander.
Clifford, John.
Croly, Albert.
Fitzgibbon, Henry.
Knox, Thomas.
Hojel, Abraham Nickson, Surgeon-Major H.M. Indian Army.
Richardson, Charles Sidney.
Thompson, Ernest Marcus.

The licence to practise Midwifery was granted to:—

Blood, John.
Caldwell, Robert Alexander.
Clifford, John.
Croly, Albert.
Irwin, John Arthur.
Knox, Thomas.
Marks, Charles Ferdinand.
Richardson, Charles Sidney.
Stoyte, James Charles.
Thompson, Ernest Marcus.

Apothecaries' Hall.—The following gentleman passed his examination in the Science and Practice of Medicine, and received a certificate to practise, on Thursday, March 11:—

Sworder, Horace, St. Mary's Hospital, Holly House, Luton, Beds.

The following gentleman also on the same day passed his primary professional examination:—

Coombe, John Batten, St. Mary's Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

Carmichael, James, M.D., F.R.C.P.E.—Physician to the Edinburgh New Town Dispensary.

Hill, T. Wood, L.R.C.P., L.S.A., M.R.C.S.—Surgeon to the Western District of the Chelsea, Belgrave, and Brompton Dispensary.

Leonard, John, M.R.C.S.—Surgeon to the Chelsea, Brompton, and Belgrave Dispensary, 41, Sloane-square, S.W.

Murphy, Shirley F., M.R.C.S., L.S.A.—Resident Medical Officer at the London Fever Hospital, Liverpool-road, N.

Ring, John, M.D., L.S.A., M.R.C.S.E.—Medical Officer for the Willesden District of Hendon Union.

NAVAL APPOINTMENTS.

Admiralty.—G. W. Sutherland, Staff-Surgeon to the *Duncan*, additional for temporary service at Yarmouth Hospital; John O'Callaghan, Surgeon to the *Cambridge*, to be sent for temporary service; Richard W. Coppinger, Surgeon to the *Duke of Wellington*, additional for service in the Arctic Expedition.

BIRTHS.

Atwool.—On March 11, at Harlesden, the wife of the Rev. H. C. Atwool, M.A., M.D., of a daughter.

Bellamy.—On March 8, at 59, Margaret-street, Cavendish-square, the wife of Edward Bellamy, F.R.C.S., of a son.

Cronin.—On March 17, at Old Manor House, Clapham, the wife of Eugene Cronin, M.D., of a son.

Eastwood.—On March 14, at Dimsdale-park, Darlington, the wife of J. W. Eastwood, M.D., M.R.C.P.L., of a son.

Fehrsen.—On February 9, at Cradock, South Africa, the wife of J. McCall Fehrsen, M.B., of a son.

Odling.—On March 3, at Norham-gardens, Oxford, the wife of Professor Odling, M.A., M.B., F.R.C.P., F.R.S., of a daughter.

MARRIAGES.

DAVY—COUSINS.—On March 13, at the Parish Church, Croydon, Francis Arthur Davy, M.D., Staff-Surgeon, late of H.M. 26th Regiment (Cameronians), to Florence Amy, fourth daughter of Charles Cousins, Esq., of Athole House, Broadgreen, Croydon, and granddaughter of the late G. F. Cousins, Esq., of the Bank of England.

DE POIX—SMITH.—On March 13, at the Church of St. Mary of the Angels, Bayswater, — De Poix, Esq., to Jessie Mabel, only child of Alexander Smith, M.D., of H.M. Indian Service.

GRAHAM—DAVIES.—On March 13, at St. Mark's, Tollington-park, Richard Graham, Esq., to Marian, only daughter of the late John Phillips Davies, M.R.C.S.

LONGHURST—SIMMONS.—On March 16, at St. George's, Bloomsbury, A. K. Longhurst, M.R.C.S., L.S.A., of Hammersmith, to Ellen, youngest daughter of Thomas Simmons, Esq., of Southampton-row, Russell-square.

JOUBERT—MELVILL.—On February 15, at St. Luke's Church, Jullundur, Punjaub, Charles Henry Joubert, M.B. Lond., F.R.C.S., H.M. Bengal Army, to Elisa (Lizzie) Jane, eldest daughter of Philip Sandys Melvill, Esq., H.M. Civil Service, Commissioner of Jullundur.

REID.—BASTARD.—On March 16, at West Ham Church, Walter Reid, Staff-Surgeon R.N., to Florence Mary, only daughter of Richard, Bastard, Esq., The Hollies, Stratford, Essex.

VICKERS—STANSFELD.—On March 11, at St. Clement's Church, Leeds, Charles William Vickers, L.R.C.P., M.R.C.S., of Limehouse, E., formerly of Huddersfield, to Annie, only daughter of the late George Stansfeld, Esq., of Leeds.

DEATHS.

BARER, EMMA, beloved wife of John Baber, M.D., at 34, Thurloe-square, S.W., on March 12.

BAGNALL, GEORGE, M.D., at The Promenade, Cheltenham, on March 12, aged 69.

DALY, MARY HANNAH, widow of the late Richard Daly, M.D., Surgeon R.N., at 1, Avenue-road, Clapton, on March 7, in her 87th year.

HAMILTON, THOMAS WILLIAM, M.D., at Baron Lodge, Mitcham, on March 7, aged 54.

ROBINSON, GEORGE, M.D., formerly of Newcastle-on-Tyne, at 1, Park-terrace, Gateshead, on March 10, aged 54.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

BRADFORD INFIRMARY AND DISPENSARY.—Physician. Candidates must be duly qualified. Applications, with testimonials, to Mr. Charles Woodcock, Secretary, 65, Market-street, Bradford, on or before June 12.

BRADFORD INFIRMARY AND DISPENSARY.—Resident Medical Officer. Candidates must be duly qualified and registered. Applications, with testimonials, to Mr. Charles Woodcock, Secretary, 65, Market-street, Bradford, on or before April 2.

CALNE UNION.—Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to Mr. J. W. A. Stanley, Clerk to the Guardians, on or before March 30.

CENTRAL LONDON OPHTHALMIC HOSPITAL, GRAY'S-INN-ROAD, W.C.—Assistant-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before April 3.

CHARING-CROSS HOSPITAL.—Resident Medical Officer. Candidates must be duly qualified and registered. Applications, with testimonials, to the Secretary, on or before March 24.

COVENTRY AND WARWICKSHIRE HOSPITAL, COVENTRY.—House-Surgeon and Dispenser. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before March 25.

FARRINGDON GENERAL DISPENSARY AND LYING-IN CHARITY, 17, BARTLETT'S-BUILDINGS, HOLBORN.—Two Physicians. Candidates must be F. or M.R.C.P. London. Applications, with testimonials, to the Honorary Secretary, S. Green, 10, St. Swithin's-lane, on or before March 27.

FETTERCAIRN, PARISH OF.—Resident Medical Officer and Public Vaccinator. Applications, with testimonials, to Colonel M'Inroy, Chairman of the Board, The Burn, Brechin, N.B., on or before March 27.

LIVERPOOL ROYAL INFIRMARY.—Resident Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to the Chairman of the Committee, on or before April 10.

QUEEN'S HOSPITAL, BIRMINGHAM.—House-Surgeon and Dispenser. Candidates must be duly qualified. Applications, with testimonials, to Captain Fosbroke, at the Hospital, on or before March 25.

ROYAL EDINBURGH ASYLUM.—Assistant-Physician. Applications, with testimonials, to Dr. Clouston.

ST. MARY'S HOSPITAL AND DISPENSARY FOR WOMEN AND CHILDREN, QUAY-STREET, MANCHESTER.—Two legally qualified Medical Men. Applications, with testimonials, to the Secretary, on or before March 27.

ST. THOMAS'S HOSPITAL.—Assistant Obstetric Physician. Candidates must be medical graduates of a University in the United Kingdom. Applications, with testimonials, to the Treasurer, at St. Thomas's Hospital, Westminster-bridge.

SHEFFIELD PUBLIC HOSPITAL AND DISPENSARY.—Assistant House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to Dr. J. C. Hall, Honorary Secretary.

STRATTON UNION.—Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to Mr. W. Pickard, Clerk to the Guardians, on or before March 20.

TORBAY INFIRMARY, TORQUAY.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Honorary Secretary, Hemsworth, Torquay.

WORCESTER COUNTY AND CITY LUNATIC ASYLUM, POWICK, NEAR WORCESTER.—Second Assistant Medical Officer. Candidates must be unmarried, qualified, and registered. Applications, with testimonials, to Dr. Sherlock, at the Asylum, on or before April 5.

WEST BROMWICH DISTRICT HOSPITAL.—House Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Honorary Secretary, P. D. Bennett, Esq., on or before March 22.

WEST NORFOLK AND LYNN HOSPITAL.—Resident Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to the Weekly Board, at the Hospital, immediately.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, WOLVERHAMPTON.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Chairman of the Medical Committee, on or before May 3.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Bolton Union.—Dr. Robertson has resigned the Horwich District; area 4997; population 4797; salary £30 per annum.

Manchester Township.—Mr. P. Tytler has resigned the office of Assistant Medical Officer at the Crumpsall Workhouse; salary £150 per annum and allowances.

Pocklington Union.—Mr. Robert E. Deane has resigned the Second Pocklington District; area 25,555; population 2477; salary £20 per annum. Also the Workhouse; salary £20 per annum.

Solihull Union.—Mr. Thomas Lowe has resigned the Solihull District; area 12,408; population 3927; salary £44 per annum.

APPOINTMENT.

Pontefract Union.—W. S. Simpson, M.R.C.S. Eng., L.R.C.P. Edin., to the Workhouse.

THE EARL OF CHICHESTER has been elected President of the Sussex County Hospital, Brighton, for the ensuing year.

No application having been made for the appointment of Medical Officer for the No. 3 District of the Newmarket Union, the Guardians have resolved to add it to No. 1 District, and increase the salary of the medical officer of the latter from £40 to £85 per annum.

TYPHOID FEVER AT LEWES.—The Lord Chief Justice, after opening the Spring Assizes for Sussex at Lewes, adjourned them in consequence of a fresh outbreak of typhoid fever in the town. Since that time an Order in Council has been issued, giving authority for their being held at Brighton.

THE next meeting of the Society of Medical Officers of Health will be held on Saturday, March 20, at 7.30 p.m., at the Scottish Corporation Hall, Crane-court, Fleet-street, when Dr. B. W. Richardson, F.R.S., will read a paper entitled "Some new Researches on the Cause of Increment of Animal Heat from the action of the Septinous Poisons, with a *résumé* and continuation of the author's researches on the Synthesis of Contagious Diseases reported to the Society in the year 1865."

A QUINOLOGIST MISSING.—Considerable anxiety has been caused about Mr. John Broughton, the Government Quinologist, who left Ootacamund in December in possession of a considerable sum of money, and has not been heard of since. It is feared that some accident has befallen him.—*Madras Mail*, February 16.

HEALTH OF LONDON.—During the past week 1847 deaths were registered in the metropolis, exceeding the average by 197. The annual death-rate from all causes was 28 per 1000. The deaths included 3 from small-pox, 38 from scarlet-fever, and 55 from whooping-cough. The fatalities from diseases of the respiratory organs, which in the six previous weeks had steadily increased from 409 to 612, declined last week to 566, but they exceeded the average by 186.

RETAINED PLACENTA.—In reference to some cases of retained placenta that had been treated by forcible removal, which he regards as a dangerous practice, Dr. Lincard, of Caen, calls attention to the fact that he many years ago published a simple procedure, which he has always found as effectual as it is safe and easy, and which is also a very efficacious means for the prevention of after-pains and uterine hæmorrhage. It consists in the injection of the umbilical vein with cold water. A clean section should first be made, so as to bring the vessel plainly into view, and also to shorten the cord, which should not be more than from twenty to thirty centimetres in length. A syringe, containing at least 150 grammes, and having a long fixed canula, should be employed. The colder the water used, the less is the quantity that need be injected; so that while 150 grammes suffice at the ordinary temperature of winter, twice or thrice as much may be required in summer.—*Gaz. des Hôp.*, February 25.

THE PHYLLOXERA.—The Commission instituted under the presidency of M. Dumas, under the auspices of the Minister of Agriculture and Commerce, has just issued its report of its proceedings for 1874. In this it states that it has found it necessary to adjourn the bestowal of the prize of 300,000 fr. voted by the National Assembly for the discoverer of a specific against the ravages of this terrible insect. More than 600

procedures have been indicated or experimented upon, without the conditions of the programme having been met—*i.e.*, the discovery of an efficacious and economical means, applicable to all soils, for the destruction of this pest. The prize, therefore, remains open, and candidates are to understand that it is not sufficient to indicate a specific, but they must be prepared to prove by numerous, prolonged, and authentic experiments that they are able either to procure the economical destruction of the phylloxera when it has attacked the vines, to preserve healthy vines from its ravages, or to maintain the vitality and fructifying power of vines after they have been attacked.—*Union Méd.*, March 13.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

Dr. J. Berryman, St. John.—Letter, with enclosure, received.

A. M., St. Bartholomew's.—Early in April next, as advertised in the *Medical Times and Gazette*.

Ethnologist.—You will see some illustrations in the Museum of the College of Surgeons. The singularly thick skull which is considered as one of the characteristics of the negro race is not exclusively peculiar to it. The skulls of the Australians are said to be much thicker than those of Europeans.

Oliver Thompson.—The late Professor Quekett was elected a student in human and comparative anatomy at the College of Surgeons in 1840, an assistant-conservator in 1843, and succeeded Professor Owen as Conservator in 1852. Professor Flower succeeded him in 1861.

Mr. Rowland.—The Araucanians, especially those who live on animal food, have an extremely disagreeable odour, which is in Chili known by the name of *sureno*.

M.D., Belfast.—Mr. John Brady, M.R.C.S. Eng., was elected Member of Parliament for Leitrim in 1852, and has held his seat to the present time. He was born in 1812.

Sexagenarian desires fully to endorse the observations of our correspondent "A General Practitioner," in the *Medical Times and Gazette* of last week, and adds the significant fact that to his knowledge two of the gentlemen who have carried off several prizes at the united hospitals athletic sports, have been rejected, one six and another five times, at the College of Surgeons. A late most worthy President of that College, still a member of the Court of Examiners, has withdrawn his handsome annual subscription from these sports.

Pro Bono Publico.—Since the passing of the Metropolitan Commons Act, there have been five schemes certified and confirmed by Parliament relating severally to Hayes Common, Kent, about 200 acres; Blackheath, Kent, about 267 acres; Shepherd's Bush Common, Middlesex, about 8 acres; Hackney Common, Middlesex, about 166 acres; and Tootingbeck Common, Surrey, about 144 acres.

Cid.—Dr. Sydney Ringer was one of the first in this country to familiarise us with the observations of Wunderlich and others upon the variations of the bodily temperature in disease.

Y., Louth.—Doctorships in Medicine existed in 1384.

Saul W.—The Jennerian Institution, founded in London in 1803, was merged in the National Vaccine Establishment founded in 1808.

Dan, Southsea.—Earthenware filters were said to have been invented by Mrs. Johanna Hempel, of Chelsea, 1790. Mr. Robins subsequently patented and improved them.

L. O.—1. August 2, 1858. 2. St. George's Hospital, Hyde-park corner, was instituted October 19, 1733.

R. Y. B.—The office, as far as we know, is now antiquated.

Leps.—In 1802 the French Government established a Council of Health for the sanitary regulation of Paris, and in 1851 the entire country was brought under control of a central council with minor branches in each department.

Scppens.—Dispensaries were set up in monasteries and the houses of the wealthy during the middle ages. They were established in London in their present form towards the end of the eighteenth century.

Chemicus.—Glycerine was discovered by Scheele, 1789, and is said to have been first used for mechanical purposes by Mr. T. De la Rue, 1844.

A., Hampshire.—Haslar Hospital, for sick and wounded seamen, was begun 1746, and finished 1762.

P. P.—Owens College, Manchester, was completed in 1851, and founded out of funds provided by a bequest of nearly £100,000 by Mr. John Owens.

Mr. Whipple.—You will find copies of the Medical Acts in the annual register published by the General Council of Medical Education and Registration, including the University of London Medical Act Amendment; but why that of the Apothecaries is excluded we cannot say. Address your inquiry to Dr. Hawkins, the Registrar, 315, Oxford-street.

B. N.—"Clinical Lectures, with Observations on Practical Medicine," by Sir Henry Marsh, Bart., M.D., edited by Dr. J. Stannus Hughes.

C. L.—The first number of the *Briton* appeared May 29, 1762, and was under the editorship of Tobias Smollett, M.D., founder also of the *Critical Review*, for a libel in which on Admiral Knowles he was fined and imprisoned (*vide* Knight Hunt's "Fourth Estate," vol. i., page 209). Mr. Hunt, who was the founder of this journal, died some years since, when filling the editorial chair of the *Daily News*.

Mr. Colenso.—From the "general summary" of the expenditure of the General Council of Medical Education and Registration, it appears that the salaries amount to £1634 5s. 1d.; the receipts to £9090 9s. 11d. The sale of registers only produced £15 2s. 6d.

Argus, Gray's Inn-lane.—Dr. Marsden is a Fellow of the Edinburgh College of Surgeons, *not* the London College, as stated in a former edition of the Medical Register. It is a mistake on the part of the Registrar, as Dr. G. P. Rugg, of Clapham-road, registered long before 1869. This blunder would in no way affect him in a court of law. Write to Dr. Hawkins, 315, Oxford-street.

P. D., Falmouth.—John Hunter lived on the east side of Leicester-square, next door to what is now the Hôtel Sablonière. On the west side lived William Cruickshank, author of the "Absorbents," etc. His daughter married Honeratus L. Thomas, President of the College of Surgeons, who resided in Leicester-place.

Dr. McM., Brighton.—You will find similar cases recorded by Morgagni, in his work "De Sedibus et Causis Morborum per Anatomen indagatis." A private letter from Boulogne, just received, states that a well-known gentleman at that place, aged fifty-five years, a widower, paid his *chère amie*, a widow, twenty-six years of age, a visit a few days ago, with whom he dined, and an hour afterwards was found dead in her arms, she being asleep.

An Actuary.—The interesting work on Longevity, by Dr. John Gardner, will give you the desired information. We are informed by a well-known correspondent of the *Times* that Lady Smith, the widow of the well-known botanist, whose autograph he received a few days ago, is alive and well, notwithstanding her well-attested age of 103 years. In the obituary of our contemporary of Monday last, the deaths of fourteen persons, seven of each sex, were recorded, whose united ages amounted to 1221 years, giving an average of rather more than eighty-seven years to each; there were no less than five nonagenarians amongst them. The eldest of the seven gentlemen was ninety-five, the youngest eighty years of age. Of the fair sex the eldest was ninety-three, and the youngest eighty-one years of age.

A Lenten Visitor.—To those not small classes of people to whom the theatre is at all times, or during certain seasons, a prohibited enjoyment, Mr. and Mrs. German Reed offer a very pleasant bright evening's amusement. The company that performs the clever musical satires and other pieces given is compact and choice; and, what is more important still in medical eyes, the programme is short, the hall is well ventilated and neither hot nor cold: a visit to this entertainment is consequently attended with less risk of "cold-catching" than a visit to a theatre.

The Essex Ring.—In a long and interesting historical account of the ring given by Queen Elizabeth to her favourite, the unfortunate Earl of Essex, published in the *Saturday Review* of the 27th ult., it is incidentally stated that "another ring exists which claims to be the true 'talisman' of Essex; this is in the family of Warner, etc." Respecting this, Mr. Wadd, a former member of the Council of the College of Surgeons, states, in his "Nugæ Chirurgicæ," that Mr. Joseph Warner, F.R.S., who was Surgeon to Guy's Hospital for forty-four years, was born in the Island of Antigua in 1717, on the family estate, which he inherited, together with a ring, famous in history as the one which the Countess of Nottingham never delivered, as requested, to the Queen. This ring has regularly descended, together with the estate, to the Warner family. Mr. Warner was elected a member of the Court of Assistants in 1764, and in the "Calendar" of the College of Surgeons he appears to have been an examiner in 1800. There is a scarce print of him, from a private plate, in the possession of Mr. William Norris, President of the College, whose daughter married Mr. E. A. Wilde, solicitor to the College, and was the mother of the Right Honourable Lord Penzance.

M.D., Leamington.—In his "Old Times and Distant Places," just published by Archdeacon Sinclair, he reports an observation made by the celebrated Chalmers of an equally celebrated member of our profession; he defined the secret of Dr. Jephson's success in two words:—"He is more *inquisitive* and more *dictatorial* than any other physician." And certainly the patience which encourages a sick man to tell his own story, and the authority which commands strict obedience to a rule, make the physician popular with his patients.

Ethnologist, Clapham.—You will find full information on the subject in "Waitz's Anthropology." Among the Coroados, marriages between the nearest blood relations occur frequently. As proofs of the destructiveness of such connexions, the Irish in South Carolina are cited, who for a long time have only intermarried between themselves. The Dutch colonists at the Cape are in the same condition. Lichtenstein had already noticed the frequent presence among them of deaf and dumb, idiots, etc.

Bibliopole.—Mr. Chatto, the obliging Librarian of the College of Surgeons, will readily afford you the desired information. See his *Catalogue raisonné.*

Inventus.—Sir William Whymper, M.D., became Surgeon-Major of the Coldstream Guards in 1825, and was knighted in 1832.

A Personal Explanation.

TO THE EDITOR OF THE MEDICAL TIMES AND GAZETTE.

Sir,—My name has been withdrawn from all association with Darlow and Company, of the Strand, the patentees of "Magnetine." This will perhaps satisfy "M.R.C.S.," of Finsbury-park, whose query was answered in your issue of March 6 last. I am, &c.,

M. C. Soutter, M.R.C.S. Eng.

8, Cumberland-terrace, Finsbury-park, N., March 16.

COMMUNICATIONS have been received from—

The Honorary Secretary of the Hunterian Society; Dr. Horace Dobell, London; The Honorary Secretary of the London Anthropological Society; Mr. T. B. Blake, Hurstbourne Tarrant; Dr. Druitt, Madras; Dr. Alfred Meadows, London; The Registrar of Apothecaries' Hall, London; The Registrar-General, Edinburgh; Mr. Soutter, London; M.D.; Our American Correspondent; R. Y. B.; Mr. J. Chatto, London; Dr. C. Handfield Jones, London; Mr. W. J. H. Lush, Andover; Dr. Lionel S. Beale, London; Mr. G. Brown, London; Mr. Jonathan Hutchinson, London; Dr. Clarke, Tweedside.

BOOKS AND PAMPHLETS RECEIVED—

Clinique Chirurgicale de l'Hôtel-Dieu de Lyon, par M. le Prof. Valette—De la Transmission de la Syphilis entre Nourrices et Nourrissons, et notamment par l'Allaitement, avec Considérations Médico-Légales, par M. le Dr. C. Appay—The Medical Profession in All Countries, vol. ii.—Phenomena of Spiritualism, by W. Crookes, F.R.S.—Wallace on Miracles and Modern Spiritualism—Chambers's Manual of Diet in Health and Disease—Annali Universali di Medicina e Chirurgia, vol. ccxxxi.—Les Bandages et les Appareils à Fractures, par M. le Dr. Guillemin—Annual Reports of the Civil Dispensaries of Madras for the years 1870, 1871, and 1872—Allingham on the Treatment of Fistula, etc., by Elastic Ligature—St. George's Hospital Reports, vol. vii.—Traité des Injections sous Cutanées à Effet local, par le Dr. A. Luton.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—National Food and Fuel Reformer—Philadelphia Medical Times—Pharmaceutical Journal—Centralblatt für die Medicinischen Wissenschaften—La France Médicale—Iron—Swansea and Glamorgan Herald—The Medical Inquirer—Jewish Chronicle—Irish Hospital Gazette—La Salute Giornale d'Igiene Popolare, Scienze Mediche—Monthly Review of Dental Surgery—The Transatlantic.

APPOINTMENTS FOR THE WEEK.

March 20. *Saturday (this day).*

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 9 a.m. and 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

Royal Institution, 3 p.m. Prof. W. K. Clifford, "On the General Features of the History of Science."

22. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

Medical Society of London, 8 p.m. Mr. Gant, "Epithelioma of the Tongue" (with Laryngoscopic illustration). Dr. Theodore Williams, "On a Case of Arrested Phthisis, in which Complete Contraction of a Tinkling Cavity took place." Dr. Broadbent, "Illustrations of Different Forms of Uræmic Poisoning."

Royal College of Surgeons of England, 4 p.m. Professor W. K. Parker, "On the Structure and Development of the Skull."

23. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Antropological Institute, 8 p.m. Meeting.

Royal Medical and Chirurgical Society, 8½ p.m. Mr. Walter Rivington, "Case of Pulsating Tumour of the Left Orbit, Cured by Ligature of the Left Common Carotid Artery;" with a *résumé* of Recorded Cases of Intra-Orbital Aneurism.

24. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1¼ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Hunterian Society, 8 p.m. Meeting.

Royal College of Surgeons of England, 4 p.m. Professor W. K. Parker, "On the Structure and Development of the Skull."

25. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.

26. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1¼ p.m.

VITAL STATISTICS OF LONDON.

Week ending Saturday, March 13.

BIRTHS.

Births of Boys, 1240; Girls, 1269; Total, 2509.
Average of 10 corresponding years 1865-74, 2325·9.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	945	902	1847
Average of the ten years 1865-74	792·8	749·0	1541·8
Average corrected to increased population	...	...	1650
Deaths of people aged 80 and upwards	...	...	88

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	2	4	2	10	1	1	1	3
North	751729	...	1	6	3	15	...	4	2	3
Central ...	334369	...	1	3	...	5	1	1	...	2
East	639111	...	4	9	2	10	...	3	1	3
South	967692	3	5	16	9	15	2	6	4	5
Total	3254260	3	13	38	16	55	4	15	8	16

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·898 in.
Mean temperature	43·5°
Highest point of thermometer	57·4°
Lowest point of thermometer	30·3°
Mean dew-point temperature	37·6°
General direction of wind	S.W. & E.N.E.
Whole amount of rain in the week	0·23 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, March 13, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1876.)	Births Registered during the week ending Mar. 13.	Deaths Registered during the week ending Mar. 13.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3445160	45·7	2509	1847	57·4	30·3	43·5	6·39	0·23	0·58
Portsmouth ...	122632	27·3	75	55	...	30·0	...	...	0·22	0·56
Norwich	82842	11·1	55	51	57·2	31·0	41·7	5·39	0·29	0·74
Bristol	196186	44·1	143	105	56·5	31·3	42·4	5·78	0·95	2·41
Wolverhampton ...	71718	21·1	62	60	55·9	30·0	41·0	5·00	0·34	0·86
Birmingham ...	366325	43·6	299	207	57·6	31·2	42·2	5·67	0·35	0·89
Leicester	109830	34·3	91	63	...	...	...	...	...	...
Nottingham ...	92251	46·2	65	55	57·2	29·4	42·2	5·67	0·28	0·71
Liverpool	516063	99·1	362	313	55·0	30·8	40·4	4·66	0·25	0·63
Manchester ...	356626	83·1	277	220	60·0	29·0	41·8	5·45	0·31	0·79
Salford	135720	26·3	138	90	57·5	27·9	41·4	5·22	0·27	0·69
Oldham	87437	18·7	73	67	...	...	...	...	...	...
Bradford	168305	23·3	174	87	55·0	33·0	40·8	4·89	0·23	0·58
Leeds	285118	13·2	236	158	55·0	33·0	43·1	6·17	0·28	0·71
Sheffield	267881	13·6	221	136	57·1	29·5	41·6	5·34	0·16	0·41
Hull	133932	36·8	105	81	58·0	26·0	40·3	4·61	0·23	0·58
Sunderland ...	106342	32·2	101	53	62·0	34·0	44·2	6·78	0·35	0·89
Newcastle-on-Tyne	137065	25·5	129	72	52·0	32·0	39·5	4·17	0·20	0·51
Edinburgh	211626	30·5	141	97	57·0	32·0	42·3	5·73	...	...
Glasgow	531765	88·1	395	380	53·7	30·9	41·3	5·17	1·47	3·73
Dublin	314666	31·3	185	200	57·5	27·0	42·9	6·06	0·06	0·15
Total of 21 Towns in United Kingdm	7739490	37·0	5836	4401	62·0	26·0	41·8	5·45	0·36	0·91

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·96 in. The lowest was 29·51 in. at the beginning of the week, and the highest 30·27 in. on Wednesday morning.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

LECTURES ON INJURIES TO THE HEAD.

By JONATHAN HUTCHINSON, F.R.C.S.,
Senior Surgeon to the London Hospital; Surgeon to Moorfields Ophthalmic Hospital and the Hospital for Skin Diseases.

Lecture III.

OSTEITIS AND PYÆMIA.

Review of the Symptoms of Pyæmia—Blood-Clots in Sinuses—Relations between Arachnitis and Osteitic Pyæmia—Treatment of Pyæmia—Prophylaxis—Illustrative Cases and Comments.

Gentlemen,—In our last lecture we considered in some detail the principal symptoms of pyæmia as it occurs after injuries to the skull. I am anxious that you should see clearly that the phenomena of pyæmia in head cases are distinct from those which we meet with in meningitis. I insist upon this the more strongly because in most systematic works you will find them somewhat confused together; at any rate, you will find the group of "head symptoms" consequent on injuries made to include those of both without distinction. Rigors are constantly spoken of as if they indicated meningitis. Now, I will not by any means assert that rigors never occur from meningitis, but I am sure they are very rare, and that a well-marked severe rigor is almost pathognomonic of a quite different lesion. You will also find rigors put down amongst the symptoms indicating necessity for active treatment, not unfrequently for the use of the trephine. If the chain of reasoning in our last lecture be correct, they go much further than this, and imply a state of things already almost hopeless. Above all is the diagnosis of pyæmia definite, and the prognosis bad, if the rigor is repeated. The first shivering gives "check!" the second is usually "check-mate!"

Insidious inflammation of the contused bone, no early symptoms—the patient, on the contrary, in good health, and the wound covered with florid granulations,—a rigor somewhere between the seventh and twentieth day, then rapid but irregular and alternating failure of strength, recurring rigors, remarkably varying temperatures, with, very likely, sickness, jaundice, dry tongue, and signs of pneumonia,—such is the frequent course of events. The patient may probably die at about a fortnight after the commencement of his bad symptoms, and if he does you will find at the autopsy that the portion of bone contused and denuded of pericranium is dry and greenish, that its diploe contains a greenish sticky fluid like pus, that the veins leading from it to the sinuses (usually to the superior longitudinal sinus) are distended by what looks like dirty pus with fragments of fibrine, and that there is pus or a thrombus in the sinus itself. Amongst the preparations sent in with my Essay, and now in the Guy's Museum, were some beautiful specimens of this discoloration of the bone and of these thrombi in the veins and sinuses. Sometimes almost half the calvaria may be involved in inflammation, the disease having disregarded the sutures and extended very widely. In others, the inflammation of a portion of bone not larger than a halfpenny and already grooved round by a line of commencing separation may suffice to kill the patient.

As the vertex of the skull is the part most frequently contused, thrombi are most frequently met with in the superior longitudinal sinus; but when the bones at the base of the skull inflame, the cavernous sinuses, or the petrosal or the lateral sinuses themselves may become their site. I have often found a thrombus extending like a long whitish worm almost the whole length of the superior longitudinal sinus. They are often smooth on their exterior, and only adherent to the vein at places. If you prick them a creamy fluid escapes, very like pus.

Now, the relations between arachnitis and osteitic pyæmia are these. Both are frequently induced by inflammation of the bone, and therefore both, although quite distinct, may frequently occur together. The osteitis causes gangrenous phlebitis, with thrombi in the veins, which break up, are swept into the general circulation, and cause pyæmia; but it may also, at the same time, cause inflammation of the adjacent dura mater and its arachnoid lining, and then you will have the symptoms of meningitis as well. In very few cases of death from pyæmia is there no arachnitis whatever, but in those in which only a small portion of bone is inflamed, the implication of the membranes is correspondingly limited, and no symptoms of this lesion are observed during life. Thus we may now and then meet with instances of pyæmia so little complicated by arachnitis that they serve to illustrate the symptoms of the one lesion only. Converse cases are much more common. Traumatic arachnitis following wounds of the dura mater is frequently met with in cases in which there is no pyæmia, and here the symptoms differ in most important points from those of the latter. Either there is no rigor at all, or only a single and ill-marked one; whilst there is severe headache and mental disturbance, quickly followed by hemiplegia of the side opposite to the hemisphere involved. The latter symptom is by far the most valuable that we possess as indicative of arachnitis over the surface of one hemisphere. The patient dies within a few days, comatose, and possibly violent convulsions may have preceded death. At the autopsy you find no thrombus in the sinus, and no deposits in the viscera; but there is sero-purulent fluid in the arachnoid sac, and a layer of puro-lymph on both the visceral and parietal layers of that membrane.

The contrast between this state of things and pyæmia is very definite; recurrent rigors are the pathognomonic symptom of the one, hemiplegia and convulsions of the other. You must understand, however, I repeat, that they are very frequently met with together,—that it is often a sort of race which shall kill the patient; and that their symptoms may be interlaced in a manner which would be perplexing were it not for frequent opportunities for observing each separately.

As regards the treatment of pyæmia, when it has once declared itself, I am sorry that I have but little to say. I have carefully tried various measures. The administration of large doses of quinine, of tincture of iron, the use of mercury, or of turpentine, have all, as far as I could observe, failed to afford any benefit. At this hospital you will usually see pyæmic cases treated by the free use of stimulants; but although now and then a well-marked case ends favourably, yet the opposite result is so much the rule that I think we can form no very favourable opinion of the treatment. Pyæmia when resulting from osteitis of the skull is, I think, more dangerous, if possible, than when in connexion with any other cause. At any rate, I do not know that I have seen any instances of recovery from it. Just lately we have had a case in which a boy, after a laceration of the scalp with denuded bone, became very ill, as if in typhoid fever, and during his convalescence had two large abscesses in the cellular tissue, one in his neck, and the other in his right leg, and has yet recovered. It is doubtful, however, whether this was pyæmia. The lad's relatives are said to have had fever; he never had rigors, and now that he is recovering, all his hair has fallen off, and thus the fever hypothesis seems not improbable

With such bad results as regards treatment, we must direct our earnest attention to measures likely to prevent this fearful disease. As to its causes, I insist again that nothing is proved beyond the bare fact that in patients of all ages and of all conditions of health, and under various hygienic surroundings, if the pericranium be stripped off the bone may inflame, and that if the bone inflames, gangrenous phlebitis, thrombosis, and pyæmia may follow. When you remember the large number of those injuries which pass unscathed through our wards every year, and when I tell you that in nearly half of our pyæmic head-cases the patients sought admission some time after the accident and because symptoms were already becoming apparent, I think you will agree with me in believing that the prejudicial influence of hospital air has been greatly exaggerated. Will it prevent pyæmia to feed a patient liberally? Certainly not; for pyæmia often occurs in the most healthy. The chief point in treatment is to procure, if possible, the early reunion of the pericranium with the bone. As to constitutional prophylaxis, the only remedy in which I have any glimmering of faith is mercury. If this remedy is to do any good, you must not wait until a rigor has occurred, but you must give it beforehand. I have not had as yet sufficient experience to speak confidently, but I have given it repeatedly in cases of denuded skull-bone when I feared pyæmia, and, I think, with decided advantage.(a) With the hope of preventing inflammation of bones, I believe it is useful to favour suppuration in all cases in which suppuration is inevitable. With this hope I usually poultice contused scalp wounds from the first day.

Although I have already spoken at considerable length on the

(a) When I delivered this lecture, about two years ago, it included the following paragraph:—"I have been intending for some time past to give you a clinical lecture on this subject in connexion with a recent case, but fortunately no opportunity has occurred. During the last eighteen months I have not had a single case of pyæmia after injury to the head." Since then, however, several have occurred.

subject of pyæmia, yet there still remain a few special questions in respect to it, to which I must ask your attention. Not only is pyæmia of great importance as a common cause of death after injuries to the head, but the latter furnish us excellent opportunities for the clinical study of the disease. We can examine the venous system in local proximity to the injured part more easily in the case of the head than of most other regions. Thus we may here learn what the several stages in the production of pyæmia really are, and we may allow our knowledge, here obtained, to help us to a sound creed in reference to the disease when following injuries to other parts. You will have inferred, from what I have already said, that I am a firm believer in the old-fashioned doctrine as to the essential connexion between suppurative inflammation of veins and the secondary abscesses which characterise pyæmia. Notwithstanding the high position as surgical investigators of some who have given in their adhesion to the opinion that when phlebitis is found after death it is to be considered not as a cause of the other phenomena, but as a consequence with them of antecedent blood-poisoning, I regard that doctrine as a heresy which is refuted by everyday experience. Nor, perhaps, excepting the cases, formerly numerous,(b) in which phlebitis after phlebotomy lead to fatal pyæmia, could I find any which illustrate better the connexion to which I refer than those in which pyæmic blood-poisoning results from injuries to the skull. In these, in case after case, we find the symptoms in abeyance until time has elapsed for the completion of the local processes. Then follow the usual train of symptoms, and at the post-mortem we are able to demonstrate inflamed and discoloured bone, gangrenous veins in the diploe, extension of puriform thrombus or of suppurative phlebitis to the cerebral sinuses, and lastly visceral abscesses. Do not be misled by the statement that the phenomena of pyæmic depôt in the lungs or liver are so different from the results of artificially produced embolism that the theory of transported plugs as their cause is untenable. Remember that everything depends upon the precise nature of the plug. If it be of dead undecomposable material, you must expect only those of mechanical stoppage; but if it be either living or undergoing retrogressive changes, then you must be prepared for results of a wholly different character. An embolus of cancer-cells will grow cancer where it stops, and one of pus or puro-lymph will cause changes which will be in precise relationship with its own vital state. We may with much probability conjecture that in pyæmia it is a living embolus, and not a dead one, and that it is capable of causing changes due to the contagion of living material. I prefer the hypothesis of life to that of decomposition, but both may be profitably kept in mind. What we must clearly understand is, that it has its own special peculiarities, and that we are by no means to infer that the results of the transplantation of fragments from a freshly formed thrombus in the longitudinal sinus will be similar to those caused by the injection of dead pus into the veins, or the introduction of mustard-seeds.

I will next produce some preparations and drawings illustrating different parts of our subject. I will ask you to look carefully at them, and to hear the facts which I shall state, and then doubt, if you can, that inflamed bone and inflamed veins are the initial lesions in true pyæmia.

You have here a good portrait of the dura mater of a man named J. T——y, who died of pyæmia on the twenty-sixth day after an injury to his skull. It is one of the best illustrations of the continuous thrombus of the longitudinal sinus that I shall be able to show you.(c) I will describe it in detail after I have narrated the case.

J. T——y, aged thirty, was admitted on October 28. His accident had consisted in a fall, feet downwards, consequent on the breaking of a chain. The chain followed, and struck him violently on the head. He was said to have fallen forty feet. He had a Pott's fracture at his left ankle. He was in good health at the time, and was kept to his bed through the whole treatment on account of the fractured fibula; otherwise there was nothing apparently serious in his injuries. When on the twelfth day his first rigor occurred, all the scalp-wounds but one were quite healed, and that one was suppurating freely, and appeared quite healthy.

November 9 (twelfth day, Wednesday).—Up to Monday he had been doing quite well. On Monday he says that he felt a "little feverish, and had pains in his bones." On Tuesday, in the morning, just after he had been out to have his bed made, he had a severe rigor till his teeth chattered. Wednesday (this morning) he had a second rigor. Both on Monday afternoon and the whole of Tuesday he was sick repeatedly. He complains to-day (Wednesday) of pain in his abdomen, but not in his chest. He looks pale; his skin is relaxed and moist; pulse 120. There is nothing about his tongue to attract attention; it is almost clean, and is moist and not too red. One of the wounds to the right of the middle line is not yet healed, but the bone is covered by a mass of florid healthy granulations. With the probe bare bone may be felt.

11th.—He has had another shivering fit this afternoon. It was a very severe one. He had also had one in the morning. During the rigor his lips became blue, and his teeth chattered. His pupils were of moderate size, and absolutely fixed.

12th.—Feels rather better, but his pulse is very quick, and his tongue is beginning to be a little dry in the centre. He complains of pain in his left shoulder, but there is no swelling evident. He has not had any rigor to-day.

14th.—He says he feels a little better to-day. He had a rigor yesterday, but not to-day. There is decided swelling about the left sterno-clavicular joint, and great tenderness. His tongue is rather dry in the centre.

16th.—There is suppuration in the sterno-clavicular joint. Rigors continue to recur, and his appetite gets worse and worse.

From this date until the time of his death rigors continued to recur almost daily. He had usually a pungently hot skin, and his tongue was dry in the centre, and his pulse from 110 to 120. He had little or no sickness. The abscess communicating with his sterno-clavicular joint was opened, and discharged freely. An abscess also formed on the outer side of his left ankle, communicating with the fracture. He became emaciated and very pale, but was not jaundiced. Owing to the abscess at his left sterno-clavicular joint, and the abscess on his left foot, it was not easy to estimate any slight degree of paralysis which might be present. He used to wander a little during the last day or two, and his memory became very defective, but he had no active delirium. No convulsions were ever noticed.

He died on the morning of the 22nd at 8.30. He died quite quietly, but rather suddenly, having drank some brandy just before he died.

Autopsy.—All the wounds on his scalp excepting one were soundly healed. The unhealed sore was on the right, very near the middle line. The portion of bone which was bare was but little larger than a shilling; it was green and discoloured, and around its margin was an irregular narrow furrow, marking the place where separation was about to ensue. The pericranium adhered well up to the edge of this furrow, and was vascular and thickened close to it. On removing the pericranium no other part of the scalp was found to be diseased. On looking at the bone from within, the diseased part was easily distinguished by its yellow-white appearance; it was not so abruptly defined as it was externally. Between the dura mater and the bone at this part a layer of thick pus was seen. It covered a somewhat irregular surface, not larger than a penny-piece, and did not in all amount to more than half a drachm. The dura mater at all other parts adhered firmly to the bone. On washing the pus from the outer surface of the dura mater, this membrane was seen to be ashy and discoloured beneath. The parts affected were a little to the right of the superior longitudinal sinus, and immediately beneath the coronal suture. The dura mater here presented several elevations, on cutting into which a grumous fluid resembling pus escaped. Whether these were originally enlarged veins or not it was difficult to say, as the walls of the veins had certainly been broken down. At several points in the surface of these elevations the outer layer of the dura mater had given way, and pus was escaping. The laceration had, no doubt, been caused by tearing off the calvaria. Whether the lacerations marked the points where veins passed from the bone or not it was impossible to say. The lateral sinus being laid open, it was found to contain in its anterior part only a slender coloured clot, but on reaching the part adjacent to the dead bone and inflamed membranes, it contained a continuous thrombus. This thrombus was red on the surface from a thin layer of red blood coagulated on it. This layer might be easily peeled off, and left the thrombus as a distinct pale yellow cord of the thickness of a common full-sized earthworm, and looking much like one except in colour. This cord ended by a rounded

(b) See a paper by Mr. Arnott in *Medico-Chirurgical Society's Transactions*, vol. xv., page 10.

(c) A lithographic copy of this portrait will be Plate XX. in my forthcoming Atlas of Clinical Illustrations.

extremity a little above the torcular. The lateral sinuses contained only fluid blood or recent blood-clot (soft). The thrombus was perfectly smooth on its exterior; but its investing membrane was evidently exceedingly delicate, for the slightest touch sufficed to lacerate it. When it was torn, a fluid of homogeneous character and resembling pus, only less green, escaped. This fluid, when placed under the microscope, showed cells in countless numbers, which exactly resembled those of pus. It consisted almost wholly of these cells, with oil-globules and serum. At its anterior part the thrombus had branches into the dura matral veins, chiefly on the right side. On the left side the openings of the veins were marked by red clots, very thin, and on the right by much larger whiter ones. At some parts anteriorly the thrombus adhered to the walls of the vessel, but posteriorly it was quite isolated, and lay like a worm in the sinus. The circulation of the blood past it had evidently gone on freely to the last; it had been bathed in blood. The surface of the dura mater beneath the inflamed parts (parietal arachnoid) showed a layer of thick pus adhering to it. On the surface of the hemisphere below there was also a thick layer of puro-lymph. Close to the longitudinal fissure this lymph was stained with blood. The large veins passing from the pia mater into the sinus had their trunks completely concealed by a coating of lymph. This lymph was only over that part of the hemisphere adjacent to the inflamed dura mater; it did not extend over the side of the hemisphere, nor on either the anterior or posterior lobes. It dipped into the fissure towards the free margin of the falx. The large veins of the pia mater passing up through this lymph were plugged by coagula, and several showed yellow plugs through their transparent coats at considerable distances from the sinus. There were numerous secondary abscesses in both lungs and liver.

ABSTRACT OF

LETTSOMIAN LECTURES ON THE SURGERY OF THE ARTERIES.

DELIVERED BEFORE THE MEDICAL SOCIETY OF LONDON, 1875.

By C. F. MAUNDER, F.R.C.S.

Lecture II., Part I.

In this second lecture the subjects discussed were wounds of arteries and hæmorrhage; and the antiseptic catgut ligature. It thus, as it were, divides itself readily into two parts, the latter of which—viz., that which treats of the antiseptic catgut ligature—is not included in the present abstract. Nineteen cases of wound and hæmorrhage have come under Mr. Maunder's care in which ligature of an artery in its continuity has been resorted to.

In endeavouring to arrive at a conclusion as to the vessel wounded and the nature of that wound, the position of the patient at the time of the receipt of the injury, the kind of weapon employed, the direction given to it, and both the amount and rapidity of the loss of blood, should be investigated. In certain regions (as in Scarpa's triangle) where several large vessels lie near each other it should be borne in mind that a knife might pass between the superficial femoral and the profunda without wounding either, or it might involve both.

Supposing, then, a wound to have been received in the groin, followed by free hæmorrhage, but that this had ceased either spontaneously or by some simple means before the arrival of the surgeon, the dictum of Guthrie—that no artery is to be tied unless it bleeds—is to be followed, provided that the safety of the patient can be secured by special means.

Two of the lecturer's cases were quoted which bear on this point. In one, in which a young man was stabbed in the groin, the hæmorrhage ceased spontaneously, and did not recur; the patient soon convalesced. In the other, which occurred in the Crimea, amputation of the thigh was performed for a contuso-lacerated shell-wound of the knee-joint; repeated hæmorrhages took place, and the patient, an artillery-man, died of pyæmia twenty-seven days after the accident. In this latter instance Guthrie's dictum was carried too far, as the repeated losses of blood doubtless led indirectly to a fatal result.

On the other hand, a case was related, the preparation from which was shown by the lecturer, where the superficial femoral and deep femoral arteries and their companion veins were wounded. This case proved how vast an amount of injury may be inflicted on bloodvessels, and yet a temporary arrest of hæmorrhage may occur. But instances are not uncommon in which, from the position of the wound, and from the great amount of blood rapidly lost, it is tolerably certain that a large vessel has been opened. And while bleeding may have ceased for the moment, either by reason of the simple means employed (in the shape of a handkerchief tied round the limb, or by the application of a tourniquet), or by the weakened condition of the circulation, yet we believe it will recur either on the removal of these appliances or when reaction sets in. Under these circumstances delay is dangerous.

Mr. Maunder then quoted the case of a young man who had accidentally wounded his left femoral artery with a penknife; and while he (Mr. Maunder) was searching for the injured vessel, which he ligatured above and below the wound in it, *venous* blood was clearly and distinctly seen flowing from the artery on the distal side. Guthrie has made a similar observation. Mr. Cæsar Hawkins has recorded the same of the brachial artery.

Independently of the necessity for immediate operation, which this case and another which was related illustrate, the fact that *venous-looking blood* flowed from the artery below the wound in it must not be lost sight of. Even in primary bleeding, blood, though venous, coming from the distal side of the wound is a favourable sign, indicating that the circulation is equal to the maintenance of the vitality of the limb; but in secondary hæmorrhage following the wounding or ligation of an artery (the femoral, for instance), the colour of the blood is a matter of the highest import. Experience has shown that repair can be more certainly expected to occur on the proximal than on the distal side of the ligature on an artery, and consequently, when secondary hæmorrhage does arise, to know whence it comes is of the utmost value to the surgeon. Should the blood be arterial and proximal, little else than the application of a ligature higher up the trunk will suffice to arrest it. But the prognosis will be much more favourable if the blood be of a dark colour, when rest and the local application of cold and pressure will be effectual. It so happens that in no case of his own has secondary hæmorrhage resulted; but Mr. Maunder's remarks are well illustrated by a case of Mr. Couper's which he quoted.

It is shown by two of Mr. Maunder's cases that at the ages of nineteen and twenty-eight the superficial femoral may be suddenly and permanently obstructed without the supervention of gangrene at the extremity of the limb. One of the cases shows the capability of the collateral circulation to maintain the life of the limb, while at the same time the wound of the thigh becomes gangrenous, and the patient dies from general exhaustion directly connected with the great loss of blood. Such a state of matters cannot but lead us to believe that a power to dilate and contract is vested in the smaller vessels and capillaries of a limb independently of the reliance of the limb upon the nervous and vascular centres. The experiments of Putzy and Tarchanoff, referred to in Lecture I., support this view.

It will sometimes happen that, an important artery being opened, the skin-wound heals quickly, and hæmorrhage is prevented, or an artery may be torn without external wound. As a rule, under both of the above conditions a traumatic aneurism is formed. Of such cases, four have come under the lecturer's observation, no two of which were alike. The chief point always to be kept in view in the treatment of these cases is that we have a wounded artery to deal with, and often either no sac or an ill-defined one; and it is in consequence of the absence of a sac, such as is met with in cases of true aneurisms, that the Hunterian operation is here inadmissible.

But in very many instances when the external iliac, *e.g.*, is tied, hæmorrhage at the original wound, say of the superficial femoral, may be expected to recur, and indeed should be anticipated by the surgeon, who will then be prepared to apply that pressure which had previously been found to be useless, but which now is very likely to succeed. This operation has been condemned as absolutely useless, because, as a rule, hæmorrhage in many instances, gangrene in a few, have followed it; again, it has been found that, in the case of hæmorrhage at the original wound, compression had been successful, and the patient has been saved. Mr. Maunder remarks, in reference to this:—"*Now, I should contend, always supposing that the hæmorrhage had been proximal, that the two facts associated (ligature of the external iliac followed by compression) render it a most justifiable operation, because, although*

compression to arrest bleeding from the femoral is useless before, yet it will often succeed after ligature of the artery." The reason is clear: before the operation, the blood is thrown with force by the heart upon the proximal end of the ligatured vessel, and readily dislodges a clot or overcomes other obstacles. Thus the flow of blood is direct; but with the second ligature intervening between the heart and the first ligature, the force of the circulation is considerably spent, the blood arrives by a circuitous course, and Nature's efforts at the seat of wound in the artery, even on the proximal side, are sufficient to withstand, *with compression added*, the impact of the blood.

Another very important difference between true and traumatic aneurism consists in the probability that, in the case of the latter, the artery may be healthy, while in the former it is very liable to be diseased—a circumstance which led Hunter to place a ligature at a distance from a true aneurism. Without doubt it is much easier to apply a ligature to an artery comparatively superficial and lying amongst healthy tissues than to open a blood-cyst deeply seated, and to search for the wounded vessel amid condensed and blood-stained tissues. But when this is effected, all anxiety as regards the persistence of the aneurism is at an end. At the same time it must be allowed that a suppurating cavity is insured, which is not likely to be the case if a ligature is applied at a distance.

Of Mr. Maunder's four cases of traumatic aneurism, two may be regarded as circumscribed, whilst the third and fourth examples were of the diffused variety. In one of these latter cases—a case of traumatic axillary aneurism,—Mr. Maunder laid open the wound and cleared away the clots, when the plexus of vessels and nerves was at once seen, as it were, dissected out by the blood which had permeated the space. A double ligature was applied, and the hæmorrhage did not subsequently recur, but the patient died the same night. Six weeks after the accident in this instance a feeble pulse could be felt at the wrist, yet blood did not flow from the distal side of the wound in the artery at the time of operation. The age of this patient made the operation extremely unfavourable; but as the tumour had burst, and hæmorrhage occurred almost in the presence of the surgeon, he was bound to make an effort to prevent further bleeding by securing the injured vessel.

The operative proceedings which are open to the surgeon in a case of diffused traumatic aneurism of the axillary artery are—ligature of the subclavian, ligature of the vessel at the seat of injury, and amputation at the shoulder-joint. Of these the first must be rarely contemplated. It is in itself a very fatal operation, and one very likely to be followed by gangrene, because the anastomosing vessels about the shoulder would remain compressed by the extensive coagula. Amputation at the shoulder-joint would probably commend itself to the surgeon if the patient were an old person, though of course it must be remembered that the shock of the operation added to the existing condition might prove fatal. Out of nine cases collected by the lecturer, of ligature of the axillary artery in similar circumstances, eight died and one recovered.

To lay open the swelling and to secure the wounded vessel with a double ligature is in accordance with the principles of the surgery of arteries, and in the comparatively young subject should be certainly the means resorted to. In the old, the extensive suppurating cavity that must result would probably kill.

The fourth case of traumatic aneurism referred to was that of a lad who had been stabbed on the inner side of the thigh at the junction of the lower with the middle third; copious hæmorrhage was restrained by a compress and bandage. When Mr. Maunder saw the patient on the seventh day afterwards there was an increasing, extensive, pulsating swelling at the seat of injury, and the leg was very œdematous. A ligature was applied to the popliteal artery above and below the wound in it; but as free venous bleeding from the popliteal vein complicated matters, amputation was at once performed. Both the popliteal artery and vein were proved to be wounded. The patient died on the sixth day. The condition of the injured parts in this case brought it practically under the head of wounded artery rather than of aneurism, and required it to be treated by ligature at the seat of injury. The extravasation was chiefly fluid, and comparatively limited, and that must be explained on the supposition that the blood which escaped into the thigh at each systole re-entered the vessels in great measure at each diastole, and also possibly by an alternating transference of blood from one vessel to another.

The vein also being wounded was a very serious complication; and believing that, in the lower extremity, obstruction of both the main vessels would necessarily result in gangrene of the limb, amputation was performed in preference either to the ligature of the vein or to plugging to prevent hæmorrhage. This belief on Mr. Maunder's part originated in a doctrine of Guthrie, who says:—"I have had many opportunities of seeing the vein and artery of a limb divided by a wound or included in a ligature, but I have rarely seen one in which mortification did not ensue, and I am disposed to consider it as a general rule, liable to an occasional exception, that when the femoral artery and vein are divided, or included in a ligature, the limb will be lost by gangrene." Mr. Holthouse's case, recorded in "Holmes's System of Surgery," is an exception to Guthrie's general rule; and the lecturer decides that in the future, under similar circumstances and in the young subject, he would be disposed to secure both the vessels and to await the consequences.

Having described in forcible terms the dangers and difficulties of the operations to secure wounded vessels, situated, it may be, deeply, and amongst altered tissues and abundant blood-clot, Mr. Maunder passed on to consider another class of cases—that, namely, in which a wound having been inflicted, and hæmorrhage arrested at the time, bleeding recurs again and again at intervals. A favourite seat for these is the neighbourhood of the wrist and the hand. In primary hæmorrhages from wounds of this region every reasonable attempt should be made to secure the vessel at the bleeding point; but the surgeon will frequently not be called to the patient until various means have been resorted to, and have failed, to arrest hæmorrhage. By this time, œdema, suppuration, with sanguineous infiltration, may have occurred, and gangrene may be threatened. Cases were referred to, in illustration of these observations, in two of which Mr. Maunder ligatured the brachial artery. He referred to four other cases of ligature of the brachial for wound of the palm; three recovered and one failed. In one of the cases that recovered, a second large vessel (high bifurcation) had to be secured. Other cases of hæmorrhage, associated with suppuration and sloughing, but not the result of wound, were quoted. In one such, Mr. Maunder ligatured the brachial for hæmorrhage and sloughing about the wrist; in another, both the anterior and posterior tibial arteries were tied in the middle of the leg to check hæmorrhage which recurred in connexion with suppuration about the foot and ankle-joint.

As an illustration of the value of indirect compression for hæmorrhage, a case of obstinate bleeding after abscission of a tonsil was mentioned; hæmorrhage was ultimately stopped by keeping open the mouth by means of a cork between the teeth; nor did it return. The theory of explanation was, that, in the very feeble state of the patient, sufficient compression on the main artery was exercised by the angle of the jaw to diminish the flow of blood through it, and so to prevent the dislodgment of coagulum from the wounded vessel. A similarly favourable result followed from digital compression of the common carotid artery for three hours in a case of obstinate bleeding, probably from the torn dental artery, after fracture near the angle of the lower jaw.

On account of hæmorrhage from the tongue—the seat of cancer,—Mr. Maunder has in one instance tied the lingual artery on the right side, but with very little benefit. The patient died three months subsequently. Addmann and Demarquay record about fifteen cases in which the lingual was tied for hæmorrhage from cancer, or preliminary to operating on the tongue. Liston, Heath, and H. Morris have also tied it (the latter three times). The total number of cases is about twenty-two; in many of them hæmorrhage came on in a few days after the application of the ligature.

Next, ligature of the common carotid for hæmorrhage from the base of the skull was mentioned in reference to a case of gunshot wound under the lecturer's care just after the attack on the Redan. Mr. Maunder's researches furnish him with the particulars of 101 cases in which the common carotid artery was tied for wound and traumatic aneurism. Of these, 34 recovered and 67 died. It should be borne in mind that 86 of these were for gunshot injury, of which 64 died and 22 recovered. Of the cases occurring in civil practice, 12 recovered and 3 died.

Although in no instance in which Mr. Maunder has tied an artery at a distance from the source of bleeding has hæmorrhage recurred, yet success must be regarded as accidental, because, the vascular chain being broken, the effect of reaction and the establishment of the collateral circulation cannot be foretold with certainty. It may be questioned whether, in the upper extremity at any rate, ligature of the brachial artery

would be a remedy for a small primary bleeding from the hand. Doubtless the more or less exhausted condition in which the patients are when this operation is resorted to, consequent on repeated loss of blood, tends to a successful issue from one point of view.

The conclusions drawn by Mr. Maunder from the experience of the cases of hæmorrhage described and referred to in the lecture are—1. That no operation is to be performed when bleeding has ceased, unless a repetition of it would directly endanger life. 2. That the bleeding vessel is to be sought at the seat of injury, and to be secured, if divided, at both ends, either by a ligature or by torsion; if only wounded, by a ligature above and below the wound; or after section, by torsion. 3. That the injured vessel is only to be tied on the cardiac side of, and at a distance from, a wound in it when the attempt to secure it at the wound has either been made and failed, or when such an attempt would be either anatomically injurious or pathologically useless. 4. That it is desirable to ligature the brachial artery, rather than both radial and ulnar, for secondary hæmorrhage from the hand. 5. That ligature of the brachial, while it stopped bleeding, also arrested destructive inflammatory changes caused by useless local efforts to check hæmorrhage. 6. That blood, flowing from the distal side of a wound in an artery or ligature upon it, will in the lower extremity be often, and in the upper extremity occasionally, venous in colour. 7. That in malignant disease, when the growth cannot be removed, and it is impossible to check bleeding by milder measures, the feeding artery may be ligatured in its continuity. 8. Where a part is more or less disorganised, and hæmorrhage renders repair very doubtful, amputation should be performed to arrest bleeding, and remove a hurtful member. 9. Indirect compression will occasionally arrest severe bleeding. 10. That both the axillary and the femoral arteries may be wounded, and a pulse be felt at the extremity of the limb. 11. That a wound in an artery may be recognised by the warm blood impinging on the inserted finger. 12. That direct compression upon the bleeding point will often succeed *after* the main artery has been tied, though it failed *before;* and this fact is a justification for tying a main vessel.

ORIGINAL COMMUNICATIONS.

CASES OF

NERVOUS DISTURBANCE DURING AND AFTER ENTERIC FEVER.

By EDWARD B. GRAY, M.D.,
Physician to the Radcliffe Infirmary.

Case 1.—*Enteric Fever complicated with Albuminuria, and, during Convalescence, with Obscure Rigors—Right Hemiplegia and Aphasia—Tedious Recovery.*

Eliza P., widow, aged fifty-two, came under my care on January 20, 1869, with sharp feverish symptoms of four days' duration.(a) The urine contained a moderate quantity of albumen and a few granular casts. There was a slight systolic murmur over the base of the heart; no hypertrophy; no anasarca. Never had rheumatism. Previous health very good.

During the next six weeks she went through a moderately severe attack of enteric fever. Rose spots were numerous and well marked. The attack presented nothing unusual, except that, in spite of much abdominal distension and tenderness, the bowels were all along confined, so much so that I thought it well to order an occasional enema; also the right side of the face was, without apparent cause, very often intensely flushed for hours together.

During the first week in March, although convalescence had fairly commenced, and the urine contained only a trace of albumen, she twice had a rigor, followed for some hours by a rise in temperature, and some little heaviness and drowsiness. I could find no cause for these rigors. She was still in bed, on a very restricted diet, and had no abdominal tenderness, even on deep pressure. No diarrhœa; stools of good consistence and colour.

On March 9, after an enema of warm water, and not having recently taken anything into the stomach, she vomited, and then had a very severe rigor, after which she remained for about twelve hours in a state of profound stupor, with death-like pallor of face; pulse regular, but a mere thread; breathing quiet; urine at this time quite free from albumen; except the slight murmur at base, the heart was normal, so were the lungs.

On rallying from this condition there was much irritability of stomach for two days, after which, excepting the constipation-trouble, all went well till March 15, when she had an enema of warm water, which acted satisfactorily, but not till some hours afterwards. In the meantime another rigor (the fourth) occurred, lasting about fifteen minutes, and followed for the next two days by rise of temperature, irregular flushing of face, and a good deal of mental torpor and drowsiness, with great prostration and loss of appetite. The meaning of this rigor was again a puzzle. I could discover nothing whatever in the chest or abdomen to explain it. One point, however, was becoming clear—viz., that each rigor was followed by more or less disturbance of the cerebral functions.

On March 20—independent, this time, of any interference with the bowels, and indeed without any apparent cause—another rigor (the fifth) occurred. It was severe, and lasted full ten minutes. After this she lay for the next four days in a state of almost complete coma. During this time she never uttered a sound; the eyes were generally wide open and fixed in a vacant stare; pupils contracted and equal. There was also now for the first time well-marked paralysis of the right face (which was usually much flushed), arm, and leg. The urine had to be drawn off with a catheter; and as she either could not or would not swallow anything liquid or solid, she was fed entirely, for the next three weeks, with brandy and beef-tea injections.

By March 28 she had again become quite conscious of her surroundings, and had somewhat regained the use of her arm and leg; but the right side of face was still paralysed, and usually flushed. The only word she could utter was "No." Although she said this in answer to all questions alike, she appeared, both from the expression of her face and from her gestures, to understand all that was said to her.

Three weeks later there was further amendment of the paralysis, and she could articulate a few simple words slowly, indistinctly, and with great effort. The right cheek was still often flushed. In other respects she seemed almost at a stand-still, being exceedingly weak, with small and often irregular or intermitting pulse, and utter distaste for food. She was also heavy, listless, short of memory, and easily confused. The urine at this time had only a faint trace of albumen.

About the end of April she made a fresh start, and by the middle of May her general health was so far improved as to enable her to leave the Infirmary and attend as an out-patient. There was still some comparative weakness of the right limbs, and a just noticeable want of symmetry between the two sides of the face. Articulation was still slow, and a little blurred. She was also unable to write, having forgotten how to spell. The bowels were acting normally.

In September, finding her health and strength still imperfectly re-established, she went for a month to Seaford. The first fortnight of this time she steadily improved; during the rest of her visit she had, without apparent cause, every day at about 11 a.m., a distinct rigor, lasting from twenty minutes to about an hour. These rigors (judging by her own feelings) were not followed by heat or sweating or any more definite symptoms than gradual loss of appetite, strength, and spirits. She took no medicine. They ceased soon after her return to Oxford, and have never since recurred. Her spleen, on her return home, was not appreciably enlarged. I should have mentioned before that she had never lived in or near an aguish district.

I saw this woman a few days ago, and made the following note of her condition—"Since illness in 1869 has always been,

(a) It is worth mentioning, by the way, that for the month before she fell ill this woman had been employed in our Infirmary as an extra nurse in daily attendance upon a bad case of enteric fever; also that several months before this another nurse tending a case of the same fever in the same ward herself took the disease. These two cases, under the peculiar circumstances of their occurrence, were regarded for a time as at least suspicious instances of the spread of this fever by direct contagion from person to person. The possibility of such contagion in these two cases, of course, cannot be denied; but, on the other hand, it was afterwards clearly proved that the conditions which ordinarily propagate this disease already existed in each case, ready to hand and in great perfection. The patients' stools, often not disinfected, were thrown down the water-closet, and thence into an old cesspool hard by. The latter had been for an uncertain time brimfull, without overflow and without any possible ventilation except that afforded by the said water-closet on each occasion of its use, and an ill-trapped scullery sink directly communicating with its soil-pipe.

and still is, in feeble health, but without any definite ailment beyond occasional vertical headache, accompanied with giddiness; memory is bad; right arm and leg are still weaker than the left; still traces of paralysis in right side of face when its muscles are called into play; tongue is protruded towards the right, its right half furred, the left quite clean; speaks slowly, and clips words a good deal; is apt to forget names of things, or to miscall them. Although able to read (with effort) what is printed or written, she still cannot write, having never re-acquired the ability to spell or even to form correctly the outline of individual letters. The urine is quite free from albumen. The systolic murmur at base of heart is louder than it was in 1869, but otherwise the heart's condition is not appreciably worse."

On this occasion I learnt for the first time an additional and most important fact in her medical history—viz., that for a fortnight from the third day after her last confinement, eighteen years ago, she had daily rigors, for the first week twice a day (11 a.m. and 11 p.m.), afterwards once a day. These rigors were, to the best of her recollection, much the same as those she had at the seaside after the fever; and the doctor in attendance told her "that if she was living elsewhere than in Oxford he should suspect she had ague." The confinement on this occasion, so far as I could learn, was straightforward, and the recovery, though slower than usual, free from complication other than these rigors.

Remarks.—Nerve disturbances during or after fever are generally thought to be of so-called functional origin, the brain, or certain parts of it, being temporarily irritated by poisoned, or starved by impoverished, blood. But in this case the mode of invasion and the long persistence of the hemiplegia point strongly, I think, to some coarse lesion. This may have been an embolism, for she had at the time a distinct aortic murmur; or a hæmorrhage, for she was just about the age when the arteries begin to get brittle; or an abscess, but in this latter case her survival for another six years would be a very unlikely event. The four rigors which she had during early convalescence evidently marked the beginning and gradual increase of that mischief (whatever it was) in the brain, which after the fifth rigor culminated in hemiplegia. The other rigors mentioned in the account of her case—those, namely, which occurred some six months later, and those which had occurred many years before—I do not see my way to explain. Careful inquiry into her antecedents of residence revealed nothing to justify suspicion of malaria. The puerperal rigors might possibly have been due to some blood-poisoning, but this latter agency could not account for the rigors at the seaside six months after the fever. The occasional obscurity of rigors—the difficulty, I mean, of finding cause, occasion, or result to throw light upon them—will be further illustrated in Case 2. An interesting symptom in Eliza P.'s case was the flushing of one side of the face which preceded and accompanied the brain mischief. In the *Medical Times and Gazette*, 1873, vol. ii., p. 64, Dr. Handfield Jones records a case of enteric fever associated with aphasia, the latter lasting about three weeks, but without paralysis or loss of consciousness. Special note is made of marked "malar flushing of the right cheek" before the aphasia occurred. In both these instances the unilateral flush very clearly coincided with actual or impending brain-disturbance; and such coincidence suggests that this trivial symptom may now and then prove of much clinical value.

(To be continued.)

THE TREATMENT OF DYSENTERY AND OF YELLOW FEVER.

By W. J. BRANCH, M.D. Edin.,
Health Officer of Basseterre; Medical Officer of District No. 1; and Staff-Surgeon of the Militia of St. Kitt's.

No disease causes more mortality in the West Indies than dysentery. I hope, therefore, that you will give publicity to a formula which seems to me, after much experience of this dreadful ailment, capable of coping with it in its worst types.

I cannot lay claim to originality with reference to any of the ingredients of the following prescription, as they are already familiar to all medical practitioners. Yet the combination constitutes a style of treatment which has proved so remarkably successful in numerous cases under my care during a recent and very severe epidemic of dysentery in this island, that I think it my duty to bring it to the notice of doctors practising in countries where such epidemics are wont to occur. I give two grains of sulpho-carbolate of lime, two grains of powder of opium, and one grain of ipecacuanha, made into two pills with conserve of roses, every six or four hours. It may be necessary in some cases to omit the small quantity of ipecacuanha, at any rate in the first stage of the complaint, should vomiting appear to be caused or increased by it.

Probably no other medicine will be required from the beginning to the subsidence of the attack. Brandy or champagne will be needed when there is much debility and little or no fever present. The diet should be carefully restricted to liquid nourishment, such as chicken-tea or arrowroot-pap, and hot linseed-meal poultices applied to the abdomen.

I have not seen so much of yellow fever as of dysentery, nevertheless, I have witnessed one prolonged epidemic of the former disease in St. Kitt's. Carbolic acid is, in my opinion, the drug to be relied on in the treatment of this terrible malady. I have seen many recoveries, when this medicine has been freely given, even after the patient had had the black vomit. Carbolic acid was used by me, and by other medical practitioners in St. Kitt's at my suggestion, long before we ever heard of its having been successfully employed as a fever medicine in Mauritius.

It is both natural and right for physicians to be wary in discarding any long-established plan of treatment, even though unsatisfactory in its results, since so many new "certain cures" eventually prove to be delusions. Real improvements in the medical art, however, often fall into disrepute from the timorousness of those who first give them a trial. To this must be attributed the unfavourable reports of some doctors as to the power of carbolic acid over yellow fever. They have given a few doses of the drug, and, the disease of course not yielding immediately, have been afraid to continue using a new medicine, have returned to their old favourite calomel, and reported that carbolic acid has proved a failure in their hands.

I am convinced that this substance, administered by the mouth and not hypodermically, is the best known febrifuge for the ordinary fevers of the West Indies. Typhus and typhoid never occur in these islands; at any rate, I have never seen a case of either during a practice of fourteen years in the Lesser Antilles. Yellow fever, bilious remittents, intermittents, and "low fever" (a chronic form of bilious remittent) may all be successfully treated with carbolic acid. I would give quinine in the intermissions of an intermittent, but scarcely in the remissions of a remittent. Quinine is about as useless or deleterious as calomel in the first stage of yellow fever, though it may be of service as a tonic at a much later period of the case.

I have never seen eucalyptus globulus tried in the last-mentioned dread disease, but it has seemed to me to assist, in combination with carbolic acid, in curing some obstinate examples of bilious remittent fever.

Chlorate of potash is a valuable medicine in yellow fever. It cannot be trusted during the first violence of the attack, but subsequently helps to heal the mouth, throat, and stomach, and to stimulate the system generally. I have observed that this substance, in scruple doses every six hours, helps to subdue the inflammation of the mucous membrane of the eyes and eyelids in those aggravated cases of conjunctivitis which are so common in hot countries.

"Labarracque's solution of the chloride of soda" may sometimes be given internally with good results to patients suffering from yellow fever. This was, I believe, first suggested by Dr. Imray, of Dominica. I have occasionally used it in this disease as a substitute for chlorate of potash.

A hot bath is essential at the commencement of the illness. The addition of sulphuric acid, in the proportion recommended in Jamaica, can do no harm, though its utility may be questioned. Warm linseed-meal poultices over the pit of the stomach are decidedly beneficial, and generally grateful to the feelings of the patient. The hair must be cut short or shaved off, and cold lotions applied to the scalp. Ice, when it can be got, which is not always the case in this island, may be allowed freely in water, but more sparingly in lemonade. It is necessary to economise the little appetite that is left, in order to get into the stomach things more nutritious than lemonade. Liquid nourishment, especially concentrated meat-soups, should be administered in small but very frequent doses, at regular intervals, as if it were physic. Not the least particle of solid food ought to be allowed. When the fever abates, alcoholic stimulants, perhaps in large quantities, will

probably be absolutely needed to rally and support the exhausted vital powers.

I hope that this communication will not appear to you too lengthy for publication in your valuable and widely-circulated journal. Indeed, in labouring to be brief and practical, I have become, if not obscure, somewhat dogmatic—giving my opinions without supporting them either by theories and arguments or reports of cases. My excuse for asking you to give so long a letter a place in the *Medical Times and Gazette* is, my anxiety to recommend to my medical brethren in the West Indies carbolic acid as a remedy for those dreadful tropical fevers against which they have so often to contend.

Basseterre, St. Kitt's.

IS DIPHTHERIA PRIMARILY A BLOOD DISEASE?

By JOHN DAY, M.D.

In the last edition of Dr. Tanner's valuable work on the "Practice of Medicine" we are told that "diphtheria is an epidemic sore throat of great severity, due to toxæmia"; and this, I believe, is the view entertained by the majority of practitioners in every part of the world. Having long held that diphtheria in its primary form is a purely local affection, and that blood-poisoning may generally be prevented by the assiduous use of properly selected disinfectants locally applied, it has afforded me great satisfaction to learn through your journal for June 13, 1874, that similar views are entertained by so high an authority as Professor Bouchut, who says—

"According to general opinion, diphtheria is supposed to be a disease primarily general, like small-pox, due to a primary alteration in the blood—a diphtheritic poisoning complicating the local lesion, and often terminating in lobular pneumonia. Diphtheria is at first a local malady complicated by absorption from the ulcerated surface. From this absorption proceeds a general infection, manifesting itself in endocarditis, endarteritis, with infarction, of the cellular tissue and the lung after giving rise to pulmonary abscesses if the patient live long enough. The lesions of diphtheria are those of septicæmia, for we meet with albuminous nephritis, infarctions of the skin, spleen, liver, and of the lungs, which may go on to the formation of metastatic abscess. There is, therefore, a local period without any general accidents in which the lesion is entirely superficial, and it is not until lately that the general phenomena of septicæmia are manifested with phagedænism, albuminuria, infarctus, and metastatic abscess, absolutely the same as are observed after operations or deliveries where traumatic or puerperal septicæmia is set up. From this view of the disease it results that when the disease is seen in time it may be arrested *in situ*, and absorption prevented. For this purpose all the diseased surface should be cauterised with a pencil of nitrate of silver; but when the patient is only seen at a later period, and the diphtheria has passed beyond the tonsils and occupies the pharynx, as cauterisation cannot be applied to the whole of the diseased surface, it had better be abstained from. In this case pharyngeal douches of tincture of saponaria and tar should be resorted to. These douches should be applied by means of a hydrocele syringe every hour, day and night."

In a paper "On Diphtheria" read by me before the Medical Society of Victoria, September, 1868, and published in the *Australian Medical Journal* for the same month, the following passages occur:—"I dissent from the generally accepted view that diphtheria is primarily a blood disease, and have long entertained the belief that in its earlier stages it is entirely a local disease, caused by the presence in the atmosphere of some highly oxidising substance, probably ozone. A strong argument in favour of this view lies in the fact that diphtheritic exudations never appear on mucous membranes which are not freely exposed to the air. Regarding the treatment of diphtheria, I may say that during the last five years (since 1863) I have trusted almost entirely to local remedies, and have found that the free and continuous action of mild unirritating disinfectants has yielded better results than any treatment I had previously adopted. The ethereal solution of peroxide of hydrogen, sold as Robbins' ozonic ether, is the best of all the remedies of this class with which I am acquainted. In addition to its high qualities as a disinfectant, it produces a very agreeable and sedative effect on the throat. I generally mix it with water, in the proportion of from three to four drachms to eight ounces, and have it applied with a large camel's hair brush every hour or two. It may also be used as a gargle. Permanganate of potash, mixed with water in the proportion of four grains to eight ounces, forms an excellent local application in diphtheria. It may be used in the same manner as the ozonic ether. I have lately been trying peroxide of manganese carefully mixed with glycerine, in the proportion of a drachm to the ounce; and this I find, when applied every two or three hours with a soft brush, to be a remedy of great value in the treatment of diphtheria. I have learned to believe that blood-poisoning never occurs in pharyngeal diphtheria when these disinfectants are properly and continuously applied from the commencement of the disease; but in the nasal form of diphtheria it is almost impossible to apply them effectually, and blood-poisoning is a common consequence. In these cases I have found the vapour of iodine of great value as a disinfectant. In simple uncomplicated diphtheria, the internal remedy on which I place most reliance is quinine; and I believe it to possess a peculiar antiseptic power, which protects the blood from the action of organic poisons. The bottles on the table, marked '1' and '2,' each contain sheep's blood fourteen days old. The blood in No. 1 has become quite putrid, whilst that in No. 2 is perfectly fresh and retains its natural colour. This freedom from decomposition has been produced by the addition of a few grains of quinine."

Geelong, Australia.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

LONDON HOSPITAL.

DEATH FROM LARGE CLOT OF BLOOD BETWEEN DURA MATER AND BONE.

(Under the care of Mr. HUTCHINSON.)

Blow on the Right Upper Lip—Fall on the Back of the Head, Striking the Kerbstone—Insensibility—Admission to Hospital Twelve Hours later—Coma, Stertor, General Paralysis—Abdominal Respiration—Dilatation of One and then of Both Pupils—Quick, small Pulse—Low Temperature—Absence of Outward Signs of Injury—Death Fifteen Hours from Injury—Blood-Clot in Right Occipital Fossa between the Dura Mater and the Bone—No other Important Changes.

THE subject of the following case, a man named J. C., aged fifty-two, was admitted into the London Hospital on June 13, 1874, under the care of Mr. Hutchinson:—

The history obtained was, that on the previous evening at nine o'clock he was struck by another man with his fist on the left upper lip. He was seen by a lad to fall straight backwards, and strike the back of his head on the kerb. He bled at the nose, and was said to be insensible when bystanders picked him up. He was taken home, and remained insensible all night. In the morning, about nine o'clock, he was brought to the Hospital.

He was quite insensible, and took no notice of any prick, pinch, etc. His breathing was loud and stertorous. His pupils were inactive, and the right was noticed by the house-surgeon, Mr. Shapley, to be dilated. Both arms and legs and his thoracic muscles were quite paralysed. He had "abdominal respiration." His temperature was normal. The left upper lip was contused. There was no injury to the teeth. His nostrils were bloody. No injury could be detected on any other part of the head. When seen by Mr. Tay an hour or so later, both pupils were dilated and fixed. His temperature was 95°; his pulse 96, and very weak—at one time it was scarcely perceptible. There was no evidence of any external injury to the scalp or skull, and no one-sided symptoms could be detected. The man was apparently dying. An ophthalmoscopic examination gave negative results. The right cornea was too opaque to be seen through, and the left fundus showed no changes, but was imperfectly seen. His respiration was very irregular. A series of shallow inspirations were followed by a long one, moving the whole of his body (cerebral breathing). There was no oscillation of the eyeballs nor were there any convulsive movements. He died soon afterwards—about fifteen hours from the receipt of the injury.

At the post-mortem no abnormal changes were discovered

till the calvaria was removed, when a large blood-clot in the right occipital fossa between the dura mater and the bone was at once exposed. The anterior lobe of the brain on the left side was found to be slightly contused, and there was a thin layer of blood-clot in the left anterior and middle fossæ in the arachnoid cavity. No other changes were found in the brain. After its removal the clot already mentioned was found to extend downwards to the foramen magnum, lifting up the dura mater lining the right inferior occipital fossa. The whole of this portion of the skull, with the clot and dura mater, was removed *in situ*. On removing the scalp for this purpose further down than is usually done, some extravasated blood was found in the right side of the middle line behind and below the ear. No fracture of the bone could be discovered anywhere, though the dura mater was carefully stripped up where not already detached. The portion of clot above the part removed was saved, and probably represented two or three ounces of blood. The entire quantity was probably not less than four or five ounces.

In comments on this case Mr. Hutchinson remarked that it was clear that the man died from compression of the brain by clot between dura mater and skull. His symptoms might therefore be taken to be those of the last stage of compression, and it was of interest to study them in this light. In these cases of extravasation between bone and dura mater there is usually an interval of consciousness before the threatening symptoms. [Thus, in a valuable case recorded in our *Reports* for March 20, by Mr. Lucas, of the Middlesex Hospital, a man who died from this cause had walked, leading his horse, five miles before he showed any tendency to insensibility.] In this instance, however, the man was insensible from the first. This was to be explained, Mr. Hutchinson thought, by supposing that the first insensibility was that of concussion, and that before the effects of concussion had passed off, those of compression supervened. Had the man been under medical observation during the first twelve hours, very probably a period of partial recovery would have been observed, and symptoms would have been noticed marking the time at which the effusion of blood took place. This effusion of blood is almost always, in some sense, secondary—that is, it does not occur exactly at the time of injury; and not unfrequently the symptoms seem to denote that it occurs by several distinct recurrences, just as we often see in cases of hæmorrhage from arteries of limbs. It is to be noted that the position of the blood-clot was very unusual. In nine cases out of ten of clot between dura mater and bone, the middle meningeal artery is the one ruptured, and the middle fossa the site. In the present case the clot was in the occipital fossa. Unfortunately, a tolerably careful search did not discover the part where the bone had been fractured or the artery torn.

SEVERE PROLAPSUS ANI IN A YOUNG ADULT, TREATED BY CAUTERISATION WITH NITRIC ACID.

(Under the care of Mr. HUTCHINSON.)

Prolapsus ani, although so common in children, and not very unfrequent after the middle periods of life, is rare in young adults, and when met with in them is almost always with a history of its having begun in childhood. It is thus but seldom that the surgeon has to treat cases resembling the following one, in which the protruded portion was very large, and had been produced for the first time in a healthy young adult.

Jane D., aged eighteen, a servant, was admitted with prolapsus recti on November 10. She was pale and rather stout, but in fair health. The prolapse began eight weeks before she came in, the bowel coming down when she went to stool. The day before this occurrence she had lifted a nine-gallon cask full of beer from the floor on to the chair—an unusual effort for her. The gut remained prolapsed for three days, after which it was returned by a medical man. It afterwards continued to come down every time her bowels were moved. Sometimes she was able to return it, and sometimes not. She never had prolapse in childhood, nor did any of her brothers or sisters suffer from it.

From November to January she was kept in bed, took iron internally, and used astringent lotions to the rectum. For a few days in January she wore a pessary, but it did not prevent the prolapse from returning. Towards the end of January, the condition remaining the same—at least an inch and a half of gut being prolapsed every time she went to the closet,—Mr. Hutchinson cauterised the exposed mucous membrane with nitric acid, applying it in broad streaks parallel with the length of the gut. The bowel was returned. Two days afterwards she complained of severe shooting pain up the back.

On the third and part of the fourth days her temperature was constantly from 104° to 105°, but after the fourth day her bad symptoms subsided. Her bowels were kept inactive for ten days by opium. At the end of that time she had a motion attended by some pain and soreness, but not followed by any prolapse. About ten days later (three weeks after the operation) she was discharged. The bowels had been opened regularly every day, and no sign of a return of the prolapse had occurred. Digital examination revealed the presence of distinct ridges on the parts cauterised. There was no pain in the lower part of the bowel at any time after the operation, nor any discharge from the cauterised surfaces.

The occurrence *de novo* of such extensive prolapsus of the rectum at this patient's period of life is very unusual, and for that reason the case is worth putting on record, no less than on account of the complete cure which was effected by destroying longitudinal bands of mucous membrane with nitric acid. Although, however, she recovered quickly from the operation, it is to be observed that she had symptoms for a few days very suspicious of commencing peritonitis—a fact which shows the necessity for great caution in the performance of operations upon the unaltered mucous membrane of the rectum.

ST. MARY'S HOSPITAL.

CONGENITAL SYPHILIS (PROBABLY) IN A GIRL AGED THIRTEEN.

(Under the care of Dr. HANDFIELD JONES.)

K. F., ADMITTED June 20, 1874. Ill four weeks. Her eyes were bad last winter, and there are slight nebulæ on the corneæ. Her teeth are very badly formed, but the incisors are not notched. Her throat is much inflamed; the soft palate is perforated about the middle by a large ulcer, with much inflamed and thickened margins. No other indication of syphilis apparent; her tibiæ are a little curved outwards. She was ordered potass. iod. gr. iij.,' with tinct. and dec. cinch., ter die; and the throat to be fumigated with gr. x. of calomel o. n. Simple diet, with milk and eggs.

June 25.—Throat improved; can swallow better; has better appetite. Rept. calomel, liq. ferri muriatis ℥xx., quin. disulph. gr. j., aq. ʒj., quater die. Ordinary diet.

29th.—Throat much better; the margins of the perforation in the palate appear normal, or nearly so. Omittur calomel. Pt. c. mist.

July 2.—Doing well. The genitals, examined to-day, present no trace of any lesions.

She was then transferred to the care of the surgeons, to effect, if possible, by operation, a *restitutio ad integrum* of the divided palate.

Remarks.—It can hardly be doubted that this girl was the subject of syphilitic taint, and that transmitted hereditarily. The case is worth record as adding to the evidence that the manifestations of congenital syphilis are not limited to the period of infancy. The chief question now seems to be, How late in life may they occur?

BROMIDE OF POTASSIUM IN MIGRAINE.—One of the essential characters of idiopathic migraine is its tendency to periodicity. This periodicity may be variable, and is often monthly. The migraine is always at first hemicranial, and is then also accompanied by a peculiar sense of heaviness of one of the ocular globes or over one of the orbits. It is this prodromic sensation that indicates the opportune time for efficacious intervention. Administered then, and in sufficient doses, the bromide of potassium arrests and prevents migraine, while, if the paroxysm is allowed to set in, it will scarcely mitigate the severity of the pain. It is from want of attention to this point that the bromide has caused disappointment. It should be administered in doses of from five to six grammes for an adult male, four for a woman, and from two to three for a child, given in a cup of well-sweetened infusion of lime-tree flowers, aromatised by a drop or two of mint oil. It should be swallowed by successive mouthfuls within a quarter of an hour or twenty minutes.—*Rev. Méd.*, March 1.

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Medical Times and Gazette.

SATURDAY, MARCH 27, 1875.

EPIDEMIC INFLUENCES.

When Sydenham wrote of the "epidemic influence" of any given year which came under his observation, he meant something more or less than the words imply to our modern ears. He meant merely the characters of the diseases most common during that period, whether these were of the kind now called "epidemic" or no. We in the present day are perhaps too prone to overlook the common characters of the affections prevalent at a given time, or, if we recognise them, are apt to refer them to such causes as bad food, or want of sanitary arrangements, rather than to celestial and telluric influences. We may be right, and our predecessors wrong,—and the flattering unction we fondly take to our breasts; but it hardly helps us to explain how one epidemic of small-pox is not exactly like another, nor why in one epidemic of scarlet fever the outside of the body should be more affected than in another, whilst in the latter urinary complications may be much more common.

Perhaps, however, the best example of this is afforded by that unknown influence which has left its name as an embodiment of the idea in our disease influenza. The diseased condition arising from this influence has been often enough epidemic to be studied by good and careful men (*vide* Parkes' admirable article on the subject), its symptoms detailed, its fatal effects described; and yet we are as far as ever from attaining a correct knowledge of its causation: it is as yet but an influence.

These various considerations have arisen in our mind from the careful study of the effects, as seen in public and private practice, of the horrible east winds from which we have this year so greatly suffered. Its effects on the sick and weakly have been only too notable; but we do not know that anything special has been witnessed which could not be traced to the east wind alone. Its effects among rich and poor in giving rise to intractable and disagreeable colds have been universal—few, indeed, except the very strong have totally escaped, and in these even a feeling of irritation and impatience at matters far too slight to cause, under other circumstances, the least mental disturbance may probably be referred to the common cause. But certainly the sum total of misery, mental disquiet, and dissatisfaction caused by colds, sore throats, and other forms of disease which we are accustomed to consider trifling, has been this year far greater than could possibly have been expected. Of the old and frail who have been fatally affected by the epidemic influence of the east winds, the terrible lists in the death column in the *Times* affords us some idea. Not only so, but multitudes in sick-rooms and hospital wards have felt it too. In many instances the evil influence has been manifested as a cause of death, when under more favourable auspices recovery would most surely have followed. The greater part of these unfortunates, no doubt, were the sufferers from chest disease, whose breathing and circulating power was impaired: but the virulence of the influence has extended to other organs, even to the digestive, and there produced untoward symptoms. But with all this there have not come under our notice any symptoms of the true influenza. If our observations apply generally—and they are correct as far as they go,—though this east wind has a decided epidemic influence of its own, associated with harshness, dryness, and cold, it is not the producer of influenza as described when in its epidemic form. It has in many searched the body thoroughly, and has picked out the weakest organ or set of organs, but as far as we know it has not added any new disease to the category of diseases already in existence, and already far too long.

CARBOLIC ACID AS A REMEDY FOR DIABETES MELLITUS.

We published last year (January 10, 1874, p. 38) the result of some experiments which had been made by Professor Ebstein, of Göttingen, and Dr. Julius Müller, of Breslau, on the treatment of diabetes mellitus with carbolic acid. Since that time the same observers have made a more extended trial of the drug, and have also been able to collect the histories of a number of cases in which it has been tried by other physicians in accordance with their directions. They are now able, therefore, to offer a better opinion on the probable value of carbolic acid as a remedy in diabetes, and, to a certain extent, to discriminate between the cases in which it is and is not likely to be of use. We shall here only summarise the results of their investigations, but a full account of their cases will be found in the *Berliner Klinische Wochenschrift*, No. 6, 1875. In the first place, there are a large number of cases in which carbolic acid has no effect whatever in controlling either the excretion of sugar or the other symptoms of the disease: and these cases are also those which are not in the least benefited by Carlsbad waters, which, we may remark in passing, Professor Ebstein considers to be the most powerful remedy for diabetes that we at present possess. On the other hand, it is in the milder cases, in which the Carlsbad waters prove so remarkably efficacious, that the carbolic acid also does good. There are cases, however, which are benefited by a visit to Carlsbad, over which carbolic acid exerts no influence. Neither carbolic acid nor Carlsbad waters prevent in the least degree a relapse of the disease. The cases which promise the best results from the carbolic acid treatment are, as far as Professor Ebstein and Dr. Müller are able to judge, those in which diabetes developes in corpulent persons, and in which the symptoms are moderated by strict attention to diet alone. In one case of this kind the quantity of sugar excreted rose from 2 per cent. to 4 per cent. when the carbolic acid was withheld and anti-diabetic diet alone persisted in. There are no difficulties in the administration of the carbolic acid. Only a very few patients complain of its unpleasant taste, and adults can take

it very well in doses of five or even seven and a half grains a day dissolved in peppermiut-water, and can continue its use for many weeks without any prejudicial results. One patient still under Professor Ebstein's observation has taken seven grains and a half every day for months, and he asks of his own accord that he may continue its use, because "he feels far healthier and stronger" when he does. The acid does not upset the stomach in the least; on the contrary, Professor Ebstein and Dr. Müller have repeatedly seen such symptoms as acidity and flatulence disappear in patients taking it, and they ascribe this effect to its power of arresting fermentative processes in the stomach just as it does elsewhere.

ARTISANS' AND LABOURERS' DWELLINGS BILL.

It is matter for congratulation that Mr. Cawley's motion to refer the Bill now bearing the above title to a Select Committee did not succeed; and, notwithstanding a strong opposition on the part of Mr. Fawcett, the Bill was duly committed on Thursday, the 18th inst. Mr. Fawcett's argument that the Bill might interfere with the independence and self-reliance of the poor, savours somewhat of sarcasm, and his opposition to the Bill seems altogether inconsistent with his expression of anxiety to do "all that legislation would enable him to do for the improvement of the dwellings of the poor."

The first amendment agreed to in committee was the alteration of the title by adding the word "labourers." The only amendment agreed to on Clause 2 was one by Mr. Cross, extending the Bill to Irish towns of not less than 25,000 inhabitants.

On Clause 3 an amendment of Mr. Evelyn Ashley's was agreed to, "which would widen the operation of the clause by enabling the local authorities to consider official representation to the effect that any houses, courts, or alleys within the area under their jurisdiction were unfit for human habitation, such power to be additional to those given under the clause as it stood in the Bill." Mr. Kay Shuttleworth's amendment was also agreed to, which was "further to extend Clause 3 by enabling the local authorities to take into their cognisance, as reasons likely to bring about a low condition of health among the population, "want of light, or ventilation, or proper conveniences, or any other sanitary defects."

On Clause 4, Mr. Cross's amendment was agreed to, in lines 30 and 40 to leave out "to such board or vestry, who shall forthwith forward the same," and insert "or by such medical officer as is hereafter in this Act mentioned." Sir A. Lusk objected to giving so much power to medical officers, who "although well educated and intelligent, were often crotchety and deficient in judgment"; he wished to know why they should ignore the vestries and local authorities. Mr. Cross replied that he originally proposed that the medical officer should report to the vestry, which was to act as a post-office in communicating with the Metropolitan Board; but some of the vestries objecting to be made use of in this way, he had adopted the Metropolitan Board, which was the authority for the whole of the metropolis. The number of ratepayers necessary to join in a complaint was reduced by agreement from twenty to twelve: or a complaint may be made by two or more justices of the peace.

On Clause 5, Mr. Cross's amendment was agreed to, "that it may exclude any part of the area in respect of which an official representation is made, or include any neighbouring lands, if the local authority are of opinion that such exclusion is expedient or such inclusion is necessary for making their scheme efficient for sanitary purposes; it may also provide for widening any existing approaches to the unhealthy area, or for otherwise opening out the same for the purposes of ventilation or health." Sir S. Waterlow's amendment was also agreed to, that the words "at the least" should be added to the provision requiring that any improvement scheme should provide for the accommodation of "as many persons of the working classes as may be displaced." Mr. Gregory's amendment was agreed to, "enabling an improvement scheme to be carried out by the owner under the superintendence of the local authorities, upon such terms as they and the owner might agree upon."

Six clauses of the Bill as amended have now been agreed to, and many amendments have been rejected. The discussions in the House of Commons during the past week have proved that Mr. Cross has thoroughly mastered all the details of the measure which will hereafter be known as the Artisans' and Labourers' Dwellings Act. He has shown himself equally capable of appreciating useful amendments to the Bill and of firmly rejecting suggestions which, whatever their intrinsic merits, are calculated to mar its practical efficiency. The motion to refer the Bill to a Select Committee can only be regarded as an endeavour to shelve or delay this important public measure, which the Government have decided to deal with without loss of time. The eradication of the hotbeds of disease, which have so long defiled our large towns, does, indeed, demand urgency, and it is with the utmost satisfaction we observe the firm attitude which Mr. Cross has taken on this vital question. The "rookeries" are doomed; the dens of filth and degradation, which have so long depressed the moral as well as the vital tone of the labouring classes, are to be rooted out, and to be replaced by dwellings where light and air can penetrate, and where wholesome regulations for the sanitation of the inhabitants will be enforced by stringent rules. Mr. Cross is wise in being wary of some earnest advocates of sanitary reform, whose Utopian ideas, if adopted by the Government, would effectually hamper a Bill which promises to be one of the most successful Acts of the session. The Bill, if it becomes law, will enable us to extirpate the foul blots which disfigure the districts where they exist, and endanger the lives of the surrounding community. To leave matters in their present condition, as some of the opponents of the Bill are urging, would be a policy utterly unworthy of statesmen fully aware of the extent of the evil. There is no poison without its antidote, and there is no evil without a remedy: but if the remedy be not sought for by the patient who may propagate his disease, it is a miserable reason for inaction on the part of those who have the power of inaugurating preventive measures for the protection of the community at large. It has been clearly shown in several instances that improved dwellings for the working classes have proved commercially successful, and, under proper management, there seems no reason to doubt that the outlay necessary to secure healthy habitations for artisans and labourers would prove a fairly remunerative investment. But, apart from the money question, the evils complained of have already existed too long,—the public health is jeopardised; the morality of a very numerous, important, and indispensable class of the community is seriously affected. It has, therefore, become the imperative duty of the Government to act, and it is gratifying to find that they are fully alive to the exigencies of the situation.

THE WEEK.

TOPICS OF THE DAY.

The following case is a pretty good illustration of the manner in which dangerous medicines are retailed to the public. The law certainly does not compel the retail druggist to issue printed directions with such articles as the "bitter apple." As the dose sold to the child, under any circumstances, if taken, would probably be fatal, it was the duty of the flippant, self-assured druggist's assistant to have cautioned the girl in that particular. The evidence speaks for itself. We shall

be glad to know what were the precise terms of the verdict of the jury. Mr. C. C. Lewis, coroner, held an inquiry last week at the "Lord Gough," West Ham, touching the circumstance of the death of Fanny Sharp, of Plaistow Grove, West Ham, who died from the effects of colocynth, or bitter apple. The following evidence was adduced:—

Sarah Whitehead, a married woman, living at West Ham, deposed: I have known deceased seven months. I acted as midwife to deceased last October. The child is still alive. Deceased has not been able to suckle it, she having been in a very weak state. She was the wife of James Sharp. Deceased sent for me on Sunday morning. She was retching and purged, and was very weak. She told me she had brought it on herself, as she had taken two-pennyworth of bitter apple. Up to Sunday afternoon she had not ceased retching and purging, and she believed she was going to die. She took it because she believed she was pregnant, and she did not want to have any more children. I remained with her half an hour, and saw her again in the afternoon. She was very bad, and I remained with her till a doctor came. On Monday morning she died, about twelve.

Mary Tyler, a child of deceased, thirteen years of age, deposed: She was sent to the chemist's on Saturday morning last for two-pennyworth of bitter apple, and she was served by the assistant. It was a powder in paper; it had "bitter apple" written upon it. Nothing was written upon it as to how much was to be taken. Her mother took it in water about half-past seven. Father did not know anything about it. Just after, she and her father went to Stratford, and returned about ten. Her mother was in bed. Her mother said the bitter hung about her mouth, and she was retching. She heard her mother retching in the night and during Sunday.

Mr. Price, assistant to Dr. Levick, deposed: Dr. Levick was sent for at half-past four on the Sunday afternoon. He was ill in bed and unable to leave his room, and at five I went and saw deceased. She was in bed, retching violently, and severely purged, and very prostrate; extremities cold and pulse very weak. She told me she had not taken anything, and in answer to me said she had gone a week over the month. The midwife told me deceased had taken two-pennyworth of bitter apple, and that explained her symptoms. Bitter apple is a powerful purgative. The proper dose was from two to eight grains, and in her condition she should have taken no more than five grains, and she took about 120 grains. There is no doubt that she died from exhaustion from the effects of an overdose of the bitter apple. I prescribed chlorodyne.

Thomas Samuel Minett, assistant to Mr. Cowles, chemist, Stratford, deposed: I sold some bitter apple last week; could not say whether on Saturday or not. Do not recognise the child; it would be impossible to remember every customer. The child asked for bitter apple. She did not say what it was for. I did not ask her, as it was not necessary to do so. Two-pennyworth would be a quarter of an ounce; less than 120 grains. The dose is from two to eight grains; five or six grains is the ordinary dose, eight grains the maximum. "Bitter apple" was written on the paper, but no directions or dose. Scarcely a chemist in Europe has a label printed for bitter apple, and certainly no one would think of having directions. It would be a most difficult thing to draw a line with regard to the dose. I certainly do not think it careless to have put a label on without directions, as it is neither necessary nor customary to do so.

The Coroner: I consider it right that directions should be on the paper.

Witness: We presume to be better judges of what it is right to do in such a case than anyone the other side of the counter.

Foreman of the Jury: Do you think it right to sell it in that way, without asking what it is for?

Witness: Most certainly I do. I concluded it was to take, and should have gained nothing by asking what it was for; I do not question people except for actual poisons.

Coroner: There is no law to compel them to label it or make any inquiries.

Witness: It is quite unnecessary that there should be.

Juryman: Is it used for anything else?

Witness: Yes, for moth, but not at this time of the year.

Juryman: Would it hurt you to take a pennyworth?

Witness: You would run the risk.

Juryman: Because I have known women take a pennyworth.

The Coroner, in summing up, remarked that the woman was very weak, in fact in the last stages of consumption; and believing she was in the family-way, having gone over her monthly period, she sent for the bitter apple, and as no one knew of her taking it, she alone was responsible for her death. A verdict was returned in accordance with the evidence.

Touching the complaints which have recently appeared in the columns of our contemporary the *Times*, with reference to the numerous inquests held in our London workhouses, Mr. Edward Herford, the Coroner for Manchester, writes to that journal on the 22nd inst.:—"In reply to the letters complaining of too many inquests being held in London workhouses, permit me to state that by law there seems to be the same call for inquests to be held on every death in a workhouse as on every death in a gaol. (See Toulmin Smith's evidence before the Royal Commissioners.) The ground in both cases is the possibility of life being shortened by *duresse* or hard treatment of a person for the time being under restraint."

The anomalies of the present Adulteration of Food Acts, and the hardship in some cases inflicted in their administration, naturally lead the dealers in food and drugs to watch with a keen interest the Bill now before Parliament for the sale of food and drugs; and it is instructive to note their opinion of the Bill as compared with that of the merchants or wholesale traders. The following resolution was adopted at a meeting of the Teadealers' and Grocers' Association in London last week:—"That it is the opinion of this meeting that the Sale of Food and Drugs Bill will not remedy the grievances complained of unless the following provisions are introduced into the Bill, viz.:—1. Power to summon the wholesale dealer or manufacturer, as the case may be. 2. That the third clause should be so amended as not to prohibit the sale of tea injurious to health passed by the Customs. 3. That the defendant should be empowered to recover costs when he proves himself innocent. 4. That the authorities of the Inland Revenue Laboratory at Somerset House should be the final court of appeal for disputed analyses." The deputation appointed by the meeting to submit these suggestions to Mr. Selater-Booth met with much encouragement from him on all the points, with the exception of the general warranty, with regard to which no alteration will probably be made.

Some agitation has lately been going on at Bradford respecting the medical officers of the Infirmary. It appears by the law of the institution that the medical staff shall consist of four surgeons and two physicians. Curiously enough, the four surgeons are selected from the gentlemen in general practice in the town who possess a surgical and medical qualification, whilst the "physician" only is eligible who practises as a pure consultant, and does not carry on general practice. Now, Bradford, it appears, will not support two consulting physicians, consequently there have been long intervals in which only one physician has been attached to the Infirmary. This has given rise to great inconvenience, and an able letter has been addressed to the governors and subscribers on the matter. The writer shows that the fact of the surgeons being in general practice had ever in the past prevented their attending properly to their duties at the hospital. Why the general practitioner should not be equally eligible for the office of physician seems difficult to understand. At all events, the subject is attracting considerable attention at Bradford, and the *Bradford Observer* of last week devoted a very able article to it. Common sense, as well as expediency, are in favour of the above suggestion, and it cannot be long before it is carried out.

When the now important city of Belfast was of much smaller dimensions than it is at present, the Medical Officers of the Belfast Poor-law District consisted of six gentlemen,

which is the number at present. For some time past, but more particularly of late,—Belfast, like Topsy, having "growed,"—it has been found that the surgeons to the city have had to perform "exceedingly onerous" duties. Accordingly, Dr. Wilberforce Arnold, at a special meeting of the Committee of Management of the Belfast Dispensary District, held last week, proposed "that additional medical officers should be appointed." After considerable discussion the motion was rejected by a large majority, because, we suppose, it appeared that no complaint whatever of the efficiency of medical attendance had been made, and that, in fact, the medical officers had fulfilled their duties in a most exemplary manner. That this should have been so is very well, and is after the wont and manner of medical men; but it is very ill to make it an excuse for not relieving them by giving additional aid. It is hard upon the willing horse to be driven beyond his strength, particularly as, if he had been a "jibber," by kicking over the traces he might have received more considerate attention.

The following Examiners have been appointed for graduation in Science in the Department of Public Health in the University of Edinburgh—viz., First Examination: Chemistry—Professor Crum Brown; Physics and Engineering—Professor Fleeming Jenkin; Sanitary Law and Vital Statistics—Professor Maclagan. Second Examination: Medical and Practical Sanitation—Professors Maclagan, Laycock, and Sanders.

On Thursday, March 18, Charles A. Cameron, M.D., F.R.C.S.I., Medical Officer of Health and Analyst to the City of Dublin, was elected Professor of Chemistry in the School of Surgery, Royal College of Surgeons. The vacancy had occurred through the appointment of Dr. Emerson Reynolds to the Chair of Chemistry in the University of Dublin. By Dr. Cameron's election, the Professorship of Hygiene in the School of Surgery and the Lectureship on Chemistry in the Ledwich School of Medicine become vacant.

Dr. J. Rutherford Kirkpatrick was on Thursday, March 18, chosen as successor to the late Dr. William Thornhill in the surgeoncy to the County Dublin Gaol, Kilmainham. The emoluments of the office are £100 per annum.

ROYAL DUBLIN SOCIETY.

At an evening scientific meeting of this Society held on Monday, March 15, a paper "On the Colorado or Potato Beetle of North America," by Mr. W. F. Kelly, Assistant-Naturalist to the Museum, was read. The communication contained the following interesting account of the insect:—The beetle, of the introduction of which so much apprehension is felt, is about a third of an inch in length, with a light brown head with black spots. The back or wing-cases are striped alternately with yellow and black, and the thorax is yellow. At the time it was discovered, and for a long time afterwards, it was confined to the ravines of the Rocky Mountains, where it fed exclusively on the leaves of a wild species of potatoes; but as the cultivation of the potato plant extended over America it was brought into contact with the cultivated plant instead of confining itself to the wild potatoes, and has since gone on steadily increasing and spreading to the east, at first at the rate of fifty miles per annum, but afterwards with greater rapidity, until in 1874 it reached the Atlantic seaboard at several points. The female produced three broods in the year, and was so very prolific that in the second year of its existence its brood was sufficient to commit great ravages. The insect was so poisonous that it was dangerous to crush it with the naked fingers, or to stand over the fumes of boiling water that the insect had been drowned in. There was some talk of applying it to medicinal purposes in America. Spring was the best time to destroy the insects, before they left their eggs. They might be crushed while running over the leaves of the plant, or attracted by slices of potato laid about the fields, and collected and destroyed in the morning. The female produces upwards of 1000 eggs under the leaves in a potato ridge in about forty days. These are of a translucent red colour, and produce a red larva with black head and double row of black spots on the sides of the body. It is, of course, in this state that the insect is most destructive on the plants. The most effective remedy yet discovered was to mix Scheele's green with from six to twelve parts of flour, and scatter it over the plants. This was a virulent poison, and it required some care in its use, but it did not impart any noxious property whatever to the plant. The beetles were hatched in about thirty or forty days after the eggs were laid, and in another fortnight the new brood began to lay eggs in its turn. They did not thrive so well in the Southern States of America, as the climate was too warm for them. The general feeling of uneasiness regarding the insect had continued to increase up to the present, and several of the Continental States had prohibited the importation of American potatoes. The author could not but think such legislation useless. The seed potatoes rarely were attacked by the beetles, as they did not appear to attack the tubers at all except when left lying in the open field. If the beetle should be introduced to Europe, this would probably be due, not to the importation of potatoes, but to a swarm of the insects being blown on board some of the Transatlantic steamers when on the point of starting for Europe. A paper "On Selenium" was subsequently read by Dr. Richard J. Moss, F.C.S.; after which Dr. Edward Moss, R.N., who has lately returned from Vancouver's Island, and is about to join the Arctic Expedition, exhibited four specimens of the remarkable *Sicyonarium osteocella septentrionalis*, from British Columbia. These he presented to the museum of the Society.

MILK AND THE ADULTERATION ACT.

In a lecture bearing the above title, delivered at the Society of Arts on the 17th inst., Mr. Wanklyn described the method of analysing milk which is at present in use among public analysts, and which is minutely described in his treatise on Milk Analysis. It is unnecessary to give this description here, and we content ourselves with referring our readers to Mr. Wanklyn's book on Milk Analysis (Trübner and Co.), which was reviewed some time ago in this journal. A few points of novelty, however, arrested our attention. According to Mr. Wanklyn, new or whole milk, skim milk, and even cream itself, differ only in one particular of composition—viz., in the proportion of fat which they contain. New milk contains some 3 or 4 per cent. of fat, skimmed milk 1 per cent. of fat, and cream contains 20 to 50 per cent. of fat. In all else whole milk, skim milk, and cream are alike: that is to say, the ratio between the water in them and the dissolved solids (*i.e.*, caseine, milk-sugar, and ash conjointly) is constant in all. This ratio is 90·09 : 9·65—that is to say, in new milk, skim milk, and cream 90·09 parts of water hold in solution 9·65 parts of solids. If milk has been watered, that fact is announced by disturbance of this ratio, and the degree of watering is measured by the degree of disturbance. In the "Milk Analysis," mathematical formulæ are given for the calculation of the degree to which samples of milk have been watered; and the question arises, How far ought the results arrived at by these formulæ to be trusted? Mr. Wanklyn has answered this question in the lecture, and says—"Use the formula for the calculation, and you will never overrate the watering by more than 5 per cent. (if you find 20 parts of added water in 100 parts of the sample of milk, you may be sure that at least 15 parts of added water are there). In exceptionally rich milk, which is rather rare, you may, however, err on the other side to about 8 per cent.; and in such cases where, according to the

formula, there should be 20 parts of water in 100 parts of the sample of milk, the real proportion of water may be as large as 28 in the 100 parts. The fat in milk is notoriously variable, and although in the immense majority of cases it amounts to a little over 3 per cent., yet it does occasionally fall to 2 per cent. and rise to 4 per cent. A great deal of the milk sold in London is half-skim milk. Mr. Wanklyn suggests that the dealers should openly sell it as half-skim (as is done in Switzerland), and that milk poor by nature ought to be sold as half-skim. In conclusion, Mr. Wanklyn criticises the Adulteration Bill, pointing out (as we had done) that it is absurd to legislate against the poisoning of drugs, and that the clause against poisoning food and drink ought to be against "rendering poisonous," and not against the admixture of poisonous matter.

VERDICT OF MANSLAUGHTER AGAINST A MIDWIFE.

The trial of Elizabeth Marsden, who was recently committed by the Salford Stipendiary Magistrate for causing the death of a Mrs. Goodear and a Mrs. Mills, as reported in the *Medical Times and Gazette* of the 13th inst., took place on Saturday last at the Manchester Assizes. The accused was charged with having, "with gross and criminal negligence, after she had attended a patient with puerperal fever, and had the contagion of that fever upon her, and after she had been warned by a medical man of the danger, attended a certain Mrs. Mills in her confinement, and by transmitting the disease to her caused her death." It was stated that "several women whom the prisoner attended in January and February last died of this disease—namely, two women called Carroll on January 23 and 28, another called Goodear on February 16, and Mrs. Mills on February 19. The prisoner was first warned by a medical man of the danger of what she was doing, on January 26, when she was attending Margaret Carroll, and before she was called in to the other two women, and she was then told that she ought to give up following her occupation for a considerable time, and to go into the country in order to free herself from contagion, and was similarly warned on several subsequent occasions; but she neglected the advice, and attended Mrs. Mills at her confinement on February 15, and was the cause of her death four days later." The counsel for the prisoner contended that she had done all that could be reasonably expected of her in abstaining from her occupation, as it was argued she had done, for a fortnight; and it was urged that the disease of which Mrs. Mills had died was not puerperal fever communicated to the deceased woman by contagion from the prisoner, but was some other disease exhibiting similar symptoms, but originating in a different cause. The jury, however, found a verdict of "Guilty," and the prisoner was sentenced to six months' imprisonment.

RUMSEY TESTIMONIAL FUND.

At an influential meeting of the friends of Dr. Henry W. Rumsey, of Cheltenham, held on Tuesday last at the General Register Office, Dr. W. Farr, F.R.S., in the chair, it was resolved that, in consideration of the distinguished services rendered during forty years by Dr. Rumsey to the cause of sanitary science, and of the state of his health, some substantial token of public professional gratitude should be presented to him; and that a memorial be presented to the Prime Minister, praying that a pension should be granted to him out of the Civil List. Dr. W. Farr, F.R.S., was elected chairman of the Committee, Dr. Buchanan treasurer, Dr. Corfield secretary, and Mr. Rendle, of the General Register Office, assistant secretary. Subscriptions should be paid to the account of the "Rumsey Testimonial Fund," at the bank of Messrs. Robarts, Lubbock, and Co., and all other communications should be addressed to Dr. Corfield, 10, Bolton-row, Mayfair, W.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

On Monday last, the 22nd inst., the annual general meeting of the Fellows of the Royal College of Physicians was held for the purpose of appointing a President, and again, and for the fifth time, Sir George Burrows, Bart., M.D., F.R.S., was elected to fill that distinguished and honourable office. The meeting of the Fellows was, we believe, an unusually large one; and though the ballot for the President takes place without any nomination or proposal of any Fellow for the office, we understand that Sir George Burrows received such an overwhelmingly large majority of votes as made his election to all intents and purposes a unanimous one. This must be regarded, and was no doubt intended, as the most marked testimony possible of the manner in which the Fellows regard Sir George Burrows' previous services as President, and of their appreciation of the high efficiency, dignity, and courtesy with which he had discharged all the many and various duties of the office. Just before the election, Sir George, as the retiring President, gave, as has been his custom, and as was the wont of Sir Thomas Watson when President, an interesting and able address on the matters with which the College had been concerned during the past year; but as we understand that this address will be published, we refrain at the present from speaking of the subjects which we have heard were treated of or of the clear and able manner in which they were handled.

THE FORTHCOMING ARCTIC EXPEDITION.

The arrangements for the forthcoming Arctic Expedition are now being pushed on as rapidly as possible. Meanwhile the medical examinations to which all volunteers are subjected are daily progressing. This examination is of a necessity severe, and a large number of those who have offered themselves have been rejected. The maximum age fixed upon is thirty-one; but there is a reservation in the cases of those men who, being slightly older, still come up to the required standard in every other respect.

On the representation of the Director-General of the Naval Medical Department, the allowance of animal food originally sanctioned to the officers and men about to proceed with the Expedition has been increased by half a pound per diem. No salt junk is to be shipped, but the best rounds of beef and bellies of pork, only slightly salted, as meat may reasonably be expected to keep good for any time in an Arctic climate. The rum, also, is to be of a superior quality, costing 2s. 3d. per gallon instead of 1s. 6d.—the ordinary price paid by the Royal Navy for this article. One prominent article of food to be carried by the expedition is "pemmican," prepared from the finest Scotch beef, from which all the fat has been carefully removed; this is then thoroughly dried, reduced to powder, flavoured with a small quantity of salt and sugar, and then mixed with an equal quantity of clarified suet in a liquid state. Pemmican biscuits are also being made, in which the pemmican is mixed with flour. This description of food, from its great portability and nourishing properties, is admirably adapted for parties travelling over ice at a distance from the ships.

THE CONVICTION OF "DR." DE BANZIE QUASHED.

On the 16th inst. the judges in the High Court of Justiciary at Edinburgh delivered their judgment in the case of "Dr." De Banzie, who was fined £20 at the Airdrie Police-court on the 18th ult., for falsely representing himself to be a doctor of medicine, implying that he was registered under the Medical Act, and that he was recognised by law as a physician and surgeon. He paid the fine at the time, but gave notice of appeal to the High Court of Justiciary to suspend the sentence, pleading in support thereof that although by the Medical Act he could not sue for recovery of his fees, yet there was nothing in the Act to prevent him, a graduate in

medicine of a foreign university (De Banzie holds the degree of M.D. of the University of Philadelphia), practising as a a medical man in this country. Their Lordships, after hearing counsel on both sides, suspended the sentence complained of, and granted the suspender (De Banzie) expenses, on the ground that the charge against him being general, and including more than one statutory offence, the conviction did not show specifically of which offence or offences the suspender was convicted. The conviction is thus quashed on a technical point, and not on account of the merits of the case—a result much to be regretted, as it shows that the difficulty of securing and maintaining a conviction under the present Medical Act is so great as to render it almost worthless as a protection either to the public or to qualified medical practitioners.

HARVEIAN SOCIETY.

We have great pleasure in announcing that, at a meeting of the Harveian Society on the 18th inst., the following resolution was unanimously passed:—"That a lectureship shall be instituted by the Society, to be entitled the Harveian Lectureship. This lectureship shall consist of either two or three lectures on some subject of practical interest in medicine, surgery, or midwifery, which shall be delivered at ordinary meetings annually, or at the discretion of the Council. The lecturer shall be chosen from among the members of the Society, and shall receive an honorarium for each lecture." As the long roll of those who have held the Lettsomian Lectureship of the Medical Society of London includes the names of very many physicians and surgeons who were at the time, or afterwards became, highly distinguished in the art and science of our profession, so, we do not doubt, will the Harveian Lectureship be an honour eagerly desired and sought after by "coming" men, and by men who have already gained fame and reputation, as affording an enviable opportunity of instructing their brethren, and of making clear and surer, or of enlarging the boundaries of knowledge. We are glad to observe that the lectureship is not to be an honour and distinction only, but that an honorarium also is to be attached to it.

THE PATHOLOGY OF UNILATERAL HYPERIDROSIS.

Cases of unilateral sweating are not extremely rare, and they have been observed either as one feature in a group of other symptoms—as in Graves's disease, in some cases of diabetes, and in hemiplegia, or else as an independent phenomenon in perfectly healthy individuals. Their pathology, however, has remained obscure, and it is only in the light of physiological experiments that their origin in some lesion of the vaso-motor sympathetic nerves has been provisionally explained. It is interesting, therefore, to find a case reported by Professor Ebstein, of Göttingen, in the January number of *Virchow's Archiv*, in which the autopsy revealed a possible cause for the hyperidrosis in a unilateral alteration of the sympathetic ganglion. The patient was a man of sixty, and was suddenly attacked with hyperidrosis of the left half of the body after a severe paroxysm of angina pectoris. Unilateral sweating afterwards accompanied every paroxysm, but it also occurred at other times if the patient exerted himself much. After his death the cervical sympathetic ganglia were carefully examined by Professor Ebstein and Dr. Frankel. To the naked eye the ganglia of the two sides of the neck were normal in size and appearance, but on hardening them and making careful sections it was found microscopically that the ganglia on the left side, and particularly the lowest, contained a number of cavities lined with a distinct endothelium and filled with blood corpuscles. The cavities were usually round, sometimes spindle-shaped, or else irregular in form. They lay in the continuity of dilated bloodvessels, forming varicose dilatations of their walls. The ganglion cells in the intervening tissue were distinctly visible, and were deeply pigmented, and some of them were completely filled with dark granules which concealed the nucleus.

The ganglia on the right side showed merely a trace of dilatation of vessels without any varicosity whatever. The ganglion cells, however, were in the same condition as in the left.

Professor Ebstein believes that the varicose condition of the vessels in the ganglia of the left side will help to explain the unilateral sweating which the man had suffered from. He thinks that just as in very vascular tumours of the brain paralyses occur under circumstances which lead to cerebral congestion, and disappear again when the congestion has passed away, so if the amount of blood were increased in the varicose vessels of the cervical ganglia, and compression exerted on the nerve cells, transient paralysis of the vessels supplied by nerves from the ganglia might readily follow. Any impediment to the proper return of venous blood to the heart might thus give rise to hyperidrosis. This theory is all the more plausible because the sheath of connective tissue which surrounds the ganglia sends processes in between the individual nerve-cells, and so forms secondary capsules, which are accompanied by bloodvessels. Thus, the greater the space which the bloodvessels of the septa occupy, the more will the function of the nerves be interfered with.

POST-PARALYTIC CHOREA.

In the October number of the *American Journal of the Medical Sciences* of last year, Dr. Weir Mitchell, of Philadelphia, describes, under the above title, an affection which he has observed in certain organic palsies, especially hemiplegia,—not only in young people, but also in adults. He has noticed that in adults who have had hemiplegia and have entirely recovered power there is often to be found a choreal disorder, sometimes of the leg and arm, but usually of the hand alone; that it may exist in all degrees, with partial loss of power and with full normal strength, and that it may consist in mere awkwardness, or give rise to involuntary choreoid movements of the parts. He believes that the younger the subject of the paralysis, the more surely the post-paralytic chorea will be found, and that there are very few cases of hemiplegia in young children which are not followed by more or less of that form of incoördination which is termed "choreal." Dr. Mitchell further believes that some of the general and prolonged choreoid disturbances which are seen now and then from birth are due to, or in some way related to, intra-uterine paralyses which have either wholly or in part passed away.

In adults Dr. Mitchell has observed chorea after either right or left hemiplegia, and the region of complicated motions—namely, the hand—was most affected. In no case was it seen in connexion with rigidity of the part, nor was it well marked in cases of paralysis accompanied with great loss of power in the paralysed muscles. The chorea appears to develope slowly, and to increase as the paralytic symptoms fade away. Dr. Mitchell thinks that this gradual development may be due to changes in the brain around the seat of the clot or embolus which gave rise to the paralysis. As an example of the kind of movements met with in post-paralytic chorea, we may quote the author's description of what was observed in one of his cases in which choreal movements came on in a woman of thirty-eight after repeated attacks of hemiplegia. He says—"The effort to pick up or take any small objects results in contractions and slow extensions of the fingers (on the right side), which also separate from one another, and the effort results in failure, either from falling short of, or from passing by, the object aimed at. With this there are at each effort twitches of the right side of the face, and excitement seems to increase all her motor difficulties." The prognosis in cases of post-paralytic chorea is not favour-

able. As a rule, the chorea is likely to remain long after the return of normal power, and prolonged exertion invariably increases the movements for a time. Details of several cases of the disease are given by Dr. Mitchell in his interesting paper, which cannot help attracting the attention of other observers, and of opening up a new line of research in the wide and not unfruitful field of nervous pathology.

THE USE OF IODOFORM IN THE TREATMENT OF VENEREAL ULCERS.

In a letter addressed to the editor of the *Annales de Dermatologie et de Syphilographie* (No. 6, 1874), Professor T. Profeta, of Palermo, records his experience of iodoform as a local application to hard and soft chancres and to phagedænic ulcerations resulting from the bursting of inguinal buboes. He has obtained the most excellent results both by washing the ulcers with a solution of iodoform (two or three grammes in thirty of glycerine and ten of alcohol), and by simply strewing them with the powdered drug. Of the two methods he prefers the latter, and now adopts it exclusively. Cicatrisation begins soon after the first application, and any pain which was previously present is quickly relieved. Soft chancres heal with surprising rapidity if the iodoform is applied soon after their first appearance. We should state that Professor Profeta's testimony to the value of iodoform is all the more important because he was formerly extremely sceptical on the subject, and believed the accounts of its efficacy reported by some observers to be exaggerated. His faith in it dates from the rapid recovery of one of his own friends, who had been treated with all kinds of remedies for a phagedænic ulcer in the groin of more than a year's standing, and which healed completely in one month when dressed with iodoform alone. There are two objections to the use of iodoform noticed by Profeta. In the first place, it is an expensive remedy, and secondly, it has an offensive and penetrating odour. The latter quality prevents persons using it who wish to conceal their disease, and it is an obstacle to their entrance into society and to their visiting public entertainments. A patient of Professor Profeta was nearly mobbed at the theatre in consequence of the unpleasant smell which he diffused around him. This incident should make us careful, therefore, in using iodoform in private practice.

DORSET COUNTY HOSPITAL: ELECTION OF HOUSE-SURGEON.

We believe that Mr. R. T. Hearn, M.B., has been elected to the office vacated by the resignation of Dr. Barton Smith; but the local reports that have reached us seem rather to differ on the subject. One local paper states that Mr. Hearn, one of the selected candidates, withdrew from the contest on hearing that the House-Surgeon would be required to dine with the matron; and we have heard that another of the candidates—Dr. Thomas Loane—also retired for the same reason. It would appear, however, that, for some reason or other, Mr. Hearn, if he had withdrawn his candidature, withdrew his withdrawal; unless, indeed, we are mistaken in understanding that he has been elected to succeed Dr. Barton Smith. Mr. Hearn may think the Committee have been hardly treated: or he may, on reconsideration, think the matron's table desirable: or he may believe he will be allowed to do as he likes in the matter. Who knows?—and there is no accounting for opinions or tastes. Or perhaps he has been assured that the dining with the matron will not be any longer a rule. Only, if that is the solution, did all the candidates, including Dr. Loane, know it?

WATER-SUPPLY IN LONDON.

Dr. Sedgwick Saunders, the Medical Officer of Health for the City of London, drew the attention of the Commissioners of Sewers, in his recent report, to the scanty supply of water, and the very defective condition of the receptacles used for its storage, in some of the most unhealthy and crowded places in the City, and the constant presence there of preventable and other diseases. The only available remedy was the substitution of clear and wholesome water in stand-pipes on the constant-service principle. He suggested that the landlords should be forthwith called upon to demolish the water-butts now in use, and erect in their stead proper cisterns, so that the stand-pipes should be substituted before the hot weather sets in. The quality of the water supplied by stand-pipes was not only of a high standard of purity, but of a tolerably constant character chemically. He added, the further postponement (the erection of stand-pipes having already been decided upon) in a matter of such vast importance might lead to disastrous consequences, and bring disgrace upon their otherwise excellent sanitary organisation.

THE EDINBURGH ROYAL INFIRMARY.

A special general meeting of the Court of Contributors to the Edinburgh Royal Infirmary was held last week, under the presidency of the Lord Provost, for the purpose of considering and determining the rules for the election of managers. On the proposition of Mr. James Haldane, new rules were unanimously agreed to, by which it is provided that the name of any person proposed as a manager must be lodged with the Clerk of the Infirmary a week before the meeting; that all the names so lodged shall be advertised; that a printed list of the persons so proposed shall be handed to members of the Court of Contributors as they enter the room; that when a poll is demanded the voting shall be by crosses opposite the names of the nominees it is desired to elect; that not more than six names shall be so marked; that the slips shall be collected by tellers, and the result reported to an adjourned meeting of contributors.

PARLIAMENTARY.—PUBLIC HEALTH BILL—THE MEDICAL ACT AND FEMALE PRACTITIONERS—BABY FARMING.

In the House of Commons, on Monday, March 22,

Mr. Sclater-Booth, in answer to Mr. E. Noel, said he intended to have the whole of the substantial amendments introduced into the Public Health Bill set forth and clearly explained in a paper which would accompany that measure. The paper would contain detailed references to every clause in which these amendments occurred.

Mr. Cowper obtained leave to bring in a Bill to amend the Medical Act of 1858 as far as relates to the registration of women who have taken the degree of Doctor of Medicine in a foreign university.

Mr. Cross, replying to Mr. Charley's question relative to the case of Bessy Binmore, sentenced by Mr. Justice Lush at the Exeter Assizes to twelve years' penal servitude for starving to death an infant entrusted to her care, three other infants entrusted to her care having also died in her house during the previous eighteen months, and her house being unregistered under the Infant Life Protection Act, 1872, said that Mr. Justice Lush informed him that the case was a very bad one, and that in the course of the trial he had expressed his surprise that the local authorities had not provided any register, and that no means had been used to put in force the Act of 1872. It was to be hoped that the case would awaken attention among local authorities to the requirements of the Act, and that a register would be provided. The best way would be for the hon. member to move for a return of all the baby farms which had been registered.

The French Medical Faculties.—During the year 1874 there were defended 496 theses before the Paris Faculty, 77 before that of Montpellier, and 11 before that of Nancy.

The Mecca Pilgrimage of 1874-75.—In a communication to the *Gazette Hebdomadaire* of March 19, Dr. Bucz, the sanitary officer stationed at Djeddah, states that between September 13 and January 15 there disembarked at that port 36,612 pilgrims. The religious festivals at Mecca took place on January 17, 18, and 19, amidst a concourse of 140,000 pilgrims. So perfect were all the sanitary arrangements, that of this vast crowd only thirty-seven persons died, and these from natural causes.

ABSTRACT OF THE

GOULSTONIAN LECTURES ON PUERPERAL FEVER.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS, LONDON.

By ROBERT J. LEE, M.D., F.R.C.P.,
Assistant-Physician at the Hospital for Sick Children, Great Ormond-street.

LECTURE II.—*Concluded.*

THE interval between Gordon and Semmelweiss of half a century was occupied chiefly by very important investigations into morbid anatomy and pathology. The result of this method, as far as it influenced the subject of puerperal fever, was the introduction of several new terms, which were intended to describe the pathologieal conditions of different organs, structures, and tissues. Thus originated puerperal peritonitis, phlebitis, metritis, and some others. These terms all more or less involved the assumption that what is termed inflammation was their exciting cause, and the practical object of them was to connect local inflammatory processes with local and constitutional symptoms. Such theories as that which accounted for the swelling of the leg, or phlegmasia dolens, by supposed metastasis of lacteal secretion, very soon retired before the scalpel of the pathologist. The principal effect was a very excellent classification of morbid changes, which has been followed closely by continental authors, and is still preserved by systematic writers in all countries. When it was found that descriptions of particular forms of inflammation were true for the particular cases in which they occurred, but not for all forms of the fever, general views soon embraced the apparently unconnected series of various morbid appearances which have been recorded. It soon appeared quite possible for various structures in the abdomen to be severally or simultaneously affected, or even that there might be well-marked, though very different, pathological alterations, and yet that the cases were correctly described as forms of puerperal fever. Thus a simple classification was adopted under the general term uterine or puerperal inflammation, which included: 1. Inflammation of the peritoneal covering of the uterus and the peritoneal sac; 2. Inflammation of the uterine appendages—viz., the ovaria, Fallopian tubes, and broad ligaments; 3. Inflammation and softening of the proper or muscular tissue of the uterus; 4. Inflammation and suppuration of the absorbents and veins of the uterus. Each separate structure was thus carefully examined, and its alterations recorded.

There is a great deal to admire in the very exact and truthful descriptions, which make the works of the pathologists, to whom we are indebted for these valuable aids to our knowledge of puerperal fever, so well deserving of our regard. That publication of Dr. Baillie's, which contained nothing but careful and elaborate engravings, with the simplest descriptions possible, was the type of scholarly composition and masterly anatomical and pathological skill. There was now an important extension of the theory of inflammation to the explanation of the connexion between that condition which was known as phlegmasia dolens, and certain morbid changes in the structures of the venous system of the uterns. The term phlebitis assumes the possibility of the veins, as separate structures, being affected by inflammation. Various changes of their lining membrane, and the existence of pus within the vessels, were considered satisfactory evidence of inflammatory action; and then followed the theory of pyæmia or puerperal purulent infection, arising from suppurative phlebitis.

It was shown that phlebitis might occur, not only in the puerperal condition, but also as a consequence of suppressed menstruation. In cases, too, of malignant ulceration of the os and cervix of the uterus; in certain forms of tuberculous disease; also as a consequence of abortion; and after operations for fibrous and other tumours of the uterus. The theory of puerperal purulent infection was supported by the popular school of medicine in France, and was ably argued by the late Professor Trousseau. It never was very generally received in England for the reason that it was not found in accordance with clinical experience.

Trousseau entertained the idea that puerperal fever depended on purulent infection, and that such infection was always to be traced to a wound; or that suppurative phlebitis might follow a wound, and pus might thus be introduced into the system. He assumed, or rather, fell back upon, an old theory, which has often been employed to explain many circumstances connected with the puerperal condition,—that a certain diathesis characterises the puerperal state.

The last edition of Trousseau's Lectures was published some years after Semmelweiss's work, in which, as will be seen, it was clearly shown that cases of carcinoma of the uterus in the same ward with puerperal cases might produce that fever. This was undoubtedly, though a simple observation, one of considerable importance in bringing clinical evidence into consistent accordance with pathological facts. There is one remark of Trousseau's, however, which clearly shows that he was quite aware of the weakness of his argument in favour of diathetic influence. "The same conditions," he says, "exist in nearly every recently delivered woman, or in all cachectic persons," yet "phlegmasia dolens is not a necessary complication in either class of patients"; from which he concludes very candidly that "consequently there exists a special cause which is unknown." It happened about this time that the doctrines of the German pathologists were exciting a good deal of attention in their bearing on the theory of inflammation. Those important changes which are observed in the various forms of puerperal inflammation were subjected to the theory which Virchow expounded, of the origin of inflammation in certain alterations in connective tissue.

Dr. Lee said that he was obliged to differ from the pathologists whom Trousseau followed, as well as from those who consider that the tissue-changes are induced by coagulation of the blood or thrombosis, whatever that may depend upon. There is not much difficulty in comprehending the process by which a vein becomes filled with coagulum in phlegmasia dolens, whether it occur in the puerperal state or under any other circumstances. If we examine the condition of the cellular tissue surrounding the vessel under inspection, it will be found that the external changes are in advance of the coagulum, assuming that both processes are taking place in the direction of the venous circulation.

It is satisfactory to find that this view of the pathology of phlebitis, using the word under correction, is admitted by the leading pathologists in Germany, and that they are inclined to adopt it in preference to the theory of thrombosis or primary coagulation.

There is evidence to prove that the different tissues of which the venous canals are composed participate very soon in the changes of the connective tissue; that the termination of the inflammatory process in any locality is the formation of pus; and that an abscess may form in such a position and in such a manner as to allow of a communication between the collection of pus and the venous canal. The epithelial surface of a vein also may exhibit the ordinary changes which succeed one another in the stages of inflammation, and in the final stage pus-corpuscles may be secreted, or rather developed, but only when the epithelial surface has been destroyed. The practical value of these pathological researches has been to afford very valuable assistance in the explanation of several symptoms which were previously unaccountable, such as those resulting from embolism, coagulation of blood in the right side of the heart, the formation of secondary abscesses in various organs and tissues, and the constitutional disturbance which is produced by them.

The contributions which were made in Germany to the etiology of puerperal fever by Semmelweiss might now be considered, and first the evidence which he offered on the subject of the contagious nature of the fever. He presents himself to us as an independent witness. The method of investigation pursued by Semmelweiss was much the same as that followed by Gordon, and the proposition he supported was, like his, that puerperal fever is a disease (essentially) produced by the introduction of a septic poison into the system. Gordon, as we have seen, declined to express any opinion on what the poison might be; but Semmelweiss did not hesitate to state that it was generated in the foul organised substance which results from the decomposition of animal matter.

Semmelweiss argues his point somewhat in the following manner:—

"We see that the great lying-in institutions are singularly subject to occasional outbreaks of this disease, and the danger to puerperal women is very much greater in those institutions than in separate domiciles. In those hospitals where students are instructed, and are in the habit of coming to the wards, and to the examination of cases from the dissecting-room, the disease is more frequent and the mortality greater than when only midwives are admitted for instruction. To prove this, we have such and such a tabulated register of cases, which

shows a mortality under one system of 10 per cent., as compared with 3½ under the other. In Vienna, before 1841, the mortality in the lying-in hospital was small, when compared with that of a few years later, when the hospital had been converted from its first intention to serve for the clinical instruction of students."

"To prove that the poison was generated in the process of decomposition, and might be conveyed by the hands of attendants, a case of cancer of the uterus in a pregnant woman was the cause of a dozen fatal cases in the same ward, and the probable means of conveyance of the poison were the sponges and other things employed by the nurses, or in the course of examination by the medical attendants. We had a case, too, of necrosis of a knee-joint, which was also the cause of some fatal cases. These were clearly established facts, and they point to the same conclusion." This was the nature of the argument, which was fairly well worked out. To show that the dissecting-room might be the source of danger, he made the declaration:—"I myself was appointed for the second time to the clinical assistantship of the first *clinique*, and was in the habit of going into the wards after making explorations in the dead-room. The mortality in April and May was 18 per cent. and 12 per cent. respectively. During the four preceding months I was only occasional assistant, and was not engaged in post-mortem inquiries, nor was I obliged to examine the patients *seriatim* before the visits of the Professor. Look at the difference between the mortality in the two cases." Then he went on to show from his tables that there is no connexion between seasons of the year and the occurrence of the fever; so that it could not be said in any way to depend on epidemic conditions of atmosphere or temperature. He did not neglect an important test of his views by ascertaining the effect on living animals of the artificial introduction of healthy pus into the circulation, thus proving that the symptoms could not be referred to such a cause as simple purulent infection.

Semmelweiss had adopted the use of chlorine-water with signally good results, and derived from this fact increased support to his views of the septic origin of the disease.

In their style of composition, in their arrangement of data, and their logical powers, it is more than probable that one would be inclined to claim for Gordon decided superiority over Semmelweiss.

LETTERS FROM MADRAS.

No. XIII.

Among the Tombs (*Continued*).—Note on Mr. Seymour Haden's Letter "Earth to Earth."—Great Need of Cemetery Reform—True Reason for Burning the Dead—Burial more Heathenish than Burning—Who are the Hindus?—The Mohammedans: their Burial-places in Madras—Obsequies of Prince Azim Jah—Burial-places of Portuguese, Americans, and English—Epitaphs on Medical Officers Buried at Madras.

Madras, February 10.—Before continuing the proper subject of my letter, allow me to say three words on Mr. Seymour Haden's admirable letter to the *Times* newspaper on "Earth to Earth," which reached this place by the last mail from London. With the general purport and spirit of his observations it is impossible not to agree; whilst the proposition to substitute light basketwork, with a pillow of moss and flowers, for a solid coffin, is at once poetically beautiful and practically useful. The general use of coffins is quite of late introduction. Wheatley, in his well-known "Commentary on the Book of Common Prayer," describes the body as buried merely in its graveclothes or shroud. The early interment advocated by Mr. Haden would frustrate the present custom of assembling every relative who can attend to be present at the obsequies. But if unable to be present at the actual burial, the relatives would probably assemble for some other religious service for the pious commemoration of the dead, which would be held at a later and more convenient time. The annual service with which the Queen commemorates the decease of the Prince Consort would furnish a model and precedent, if precedent be needed.

It must be added that Mr. Seymour Haden hardly lays stress enough upon some of the evils of burial, which deservedly furnish strong arguments for the cremationists. Thus: it is not all earth in which bodies will decay quietly and quickly, and have all their gases absorbed by *eremacausis* (to use Liebig's word) instead of putrefaction. Experience proves this. Sand, for instance, does not answer; in ferruginous gravel, perhaps neither coffin nor body may decay; and in clay which is as close as wax the decay may be protracted to a very long period. Bury one piece of meat in a box of charcoal powdered, and another in sand; and in a few days a rod dipped in hydrochloric acid will detect ammoniacal fumes coming through the sand—none through the charcoal. The earth in which a body is buried should be vegetable mould, not sand, fine gravel, nor clay.

Moreover, Mr. Haden hardly takes cognisance of the fact of the easy contamination of wells under common conditions of burial. A grave is dug six or seven feet deep; the earth by which it is filled up cannot be so tightly packed as it was before. Hence every new grave is a kind of loosely filled funnel, whereby the rainfall is conducted down into the water-bearing strata, over a body in process of decomposition. This was pointed out to me last summer, by one of the most eminent of practical geologists and hydrologists and engineers in England, who pointed out to me the relation of a newly made grave in a country churchyard to an adjoining cottage well. He assured me that in carrying out certain drainage operations he had been astonished at the offensiveness of the water that came from a certain cemetery near London the more so, as this water was not carried off, but, horrible to relate, was absorbed by dead wells sunk into the chalk.

Lastly, I am sure Mr. Haden will forgive me if I refer to one of the earliest modern sanitary reports—the "Interment Report" of the veteran Chadwick (published about 1840), in which the "silent highway" of the Thames is recommended as the best path for funerals, and the low banks of the river as the best place for interment. The coincidence between this proposal and that of Mr. Haden is remarkable. Certainly there are grave doubts as to the expediency of the situation of many of the new cemeteries that are seated on the slopes of hills above a town or village. I know of one case at least where such a new cemetery is seated in a wet place on the brow of a hill overhanging a town and above it—that is to say, the drainage of the cemetery, to reach the nearest river, must pass through or under the town, and through the gravel-beds whence the inhabitants derive their drinking-water. Surely cemeteries should be placed *below* (*aval*, as the French say), so as to drain into a river below a town, and not *above* (*amont*), so as to drain through it. I trust you will give insertion to these remarks, with the final word that if "cremation" is unsuited for us in England on account of the pollution of the air, still anti-cremationists must in all candour allow that they plead for burial as it ought to be, and confess that, as it is, it is thoroughly pernicious and corrupt.

In my letter from Madras, published in the *Medical Times and Gazette*, May 9, 1874, I began to describe the treatment of the dead in this Presidency; and I hoped to accomplish a task I had cut out in my own mind, of giving a brief sketch of the various races of men that flourish here, in connexion with the funeral rites and cemeteries of each. And I desired to send you notices of the tombs and epitaphs of the more distinguished members of our own profession who have found their graves in this distant land. Circumstances, and especially the publication at that time in England of proposals for burning the dead, tempted me to enter somewhat into the general question how the dead are best disposed of; and in particular to explore the merits of burning, side by side with those of burial, and the real reasons why burning became common here.

Now, forasmuch as people are to be found who descant upon the "wisdom of the ancients," and the traditional authority of the Brahmans, and suppose that the fact of the prevalence of burning indicates some strong practical reason for preferring it, so I think it important to point out that, whatever the advantages of burning may be in a sanitary sense, it is not these advantages which have caused it to be adopted here. Burning in this part of India does not derive the smallest support on account of sanitary reasons. On the contrary, burning is a mark of religious faith, of social rank, and of race distinction. If anyone on behalf of burning should think fit to appeal to the venerated experience of wise antiquity, he would find himself out of court. All throughout Mr. Cornish's admirable report on the "Census

of Madras, 1871," it is clear that burial and burning are ethnological distinctions, and tests of race influence. Though there are numerous exceptions on either side, it is clear that here burial is the primitive, and the most heathenish, custom, generally preferred by rude hill-tribes, by the Pariahs who represent aborigines, and by the worshippers of Siva; whilst burning is a process adopted as a kind of sacrifice by the more spiritual votaries of Vishnu.

As I am taking the subject of race along with that of burial, let me point out a grievous and universal defect in the language of ethnology. There is no system in the nomenclature. What does a man mean when he says, "I am an Englishman?" He may mean merely that he has been born in England or in some part of the British Empire, and has the rights of English citizenship; or he may mean that he is descended from an English or Anglo-Saxon family, in contradistinction to a Welsh, Scotch, or Irish. So a Welshman would call himself an Englishman, in the sense that he was born in the British Isles; whilst he would deny that he was English in another sense, because he claims descent from an old Briton or Celtic stock.

Just so if you ask here, "What is a Hindu? Most people would say, "A person born in India of native parents, and not a Mohammedan or European." Thus, the official accounts of the deaths in Madras city for the week ending February 5 state that 228 Hindus, 49 Mohammedans, 7 East Indians, and 3 Europeans died during the week. The term "Hindu" is here used generally for any native of the country. But ask a native, and you will find that they restrict the term "Hindu" to what we call *caste people—i.e.*, to the descendants of the Aryan immigrants, the Sanskrit-speaking people,—and to the descendants of the earlier immigrant tribes whom the Aryans found in possession of the soil. Whilst the truly aboriginal people, the hill-tribes and the Pariahs, the descendants of long enslaved aborigines, do not venture to call themselves Hindus. Last week a man whom I knew died. I asked a relative if he was to be burned or buried. "Please, master's honour," was the reply, "we are Pariahs; we bury our dead man. *It is only the Hindu people* that burn their dead man." So far, I hope I have made clear the existence of ethnologic and social and religious distinction amongst the "Hindus" which show themselves in the treatment of the dead, and which (if I may) I will speak of more fully if allowed to repeat to your readers what I have been able to learn on the subject of *caste*.(a)

The only remaining physiological or economical fact one need mention about burning is the custom of quenching the ashes with water, and of selecting a few fragments of the bones, which the nearest relative takes away, in order that they may be committed to water. Some throw them into the sea, others into any river, but the rich do as a friend of mine told me he had done with his mother's bones—that is, go themselves, or pay some messenger to go, to throw them into some stream that has a repute for sanctity, and especially the Ganges.

(To be continued.)

(a) Mr. Cornish observes ("Census Report," p. 119), "The most plausible theory with regard to caste is that the three 'twice born' castes, the priest, the warrior, and trading castes, are mainly the representatives of the Aryans, of the Rig Veda; whilst the Sudras—who form, and always have formed, the mass of the people—are either the representatives of aboriginal races, or of Turanian settlers of the pre-Aryan era."

FROM ABROAD.

The Therapeutics of Functional Headache.

In a communication addressed to the *Philadelphia Medical Times* for February 6, Dr. Allan Hamilton, Lecturer on Nervous Diseases at the Long Island College Hospital, New York, arranges the various remedial agents under the following heads:—1. Internal: (*a*) Cerebral anæmiants; (*b*) cerebral stimulants; (*c*) for diminishing reflex irritation; (*d*) for diminishing remote local congestion; (*e*) cardiac sedatives; (*f*) malarial, syphilitic, gouty, and rheumatic alternatives. 2. Local: (*a*) Peripheral irritants; (*b*) peripheral anæsthesiants; (*c*) peripheral revulsants. 3. Galvanism.

"The headaches dependent upon *anæmia* of the brain result usually from nervous exhaustion. These are the headaches of brain-workers, or may also follow unusual physical fatigue. The distressing persistency of the headache of nervous prostration is the characteristic feature. It is the most protean of all forms, as it may be a close counterfeit of neuralgia, or, on the other hand, may be dull and subacute. These patients are usually anæmic and much reduced. The headaches are associated with vertigo, and oftentimes with nausea. There is usually vomiting, and sometimes syncope. The mental powers are exhausted, and the patient who suffers in this way usually awakes unrefreshed by sleep, with dull heavy pains, and a sense of fatigue. There is little disposition to use the mind; the pulse is small and feeble; and there is sometimes a tendency to passive cerebral congestion. The skin is cool during the attack, and the surface may even be moist. Many of my patients who suffer in this way are women, and the headache is the most distressing when they awaken. The use of a cup of tea or coffee at this time is excellent, and I have lately found that cocoa given in the form of a fluid extract is of very great benefit. Messrs. Hazard and Caswell have made for me an extract that is quite concentrated, a drachm or two of which is a dose. The following prescription is a favourite of mine: —℞. Strychniæ sulph. gr. j., acid. phosp. dil., tinct. ferri chlor., āā ℥ vj., aq. camphor. ad ℥iv.; a teaspoonful after eating. The use of diffusible stimulants is in order. We may give the patient aromatic spirits of ammonia and sherry several times a day with good results. Muriate of ammonia is an invaluable remedy, particularly in hemicrania: it should be given in very large doses—from ten to thirty grains—every hour until relief is obtained.

"A form of headache spoken of as *hyperæsthetic* by Dr. Handfield Jones demands opposite treatment. These are the cases where there are redness of the face, tense carotids, injected conjunctivæ, and heat of skin. The patient is very restless, and the mental faculties are confused. These patients, as a rule, have cold hands and feet during the paroxysms. There is imperfect nervous stimulation of the heart, and the cerebral vaso-motors are subject to paresis. The patients find it difficult to sleep; there is tossing at night, and the mind is possessed by a myriad of thoughts that chase each other through the brain. The first order of remedies in my table is of value here, and the bromides are the best of them. We may give this prescription, and hope for good results, sometimes very immediate ones:—℞. Sodii brom. ℥j., ext. ergotæ fl. ℥jss., aq. camphor. ad ℥iv.; a teaspoonful every three hours, or two teaspoonfuls at night. I believe the sodic salt to be the most efficacious of all, and the most reliable. Bromide of calcium is next in order, I am convinced, after having given it an extended trial. In these headaches cardiac sedatives are of incalculable benefit. Tincture of aconite and veratrum viride will often produce happy results. The continued use of digitalis, combined with oxide of zinc, does much to change the character of the circulation."

In the headache of *inebriety*, Dr. Hamilton has since 1871 used the monobromate of camphor, and he regrets that this remedy, possessed of peculiar hypnotic power, has fallen into disuse. Local and in some cases general depletion are also necessary. A common class of headaches depend on reflex causes, and may be termed *inhibitory* headaches. They accompany disturbed digestion, irregular uterine functions, etc. The uterus will account for two-thirds of the headaches of women, and of these we may have all varieties, as the well-known sick headache or the headache of dysmenorrhœa or irritable uterus. They can usually be referred to this cause, but sometimes the source of irritation may be overlooked. Hæmorrhoids may often give rise to headache associated with great restlessness and fatigue; its seat is usually in the frontal region, and it comes on very suddenly.

"There is a somewhat rare variety of headache, but an excessively painful one—the *rheumatic*. The pain is superficial; there is a diffused hyperæsthesia of the scalp, which is very sensitive to the touch. The disease may be deeper, and the dura mater be the seat of rheumatic inflammation. This is a rare variety. The external hyperæsthesia is due generally to cold. I have found it amenable in a very few minutes to the faradic current applied by the wire brush."

The headache of *syphilis* so often met with may be intense and localised, without much acceleration of pulse. In many cases mercurial inunctions have proved of service. In the sub-occipital headache from *malaria*, quinine given alone is often of no avail; its combination with arsenious acid is of great use, especially if a small quantity of belladonna be added. Speaking of *facial neuralgia*, Dr. Hamilton recommends the following formula:—℞. Morph. sulph. gr. vj., ext

belladon., ext. nucis vom., āā gr. xij., ferri et quiniæ citrat. ʒ ijss.; M., f. pil. xlviii.; one thrice daily. Strychnia is of great benefit in the anæmic variety of the disease. He considers the hypodermic action of morphia is more efficacious when combined with atropia, but he has found the injection of chloroform recommended by Dr. Barthelow to be always followed by the production of abscesses. Of late he has used ether spray with advantage, and he states that freezing the skin just anteriorly to the ear will cut short a violent attack of facial neuralgia in a few minutes.

"In certain forms of facial neuralgia, particularly where there are points of irritation, the actual cautery-iron, brushed over these points, will cure the patient. Perhaps one of our best remedies is electricity. In the form of galvanism we may affect the cervical sympathetic and diminish cerebral hyperæmia, or by stronger currents increase it. The poles should be held over the nucha or lower down, and over the mastoid process, or upon both temples. In neuralgia the positive pole may be held just at the back of the ear, and the negative passed over the several branches of the fifth nerve. The faradic current often relieves many headaches, particularly if they are diffused over the scalp, and if they are aggravated by heat to the head or by pressure. The application of cold is one of the best local means we have to modify or stop headache, particularly if it be of the hyperæsthetic variety."

Action of Jaborandi on the Digestive Organs.

In an article inserted in the *Gazette Médicale* for March 20, Dr. Albert Robin, who has been making under the auspices of Prof. Gubler so elaborate an investigation into the properties and action of jaborandi (*Pilocarpus pinnatus*), enters at some length into a consideration of the effects it sometimes produces on the digestive organs.

Salivation, exudation, and the increase of the lachyrmal, nasal, and bronchial secretions, he observes, are normally, with rare exceptions, the sole actions induced by this drug. This is what occurs in the physiological condition of subjects who are in good health, its influence on the digestive tube being quite trifling,—the patient sweating, spitting, and weeping, without any other immediate phenomenon being produced. But many circumstances may induce a deviation in the action of the agent from its habitual type; and then it is upon the alimentary canal that this is manifested. Therefore, we may lay down an almost absolute rule that wherever the hypersecretions habitually induced by jaborandi are absent, or undergo a notable diminution in their general and collective intensity, compensatory action is always found in the digestive canal. The phenomena which then ensue are of two kinds—first, the normal, which are nearly constant, and depend upon the general effects of the medicine, of which they are the direct consequence; they are the intense thirst which accompanies and follows sudation, and changes in the appetite, which is sometimes diminished and sometimes exaggerated. Secondly, the accidental, which appear whenever the normal action of the jaborandi is impeded by any cause, or certain precautions have been omitted during its administration; they are vomiting and diarrhœa. This division is not absolute, for vomiting may appear during normal action, but it holds good in the great majority of cases.

1. *Thirst.*—As a general rule, after swallowing a cup of tepid infusion, a sense of warmth is felt in the region of the stomach, and then thirst supervenes and still continues, even after the termination of the sweating. As the result of observation the precept may be laid down that the patients should be prevented drinking to quench their thirst, as this is a frequent cause of vomiting. A little very weak coffee, or a light infusion of peppermint, etc., may be administered.

2. *Appetite.*—This is rarely diminished, but is often increased after the termination of the sweating. One patient, who in thirty days took jaborandi fourteen times, became more hungry after each administration.

3. *Vomiting.*—This has been met with thirty-eight times in ninety cases—*i.e.*, in 40 per cent. This proportion might lead to the belief that it is one of the normal effects. It is not so; and when the causes of such vomiting are known, it may, in general, be prevented. (*a.*) *Influence of the Dose and Preparation*—viz., when the dose is too large or the leaves too fresh. Vomiting from this cause, which is preceded by nausea, comes on some minutes after taking the infusion, and usually before the medicine has had time to produce its special effects. (*b.*) *Influence of Food:* It is indispensable that the patient should take jaborandi in a fasting condition. This rule is a very important one; for 70 per cent. of those who did not observe it vomited, and that even when one or two hours had elapsed since the meal. The vomiting may take place either at the commencement or in the midst of the sudation—the effects of the medicine being of course less energetic and of shorter duration. (*c.*) *Influence of the Saliva:* It is essential for the patient to be enjoined not to swallow the saliva that is produced during the salivation; for otherwise vomiting will infallibly occur. This takes place at the end of the sudation, it being almost pure saliva that is rejected. (*d.*) *Gastric Hypersecretion:* In some cases in which there has been but slight sudation, at the end of this a colourless, acid fluid is vomited, which is really gastric juice. In other instances the matters vomited are clear, bilious, and alkaline. These cases are explained by the deviation of the habitual action of jaborandi, analogous to that which is produced in animals who do not sweat, and in whom all the effects of the agent seem to be concentrated on the alimentary canal. The acid, and especially the bilious, vomitings are produced whenever sudation is not freely developed, as when it is checked by a chill just as it is about to be produced. After the vomiting, and the diarrhœa which usually accompanies it, the sudation that has been thus interrupted is either not re-established or only imperfectly so. Where the existence of a chill cannot be ascertained, an idiosyncrasy may possibly exist. It is thus seen that in the great bulk of cases the causes of the vomiting may be ascertained and avoided; and this is of importance, as for many persons the nausea and vomiting are such distressing occurrences that they would induce patients to refuse to continue the medicine.

4. *Diarrhœa.*—It not unfrequently happens that just before the sweating commences, or in a few hours after its termination, the patient has one or two soft, or even liquid stools. As after these all goes on as in the normal condition, they are of no consequence. But when there is a deviation in the action of the jaborandi, the vomiting that then occurs is always accompanied by a diarrhœa of variable abundance, which is generally preceded by colic. It is not, however, of long duration, ceasing, like the vomiting, after some hours, when the active principles of the jaborandi have been eliminated by the gastro-intestinal canal.

REVIEWS.

A Treatise on Cutaneous Medicine and Diseases of the Skin. By H. S. Purdon, M.D., Physician to the Belfast General Hospital, etc. London: Baillière, Tindall, and Cox. 1875.

We are sorry not to be able to bestow much praise on Dr. Purdon's work. Its arrangement is not very logical, and unnecessary prolixity on one subject alternates with almost ridiculous brevity on another. There are too many loose statements scattered through its pages, and the views of other writers are too often advanced without their differences being properly contrasted, or some definite conclusion arrived at by the author in favour of one side or the other.

Dr. Purdon has certainly shown great industry in collecting facts, and nearly a third of the whole book is made up of abstracts or else *verbatim* extracts from various authorities. There is a great deal of that pseudo-pathology in it which is so rife nowadays in dermatological works, and which attempts to explain in an off-hand way phenomena which we are very far from clearly understanding at present. If Dr. Purdon's pathology, however, was consistent with itself, we should not so much complain; but he makes statements on one page which are contradictory, as he puts them, to dicta on the same subject on another. Thus, at page 37 he says—"the anatomical seat of eczema is the Malpighian layer"—a non-vascular tissue,—and at page 43, "the vessels are attacked in eczema, hence its diffusive character." Again, we are told at page 43 that "the vessels are rarely touched in psoriasis, hence its limitation"; while at page 59 we find that "in psoriasis, when commencing, the vessels of the papillæ take on the appearance of being bent or twisted on their way to the top of the papillæ and enlarged." Again, at page 44 arsenic is said to cure psoriasis because "it stimulates the epithelial tissues from which it is thrown out(?) of the system"; while at page 131 it is described as "well known to be a pure nerve tonic acting on the capillary system." Some of Dr. Purdon's pathological explanations are decidedly wanting in clearness; for instance, the following (page 129):—"The brain and spinal cord are

frequently affected in pemphigus foliaceus [twice printed foliac*eous*], diarrhœa carrying off the patient. The latter [*i.e.*, the diarrhœa] seems to be an affection of the vaso-motor nerves of the intestinal canal, as we may conjecture from the fact that diarrhœa is prevalent in hot weather, at which time the blood is freely determined to the cutaneous surface." We are sorry that we are not so well satisfied with this explanation as Dr. Purdon seems to be. But even obscure theory is scarcely as bad as downright error, such as is met with in the following sentence at page 138, where the author is speaking of pyrosis in relation to urticaria:—"The fluid ejected in pyrosis is secreted by the glands at the termination of the œsophagus, and gives evidence of sulpho-cyanide of potassium by reddening the *proto*salts of iron." We will not criticise this in other respects very questionable statement further than to point out to Dr. Purdon that sulpho-cyanide of potassium does not redden the *proto*salts of iron at all, but that its characteristic property is that it strikes a deep blood-red colour with a *per*-salt.

Dr. Purdon has a way of repeating the same statements almost *totidem verbis* in different parts of his book. For example, ephidrosis cruenta is referred to at pages 182 and 243, and pruritus vulvæ at pages 146 and 150. Speaking of the relation of the latter disease to diabetes, the author states that the sugar in the urine produces aphthæ on the genitals, "due to the presence of the fungus the *oïdium albicans*—the same growth that causes 'thrush' in the mouth." On what authority he makes this assertion we do not know; nor can we understand why at page 157 he describes yeast as "a *compound* of microscopic fungi."

We have not space to criticise in detail a number of questionable statements which are scattered through the book, and shall only refer to one at page 61, where the author affirms that "the causes of psoriasis are debility, syphilis, alcoholism, and, lastly, hereditary tendency." Now, first, it is a well-established fact that true psoriasis is a disease which is attended with remarkably little, if any, derangement of the general health in the vast majority of cases, and that its presence is rather a sign of a good constitution than otherwise, although it developes exceptionally in delicate or debilitated persons. Secondly, that psoriasis vulgaris is ever syphilitic we deny, the so-called psoriasis syphilitica being only a papular syphilide in the stage of retrogression. We are also unable to understand why alcoholism is brought forward as a cause of psoriasis, since in so many cases it first appears at an age long anterior to that at which habits of intemperance are acquired, and in London at least is not common in drunkards. We should be disposed to place Dr. Purdon's last cause—hereditary tendency—first on the list, or even to say that it is the only cause that can be certainly discovered, although in a large number of cases we fail to detect even that.

The subject of treatment is very fairly dealt with. The author speaks highly of the results he has obtained by treating psoriasis according to Hardy's plan—with copaiba in large doses; and he also recommends a paste of ozokerit and linseed oil in equal parts as an external application in the same disease. He concurs in the favourable opinion of those who, like himself, have tried iodoform as a dressing to painful ulcers. In the chapter on scrofuloderma we quite agree with Dr. Purdon when he says (page 191) that it is not everyone who will submit to the only remedy he knows of to prevent suppuration in an enlarged gland—namely, nauseating doses of tartar emetic and ice externally.

In concluding this notice, we should recommend Dr. Purdon to correct his proofs a little more carefully in another edition. We never recollect so many mistakes in a work of so small a compass; and, unfortunately, some of them are of a kind which forbid the idea that they are mere printer's errors. Thus, in two places, at pages 213 and 216, we meet with "phenomena" treated as a feminine singular noun in the expressions "there is a phenomena," and "the phenomena is best marked and is best known"; and, at page 133, urticaria is talked of as "a pruriginous neuroses"! Then we have "phosophate" for "phosphate," "bilary" for "biliary," "alternative" for "alterative," "prostrate gland" for "prostate gland," and "diureties" for "diuretics," among the mistakes or misprints in English words; while, in the French, we have "Thaite" for "Traité," "scions" for "sillons," and "Gabler" for "Gubler"; and in the German, "Scmidt's Jachrbueher" stands for "Schmidt's Jahrbücher," and the title of Gustav Simon's classical work on the pathologieal anatomy of the skin ("Die Hautkrankheiten durch anatomische Untersuchungen erläutert") is converted (p. 124) into "Die Hautkrantertein durch, Anatomische verä derunger erlätest"!

GENERAL CORRESPONDENCE.

CONTAGIOUS DISEASES IN THE ARMY—MR. STANSFELD'S STATISTICS.

LETTER FROM SURGEON-MAJOR BLACK.

[To the Editor of the Medical Times and Gazette.]

SIR,—Having had opportunity in the course of my service of becoming acquainted with the occurrence of the venereal epidemic in regiments and stations, I venture to suggest that it is very difficult for civilians to arrive at any satisfactory conclusions on the working of the Contagious Diseases Acts from only reading Blue-books. It has appeared somewhat odd that the opponents of the Acts have not managed to enlist amongst their supporters any surgeons of regiments or of stations, nor of colonels of corps or generals of districts under their application.

The amount and character of venereal cases depends sometimes on other causes than the operations of these Acts in the protected towns, and mainly upon the successive increase of recruits in regiments and corps, and their great prevalence about fifteen years ago was due to the formation of the new second battalions. The observance or not of the weekly medical inspection for the detection of contagious disease in a regiment makes a great difference, as, when it is regularly and faithfully maintained, the general prevalence of disease is kept within manageable limits.

Some time ago, considerable relaxation in this respect was introduced by the great number of younger army surgeons then serving, who prevailed upon the authorities to leave the reporting of these cases to the men themselves, who generally only did so at times more convenient to their own affairs and less convenient to their duties.

It is also quite possible that these diseases may spread by other means than connexion with the other sex, especially gonorrhœa, which may become epidemic amongst men, just as ophthalmia used formerly to do, and by much the same means. When the disease takes this form, the best mode of eradication has been found to be repeated health examinations of the entire regiment, so as to pick out every new case as soon as possible, which mode will therefore swell the averages in that corps and station for the time. The opponents of these Acts should not expect the same low figures to be maintained in protected towns year after year, because the number and character of the corps stationed there constantly varies.

A regiment of mature-aged men, just arrived from India after a long service abroad, will have much fewer cases of venereal diseases than one lately recruited up to the full foreign strength, and under orders for India, at the same station. It does not appear to be at all unnecessary the examination of the other sex for the detection of disease, for its treatment and cure, if the men are already obliged to be subjected to it by existing regulations. If there would be any advantage in abolishing medical inspections, they should be discontinued in both sexes at the same time. This experiment is scarcely likely to be tried at the present time, when the teachers of the science of epidemics are expounding their doctrines daily in the journals, both as regards men and animals, and insisting upon stamping them out, and even enforcing penalties in case of non-compliance with their instructions.

It may be hardly necessary to explain that recruits generally do not get affected with venereal diseases, in the first instance, in the protected garrison towns, but bring it with them from some of the many recruiting districts and towns they had visited before joining the regiment they had been treated at.

Dr. Balfour admits in his report for 1872 (p. 12, "Army Medical Report") that but "little influence has been produced on the prevalence of gonorrhœa by the measures which have been so efficacious in reducing that of primary venereal sores," and this is, no doubt the opinion that the anti-contagionists have got hold of, and are wresting to their own advantage. Dr. Balfour, however, need not despair of the legislation having failed, as the explanation of the ominous symptom of weakness is not difficult to those who have had to deal personally with the private soldier and his medical history sheets in a regiment. It will then be seen that once a young soldier

gets gonorrhœa anywhere, it has a constant tendency to reappear in the medical history sheets along with the man in hospital, to the vexation of the medical officer and his hospital sergeant.

These readmissions are rendered necessary both for relapses of the disease by intoxication or otherwise, and at the medical inspection of the prisoner previous to his trial for violation of discipline or committal to confinement.

These recurrences of gonorrhœa are entered as fresh admissions in the day-book, or admission and discharge-book, and any new medical officer might suppose that at first it would be a new disease, until he had referred to the medical history sheets. These cases, again, in civil life would not be thought worth observation, being only considered gleet, and would not interfere with a man's employment, and would never entitle him to admission into a civil hospital. They generally occur to men of feeble and juvenile constitutions, and the liability to relapse persists till the young recruit gets stronger by good feeding and wholesome exercise and employment.

On the other hand, primary syphilis has not that tendency to recur in the recruit, as may be easily seen by the absence of relapses in the medical history sheets, and may also be inferred from its generally requiring a fresh lesion of the mucous membrane to bring it about.

Again, intoxication or violent conduct is ineffective in inducing a relapse of venereal sore, while it readily brings back a gonorrhœa; so that a breach of discipline in a recruit who had been under treatment for the former does not necessarily involve a return of his disease.

Therefore it may be presumed that a considerable moiety of cases of gonorrhœa in the army medical reports should be put down as relapses or simple gleet, and the large average for eight years of 114·8 per 1000 of strength should be reduced by one-third, to approximate to the ratio observed in civil life between the two diseases.

Again, if we inspect the returns of a civil hospital, we shall find that the cases of gonorrhœa admitted are fewer than those for syphilis primaria by 1 to 2 about (*vide Middlesex Hospital Reports*); and that the cases of secondary syphilis are more than those for primary by 3 to 1.

Now, the contrary obtains in military practice, owing to its special constitution and peculiar habits; and we find that the number of cases of gonorrhœa generally exceeds those of venereal sore by 5 to 4 about, and that those of syphilis primaria exceed the admissions for secondary syphilis by 5 to 2.

It will also be found that a much less desponding view of the operations of these Acts with respect to gonorrhœa might be taken if we look at the towns under their application from 1866 to 1872 ("Army Medical Report," 1872, p. 10), when it will be seen that the troops have greatly benefited locally by a reduction of the ratio from 164·9 per 1000 to 104·0 per 1000 —that is, from 3 to 2 nearly.

The same encouraging prospect appears with respect to syphilis primaria ("Army Medical Report," 1872, p. 10), where the ratios are shown to have descended from 90·5 per 1000 in 1866 to 54·2 per 1000 in 1872—that is, from 5 to 3 about, which completely refutes Mr. Stansfeld's statements that the Acts were a failure for either disease at the garrisons and seaports under their application.

With regard to Mr. Stansfeld's statement concerning the increase of invaliding for diseases of the second class (syphilitic) from 43 men per 60,000 of strength to 96 men for 80,000 of strength at home, it was found on examination of the data in the "Army Medical Reports" to be erroneous. The 43 ought to have been 42, and the 96 ought to have been 67, which would make the ratios of each for 1866 and 1872 at 7 men per 10,000 for both epochs instead of 7 and 11 per 10,000, as Mr. Stansfeld calculated them. (Appendix No. 1; Appendix No. 15.)

Further, it must be stated there has been a considerable alteration in the nomenclature of the diseases and their grouping since 1866, when the various venereal diseases were placed all together in one class, called enthetic, much to the advantage of the controversialists.

Secondary syphilis is now presumed to include some of those diseases formerly separated into distinct species, as tertiary, iritis, etc., and therefore the species of secondary syphilis of 1866 ought to be made to include these also in its total number, which Mr. Stansfeld has quite forgotten to do, and therefore has been further led into a grievous error.

On adding these extras, it was found that the 42 invalided for 1866 ought to have been stated at 64; and when the new ratios were made out they stood at 10 men per 10,000 invalided for 1866, and 7 men per 10,000 for 1872, which just proves the exact reverse, and the further signal success of the Acts.

It must also be added that the same men who get primary syphilis do not remain in the same place to get secondary syphilis and be there finally discharged the service, and that the cases of the latter invalided in England might mainly be sent home for that purpose from unprotected garrisons abroad.

Against Mr. Stansfeld's statement respecting the inoperativeness of the Acts in the navy may be cited the opinions of naval surgeons to the contrary in the "Annual Report of the Health of the Navy for 1872," p. 13:—

"The continued beneficial influence of the operation of the Contagious Diseases Acts on the force at the various home ports is now fully recognised by medical officers," one of whom states—"The number of cases of syphilis has been very few, and the Act for protection and examination still continues to work good, and, regardless of its opponents, still protects us from an overwhelming number of cases of disease."

Mr. Stansfeld charges "the compilers of the Army Medical Reports with making an unscientific, false, and misleading classification," and says "that the second class contained, but was not altogether composed of, that class of diseases which caused an hereditary taint to the coming generation."

It is not very easy to see the reason for these unscientific words, and how they can influence a statistical investigation; but it should surely be manifest to the inquirer why all the various secondary effects of gonorrhœa and syphilis are excluded from the "Report on the Operation of the Contagious Diseases Acts." As already mentioned, bubo and rheumatism, and secondary and tertiary syphilis, when first admitted for treatment in a hospital of a protected garrison, may have originated from primary disease contracted by the soldier previously at an unprotected station at home or abroad. Mr. Stansfeld states that the "number of such cases which carried an hereditary taint to the constitution of the coming generation was in excess in 1872 over those in 1866," which probably alludes to the admissions into hospital for secondary syphilis at home in these years.

On investigation of the Appendices to the Reports, it turns out that the numbers admitted are 1480 for a strength of 59,758 in 1866, and 2180 for a strength of 85,722 in 1872, and the ratios are 25 men per 1000 for each epoch respectively nearly, which shows a stationary and not an increasing population.

If the statistics in the army medical reports are to be relied on, the following deductions of comparisons between the strengths of the force at home and the total primary and secondary venereal diseases admitted into hospital should be comforting to the administrators of the Acts for prevention of contagion:—

Strength to Gonorrhœa, Syphilis, and Phymosis, etc.		*Strength to Syphilis, Secondary Iritis, Orchitis, Stricture, etc.*	
1859	100 to 30	1859	1,000 to 98
1866	100 to 18	1866	1,000 to 65
1872	100 to 16	1872	1,000 to 44

From these figures it will appear that there has been a great and steady decrease of one-half in a period of fourteen years, when the whole bulk of disease created by venereal contagion has been fairly confronted with the total number of the forces subject to supervision.

The opponents of the Acts finally adduced the (alleged) inoperativeness of their application to civil populations for checking the prevalence of disease in the army, and an explanation of this may be afforded from the absence of a health-inspection of the civil male sex contemporaneous with that existing of the other sex in foreign countries. These places, therefore, abroad will be under similar hygienic circumstances as our own military and naval unprotected garrisons, where, reversely, as at present, the male sex are under inspection only, and the other sex are left free to contract and keep possession of their complaints at pleasure.

I am, &c., W. T. Black.

THE CONTAGIOUS DISEASES ACT.

Letter from Surgeon-Major Logie.

[To the Editor of the Medical Times and Gazette.]

Sir,—The admirable way this Act works, by lessening disease in the army, induces me not only to express my admiration of

it, but to express a hope that something more may be done to carry out still further its good effects, and at the same time allay the rather premature and indelicate appeals for its dissolution, whilst also giving to "woman her rights."

Statistics show that when my regiment was stationed in Windsor, from April 1, 1866, to March 31, 1867, the Act not being then in operation, there were sixty-five cases of venereal disease treated in hospital; and from April 1, 1869, to March 31, 1870, at the same station, after the Act had been in force, there were twenty-six cases, and one alone could be traced to the Windsor district.

It is urged by the "Ladies' International Association at Geneva" that it is inhumane to throw the penalty of a fault on one, when two have shared the guilt of a crime. It is also stated by others that the Act is unfair and one-sided. I am of opinion that this is truthful in a great measure, particularly to those who cannot, or will not, enter into the spirit of the order *as it is*, but only look to the letter of the law—imagining it to be an Act only to render an army, a celibate army, healthy. It is argued also that, in civil life, gaining a livelihood by prostitution is a trade, and that when we find men doing likewise, then, and only then, will there be reason for subjecting them to legislation.

The Act is not one for "preventing prostitution." Before proceeding further, I cannot refrain from remarking that it would be as well for dear, good, innocent-minded bishops and ladies to let alone this indelicate subject. How can they know what the result of a man's marriage may be, if he speaks with a roofless mouth or bad sore-throat? How can they tell the origin of bronchitis in a child, of sore eyes, or even of liver complaints—many and many of which are syphilitic? Yet there is scarcely a bishop, scarcely a lady, who is not more or less a disciple of homœopathy; and I am sure Dr. Lionel Beale will tell them that terrible and fatal maladies will arise from the introduction into the body of a minute germ weighing $\frac{1}{155,555,555}$ of a grain. As the Act is supposed to be unfair upon a certain class of women—those who are compelled to seek a livelihood by prostitution—and although we know the immense amount of mischief one such unfortunate may do, yet there is no reason why other women should suffer.

As regards the spreading of disease, it is allowed in the public service "that it is desirable to carry out a system of inspection to prevent it." Is the soldier the only profligate?

I should suggest that an addition may be made to the Act, thus: that all male prisoners taken up by the police should be compulsorily examined previously to their appearing before a magistrate, and, if affected by syphilitic disease, treated in a police lock hospital; for, believe me, those midnight marauders are generally the unprincipled contaminators.

This, I am confident, would greatly tend to decrease immorality and drunkenness, and deter vice. One word, if your space will allow, with regard to female patients in the venereal wards of hospitals. I think that it would be more refined to provide them with masks, to be worn especially when visited by students. This ordeal of examination is a great preventive of unfortunate girls going to hospitals at all.

I am, &c., Cosmo G. Logie, M.D., F.R.S.E.,
Surgeon-Major R.H.G.

THE COUCHAID.

Letter from Dr. E. Diver.

[To the Editor of the Medical Times and Gazette.]

Sir,—Referring to the report of the meeting of the Obstetrical Society on February 3, permit me to say that the acceleration of labour was not intended in the contrivance of the Couchaid, but rather the general comfort and help of the patient. This is secured to her in an unmistakable manner by the use of the dress, which can be carefully applied in about ten seconds, and as quickly removed. It is not intended for the early stage of labour; the act of pulling being, as obstetricians very well know, not generally adopted until the second stage has begun. It is, however, in exceptional cases, useful in the earlier stage.

Attention to the mother and child is of course the duty of the medical attendant; but it is the mother who needs attention first in the order of time and of importance. And when we are powerless by manual interference per vaginam to aid her in the expulsion of her fœtus, we gladly expend a few seconds in another way, to help her to go through the trouble.

The Couchaid has been used many times, and has not been found wanting. It gives much comfort to the suffering woman, and this is a sufficiently good reason for its use.

The abdominal support can be removed, and the sacral cushion retained. But the comfort experienced from the support makes the patient not generally willing to forego its use after it has been once applied.

Opinion of much professional worth is decidedly favourable to the Couchaid. I am, &c., E. Diver.

Kenley, Caterham Valley.

REPORTS OF SOCIETIES.

THE PATHOLOGICAL SOCIETY.

Tuesday, March 2.

Mr. George Pollock, F.R.C.S., President, in the Chair.

Molluscum Fibrosum.

The President presented photographs of a very extraordinary case of what he called molluscum fibrosum. The subject of the disease, a woman of twenty-five, was at present a patient in St. George's Hospital. She had suffered since the age of six years. The condition, which chiefly affected the lower limbs, was still increasing, and was now so marked that walking was a matter of difficulty on account of the weight. The extent was even greater than in a case previously described by the President in a paper to the Medical and Chirurgical Society. The President said he intended to operate on the present case in a few days. One practical point of importance was that these growths were very vascular, and that a simple incision might prove fatal. He would therefore pass ligatures through the base of the growths from side to side, and tie them firmly.

Defect of the Teeth and Zonular Cataract.

Mr. Jonathan Hutchinson exhibited casts and drawings illustrating the kind of teeth met with in zonular cataract. The following is a summary of Mr. Hutchinson's description and views:—1st. That it is exceptional to meet with lamellar cataracts without the association of an imperfect development of the enamel of the teeth; but that definite exceptions, in which the teeth are quite perfect, do occur. 2nd. That the kind of defect observed in the teeth consists in absence of the enamel, and is shown in the incisors, canines, and first molars of the *permanent* set, to the almost invariable exemption of the premolars. That for purposes of diagnosis the first molars are by far the most important, and may rank as the test teeth, since they not unfrequently show the defect when the others escape. 3rd. That it is highly probable that the defects in the development of the teeth are usually due to the influence of mercury exhibited in infancy, although it is quite possible that other influences, attended perhaps by inflammation of the gums, may occasionally produce similar results. 4th. That teeth of the kind alluded to are met with very frequently in patients who are not the subjects of zonular cataract. 5th. That the very important observation made by Arlt, that the subjects of zonular cataract have usually suffered from convulsions in infancy, is fully borne out by further examination; and that it is very unusual to find zonular cataract without such history. 6th. That it is probable that there is a direct connexion between the occurrence of convulsions in infancy and the development of zonular cataract. 7th. That whilst there is every reason to believe that the defective teeth which are met with in connexion with zonular cataract are the results of mercury, the evidence seems opposed to the belief that the lenticular opacity is also due to the influence of the drug. The great frequency of mercurial teeth without lamellar cataracts, the not very infrequent occurrence of lamellar cataracts without mercurial teeth, are opposed to this view. 8th. That the very frequent coincident occurrence of lamellar cataract with defective teeth is to be explained by reference to the frequency with which mercury is given for the treatment of convulsions in infancy. 9th. That there is no reason whatever for supposing that lamellar cataracts have any connexion with hereditary syphilis. 10th. That, whilst it is certainly true that lamellar cataracts are commonly met with in young persons who show general defects of development—short stature, ill-shaped heads, defective intellect, dwarfed lower jaw, or other physiognomical peculiarities—yet there is seldom any proof of the existence of rickets; whilst it is quite possible that the peculiarities mentioned may be due to the disturbance

of the nervous system in infancy, in connexion with the convulsions. 11th. That it is very important to distinguish between mercurial teeth and syphilitic teeth; that the peculiarities presented by each usually render this easy; whilst, however, the two are, as might have been expected, not unfrequently met with together.

Dr. Edwards-Crisp said that he could not agree with Mr. Hutchinson in regard to the condition of the teeth in these cases. There was a cerebral cause for convulsions, and this was more likely to be at the same time the cause of the condition of the teeth than was mercury. Dr. Crisp had seen a whole French family suffering from *tremblement mercuriel*—they lived in an atmosphere of mercury,—but there was no affection of the teeth discovered, neither had any such been described. He also instanced the case of a child of his own which had convulsions at the age of twelve to eighteen months. It was afterwards discovered that the child had had a fall. The teeth of the child were now the same as those described by Mr. Hutchinson. The child did have some mercury by way of treatment, but the condition of the teeth was probably due to the injury to the brain, and not to the drug.

Mr. Hulke said that there were two considerations which must be entertained in regard to the connexion described by Mr. Hutchinson. The first was that lamellar cataract occurred also in the lower animals. The first case carefully described was one by Mr. Bowman, in a cat. Secondly, lamellar cataract, although exhibiting most commonly a single zone of diseased lens-tissue, sometimes showed several such zones, with intermediate transparent zones. Now, in these cases the innermost zone might be smaller than the lens at birth, and such disease would seem to be congenital.

The President inquired whether an acute disease in an infant would not mark the teeth as it did the nails in an adult. His own nails had twice been marked in this way; and he was inclined to think that in his own family the teeth were similarly marked without the administration of mercury.

Dr. Hare said that, from extensive observation, he believed that the teeth in rickets were almost exactly like those represented in Mr. Hutchinson's drawings. Yet in no case was mercury less likely to be given than in rickets. He had himself given much mercury, but he was not aware that he had ever seen such teeth follow its administration, while in rickets they were not uncommon.

Mr. Hutchinson inquired of Dr. Hare at what age he had seen such teeth in rickets.

Dr. Hare replied, in infancy, in the first dentition.

Mr. Puoin Thornton asked whether Mr. Hutchinson considered that any connexion existed between mercurial and syphilitic teeth.

Mr. Thomas Smith said that such mercurial teeth might be expected to appear in syphilitic children who had been treated with mercury; or the teeth might be mixed.

Mr. Warrington Haward said that he had lately had to examine the teeth of a very great number of children, and he had observed that in a great many instances the teeth were exactly like those which Mr. Hutchinson had just described. It was equally striking in these children to observe their remarkably healthy conformation, and the absence of evidence of syphilis or rickets. These children had probably not taken mercury. On the other hand, the frequency of fits in the course of rickets should not be overlooked, and the routine treatment of them with mercury in the form of quack medicines.

Mr. Hutchinson replied to the various speakers. To Dr. Crisp—That convulsions might be directly due to cerebral disturbance, but they were very common without cerebral disturbance. In the case of Dr. Crisp's own child, the hypothesis of a mercurial cause was confirmed. To Mr. Hulke—That he had not contended that mercury had anything to do with the change in the lens. He was not unacquainted with cases of double-zoned cataract. One such, recorded by Davidson, contained the interesting history that the patient had been subject to fits for eighteen months. The small internal zone in these cases was certainly an argument for the intra-uterine origin of the disease; but nervous disturbance might occur then as well as after. He contended that these cases are usually infantile and not congenital. This conclusion was in accordance with the beliefs of Arlt and the Zürich observers. He would himself grant that mercury was not the only cause of this condition of teeth: other disturbances of the health might have the same effect; but mercury was one, and, perhaps, the most common cause. To Dr. Hare—That, in regard to the teeth of rickets, Dr. Horner, of Zürich, supported the same opinion as Dr. Hare; but he had himself alluded to the permanent teeth only, not to the temporary set. Vogel stated that, as rickets generally ended before the second dentition, the second teeth were generally good. To Mr. Thornton—That the exhibition of mercury to syphilitic children was a common cause of mercurial teeth; and the two diseases were frequently seen together. He did not mean to say that mercury always had this effect upon the development of the teeth,—probably, only when its effects on the mouth approached a condition of stomatitis. It was also important to distinguish between these mercurial teeth and the "craggy" teeth of dentists, which were very hard, and wanted large plates of enamel. Such teeth had no relation to mercury; they were often hereditary. Mercurial teeth, on the other hand, would appear in one member of a family. As for the administration of mercury to children, Mr. Hutchinson said he did not wish to limit it in legitimate practice; in most cases the evil effects of it were traceable to the use of quack medicines.

Aneurism of the Heart.

Dr. Barlow showed a specimen of aneurism of the heart from a man of forty-two. The pericardium was partly adherent; the left ventricle was enlarged; the mitral, tricuspid, and aortic orifices were incompetent. At the base of the left ventricle, beneath the auricle, there presented a sac the size of a small orange; its wall was chiefly fibrous tissue, and its mouth was four inches in circumference; there was no fibrin. The sac communicated above with the left sinus of Valsalva. The aortic valves presented no vegetations. The subject of this disease had never suffered from rheumatism; he had had syphilis five years before. For the last three years he had suffered from attacks of angina pectoris, dropsy, etc. Three weeks before his death it was found that there was some relative bulging in the left subclavicular region, slight thrill, systolic murmur at the left apex, and a murmur after the second sound to the left of the sternum. A very similar case had been reported by Dr. Hope.

Epithelioma.

Mr. Hulke exhibited three specimens of epithelioma. The first specimen presented a section of the head. On the left side there was to be seen a large cauliflower mass, which penetrated so deeply that the dura mater only separated it from the brain. The subject was a woman of sixty-four, who stated that she first discovered the swelling behind the ear eight months before, after she had suffered for weeks from local pain; it was then no larger than a pea. The tumour rapidly increased in size, and the patient became deaf on the left ear, and subject to giddiness. None of her relatives had suffered from cancer. All surgical interference was forbidden by the gravity of the symptoms. The second specimen was, according to Mr. Hulke, one of the most remarkable examples of epithelioma that he had ever seen. It affected the hand of a man of fifty-six, and was removed by amputation in January. The carpus and metacarpus were quite disorganised, and the fingers were dangling. The patient had stated that shortly after vaccination in infancy an ulcer appeared on the wrist; and this healed and opened frequently during the course of his life, until a few months before, when it refused to heal, and acquired the new character. The third specimen illustrated the second. The forearm had been removed three years ago for a cauliflower mass involving the back of the hand. The patient was sixty-one years old. His hand had been crushed by a waggon in early childhood; it was slow to heal, and the scar was always tender. By-and-by a wart rose, which the man would cut down with his knife. It finally grew to its present size. There was no glandular affection. Mr. Hulke said that this was a good example of the danger of old scars, which are long in healing, becoming the seat of epithelioma.

The President asked whether the same was not the case in psoriasis of the tongue.

Mr. Hulke replied that psoriasis of the tongue was a general term. In regard to the disease which he had described as ichthyosis of the tongue, he had seen several cases of it, and every one, without exception, had ended in epithelioma, which had perhaps begun in the ichthyotic spots.

Malignant Disease of the Testis.

Mr. Howard Marsh exhibited a specimen of this nature from an infant of about two years. The child, when first seen, was well grown; the right testis was found to be enlarged, smooth, ovoid; the epididymis could be felt hard and knotted.

No glandular enlargement could be discovered. The nature of the disease was doubtful; and the case was watched some weeks under mild mercurial treatment. At the end of this time, as the growth continued, the testis was removed, and with success. On examination the testis proved to be uniform in appearance, without trace of tubular structure; the epididymis was blended with the body of the organ. Microscopically, it presented fibrous stroma, enclosing large nucleated cells, and was considered malignant. Mr. Marsh said that malignant disease of the testicle, though not unknown in children, was yet rare. The diagnosis—especially from scrofulous epididymitis—was difficult.

ANEURISM OF THE AORTA.

Dr. DOUGLAS POWELL shewed two specimens of aneurism of the thoracic aorta. The first specimen was taken from the body of a man, who had felt some oppression of the chest since lifting a load of 3 cwt. six years previously. A prominent tumour presented on the front of the chest; there was a general jogging impulse, and at two different points discoloration and liquid pulsation; a double murmur was heard at the base; the pulse was quick and irregular. The man died of exhaustion. Altogether, he had been five years under treatment. There was much dysphagia at the last. Post-mortem a large globular aneurism was found, which commenced one inch beyond the valves and extended to one inch beyond the subclavian artery, involving the whole of the vessel. A second aneurism projected from it anteriorly. This was flattened, entirely filled with coagula, and encroached on the base of the heart. The aorta was dilated even beyond the aneurism. The aortic valves were competent. The pericardium was universally adherent. The œsophagus was compressed generally, but the tumour did not point into it decidedly at any part. There had been NO nervous symptoms *intra vitam*, yet the nerves were apparently both involved, although their structure did not seem destroyed. This case was interesting, Dr. Powell said, on account of the general compression of the œsophagus having caused dysphagia, and from death having occurred without rupture, rigorous treatment by rest and starvation having been adhered to. The second specimen was from a man of thirty, who had been a fireman in a pottery, where he was exposed to a temperature of 200° to 300° and noxious fumes. He was also accustomed to lift heavy weights, and he drank freely of whisky. There was no distinct history of syphilis. Eighteen years before, he had had rheumatism without history of cardiac affection. He had been in good health until six weeks before presenting himself. The patient presented the symptoms of general progressive heart disease. Dulness, impulse, and thrill, a rasping systolic murmur, and an accentuated second sound were discovered at the base of the heart. The man died rather suddenly in hospital. Post-mortem the left ventricle was found to be enlarged; the valves competent. The aorta was atheromatous throughout and dilated; and, connected with the vessel above the valves by a distinct opening, was an aneurism, which presented several secondary pouches. The right ventricle of the heart was greatly enlarged. In the pulmonary artery, three inches above the valves, there was found an oval aperture leading into the aortic aneurism. Above the anterior pulmonary valve there was also a depressed spot on the inner surface of the vessel-wall, with elevated margins like a healed ulcer. A somewhat similar cicatrix was also found in the aorta near the aneurism. Dr. Powell remarked that several cases of aortic aneurism opening into the pulmonary artery had been described in the *Transactions*, and in most of them the disease had simulated progressive heart disease with dropsy.

TESTIMONIAL TO DR. STRONG.—Dr. Strong, of Croydon, Hon. Surgeon to the Royal Masonic Benevolent Institution for Aged Freemasons and Widows of Freemasons, has been granted a vice-presidentship of that institution, "with all rights and privileges pertaining thereto," as a slight recognition of his kind and unwearied attention to the interests of the institution, and of his valued honorary services as surgeon for the last ten years.

THE "DEUTSCHE KLINIK."—Dr. Alexander Göschen, the editor of this well-known Berlin periodical, has just died somewhat suddenly of pneumonia, in the sixty-second year of his age. He founded the *Deutsche Klinik* twenty-six years ago, and edited it to the time of his death (the number for the 13th inst. containing an article by him on Servetus)—it being the first great medical weekly journal ever established in Germany.

OBITUARY.

DR. JOHN EDWARD GRAY, F.R.S.

THIS distinguished naturalist died at his residence in the British Museum on Sunday last, the 7th inst., in the seventy-sixth year of his age. He was a son of Mr. S. F. Gray, author of a useful and well-known book to our old general practitioners, the "Supplement to the Pharmacopœia," and other works. Although educated for the medical profession, it is believed he never presented himself for any examination, having been weaned from it by an increasing attachment to natural history, as at so early an age as twenty-one he published, in his father's name, the "Natural Arrangements of British Plants," an arrangement now almost universally adopted. When only twenty-four years of age he was appointed an assistant in the British Museum, and in 1840 was deservedly promoted to the post of Keeper of the Zoological Collection. He was a promoter of the Zoological, Entomological, Geographical, Microscopical, and Palæontological Societies, and a fellow of many learned societies, both at home and abroad, to the *Transactions* of which he had been a valuable contributor. He received the honorary degree of Doctor of Philosophy from the University of Munich, for having formed "the largest zoological collection in Europe." He was offered an order by the King of Würtemberg, who on being informed that English scientific men were not allowed to wear them, sent him a large gold medal, inscribed for "the worthy." In addition to his great labours, Dr. Gray always took an active part in questions relating to sanitary and metropolitan improvements. We believe Dr. Gray has left a widow, but no family.

RICHARD STANLEY IRELAND, M.D. St. AND., F.R.C.S. ENG. & IREL., ETC.

THIS esteemed and veteran member of the profession died on the evening of Saturday, March 13, at his residence, 121, St. Stephen's-green, Dublin. He was eighty-eight years of age, and so far back as 1814 became a doctor of medicine of the University of St. Andrew's. Dr. Ireland was for a long number of years surgeon to the metropolitan police force, as he had previously been to the watchmen, whom they superseded. Of recent years he was the senior Fellow of the Irish College of Surgeons. In 1860 he was elected an Honorary Fellow of the King and Queen's College of Physicians. His writings were not numerous, but for some time he lectured on physiology, midwifery, and diseases of women and children at the original (now the Ledwich) School of Medicine, Peter-street, Dublin.

FREDERIC TURTON, L.R.C.P. LOND.

ON the morning of February 24 passed away a typical general practitioner. Frederic Turton was born in 1836, at Wolverhampton, the son of a general practitioner. Educated at the Grammar School of his native town, he gained his professional knowledge at the Birmingham School, being dresser at the General Hospital to Mr. Oliver Pemberton. By the death of his father in 1861, at a comparatively early age, a large practice devolved upon him almost as soon as he became qualified; and from that time until a few months ago he had been constantly and uninterruptedly engaged in the most arduous work. It is within the truth to say that he sacrificed himself in the service of his patients. Soon after having become established he was elected a member of the Town Council, and there devoted his energies to bringing before the public the sanitary defects of the town, and the means which were required in order to remedy them. During the violent epidemic of small-pox in 1871-72 he was urgent in his endeavours to press home all efforts likely to contribute to the public good, and carried his convictions to the issue of resignation of his office sooner than submit to an attempt to stifle some measures of sanitary reform. It is in a large degree due to this decided action that Wolverhampton has become awake to the necessity of earnestness in this direction. He was one of the originators of, and secretary to, from its earliest formation, the Wolverhampton Friendly Medico-Ethical Society, which aims at promoting a healthy social and professional tone amongst its members. He was a great supporter of the attempt made to improve the rate of remuneration received by surgeons who hold clubs; and he always endeavoured to carry out the letter as well as the spirit of the report of the Committee of the Birmingham and Midland Counties Branch of the British Medical Association. He was always a prominent

and valued member of the Association. In his professional relations an eminently conscientious man, he was in his private life a Christian gentleman. Always abreast of the times, both in literature and practice, he never forgot that "art is long," and only could not remember that "life is short." By his professional brethren, and by his numerous patients, he was both respected and beloved. More cannot be said to his honour.

MEDICAL NEWS.

APOTHECARIES' HALL. — The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, March 18:—

Evans, Thomas, Pwllheli, North Wales.
Hallowes, Miller Coleman, Devonshire-street, Islington.
Haulbronk, Edward, Caius College, Cambridge.
Morris, George, St. Mary's Hospital, Manchester.
Paxon, Herbert Elliott, Dorking, Surrey.
Pettigrew, Augustus Joseph Walford, Warwick-villas, Hounslow.

The following gentlemen also on the same day passed their primary professional examination:—

Brett, James, Birmingham.
Parker, Alfred Charles, Guy's Hospital.
Prichard, Arthur William, Bristol Hospital.
Smith, William Henry, St. Mary's Hospital.
Snell, Edmund George Carruthers, London Hospital.

APPOINTMENT.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

DIXON, HANMER, M.B.—Assistant Medical Officer to the Bristol Lunatic Asylum.

MARRIAGE.

CHURCHILL—HILDEBRAND.—On February 18, at Moradabad, N.W.P., India, Charles Fleetwood Churchill, M.B., Surgeon A.M.D., to Alice, youngest daughter of the late Rev. J. B. Hildebrand, of Kibworth, Leicestershire.

DEATHS.

ACTON, SARAH, wife of William Acton, M.R.C.S. Eng., at 17, Harley-street, Cavendish-square, on March 21, aged 53.

COGMAN, SUSANNAH CLARA, the beloved wife of Charles Cogman, L.S.A., of 267, New North-road, Isliugton, on March 20.

NEWMAN, JESSE EVELINE, infant daughter of A. J. Newman, L.R.C.P., at St. Martin's, Bowness-on-Windermere, on March 17, aged two months.

POLLOCK, ROSE, eldest daughter of George D. Pollock, F.R.C.S., and granddaughter of the late Field Marshal Sir George Pollock, Bart., G.C.B., G.S.I., at 36, Grosvenor-street, on March 20, aged 13.

SMITH, H. BENNETT, M.R.C.S. Eng., L.S.A., of Walkern, Herts, on March 17, aged 77.

VASSALL, ANN, widow of William Vassall, M.D., and daughter of the late Colonel Oliver, of Great Wigston, Leicestershire, at Thornhayes, Downside, Clifton, on March 20, aged 78.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

BRADFORD INFIRMARY AND DISPENSARY.—Physician. Candidates must be duly qualified. Applications, with testimonials, to Mr. Charles Woodcock, Secretary, 65, Market-street, Bradford, on or before June 12.

BRADFORD INFIRMARY AND DISPENSARY.—Resident Medical Officer. Candidates must be duly qualified and registered. Applications, with testimonials, to Mr. Charles Woodcock, Secretary, 65, Market-street, Bradford, on or before April 2.

BRIXTON, STREATHAM, AND HERNE-HILL DISPENSARY.—Resident House-Surgeon. Candidates must be unmarried, and possess both a medical and surgical qualification. Applications, with testimonials, to J. T. Mercer, Esq., M.B., Leicester Villa, Effra-road, Brixton, S., on or before April 5.

CALNE UNION.—Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to Mr. J. W. A. Stanley, Clerk to the Guardians, on or before March 30.

CENTRAL LONDON OPHTHALMIC HOSPITAL, GRAY'S-INN-ROAD, W.C.—Assistant-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before April 3.

DUNDEE ROYAL INFIRMARY.—Resident Medical Superintendent. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, D. Gordon Stewart, Esq., Solicitor, Dundee, on or before April 21.

FARRINGDON GENERAL DISPENSARY AND LYING-IN CHARITY, 17, BARTLETT'S-BUILDINGS, HOLBORN.—Two Physicians. Candidates must be F. or M.R.C.P. London. Applications, with testimonials, to the Honorary Secretary, S. Green, 10, St. Swithin's-lane, on or before March 27.

FETTERCAIRN, PARISH OF.—Resident Medical Officer and Public Vaccinator. Applications, with testimonials, to Colonel M'Inroy, Chairman of the Board, The Burn, Brechin, N.B., on or before March 27.

LIVERPOOL ROYAL INFIRMARY.—Resident Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to the Chairman of the Committee, on or before April 10.

QUEEN ADELAIDE'S DISPENSARY, BETHNAL-GREEN.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Honorary Secretaries, at the Dispensary, Pollard-row, Bethnal-green-road, E., on or before April 1.

ROYAL EDINBURGH ASYLUM.—Assistant-Physician. Applications, with testimonials, to Dr. Clouston.

ST. MARY'S HOSPITAL AND DISPENSARY FOR WOMEN AND CHILDREN, QUAY-STREET, MANCHESTER.—Two legally qualified Medical Men. Applications, with testimonials, to the Secretary, on or before March 27.

ST. THOMAS'S HOSPITAL.—Assistant Obstetric Physician. Candidates must be medical graduates of a University in the United Kingdom. Applications, with testimonials, to the Treasurer, at St. Thomas's Hospital, Westminster-bridge.

SHEFFIELD PUBLIC HOSPITAL AND DISPENSARY.—Assistant House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to Dr. J. C. Hall, Honorary Secretary.

TORBAY INFIRMARY, TORQUAY.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Honorary Secretary, Hemsworth, Torquay.

WORCESTER COUNTY AND CITY LUNATIC ASYLUM, POWICK, NEAR WORCESTER.—Second Assistant Medical Officer. Candidates must be unmarried, qualified, and registered. Applications, with testimonials, to Dr. Sherlock, at the Asylum, on or before April 5.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, WOLVERHAMPTON.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Chairman of the Medical Committee, on or before May 3.

A GENERAL outbreak of measles is prevailing among the young children in Over Darwen and district.

PROF. ROKITANSKY'S SUCCESSOR.—After almost endless negotiations with various professors, which have always fallen through, it seems to have been finally decided that Prof. Heschl, of Graz, a former pupil of Rokitansky, shall succeed him in the chair of Pathological Anatomy.

NOTES, QUERIES, AND REPLIES.

"He that questioneth much shall learn much."—*Bacon.*

S. T. H.—Dr. Turner's "Elements of Chemistry," p. 656.

Vergery.—Lord Palmerston's definition of dirt was—"Dirt is matter in the wrong place."

K., Gloucester.—The statue of Dr. Jenner was inaugurated at Boulogne, on September 11, 1865.

A Subscriber, Dublin.—After an inquiry extending over nine days, the magistrates found that there was no case against the medical gentlemen so far as the death of Sarah Jacobs, "the Welsh fasting-girl," was concerned. The father and mother were sentenced at the Carmarthen Assizes, the former to twelve months', and the latter to six months' imprisonment, with hard labour in each case, for fraudulent deception leading to the death of their daughter.

Hy. R., Gringley-on-the-Hill.—We are not aware of any distinct work on the use of the hypophosphites in consumption besides Dr. Churchill's own; but notices of inquiries into their efficacy by other medical men may be found in journals and retrospects. We fear that in other hands than Dr. Churchill's the value of the remedy has not seemed great.

Octavius.— "His vigorous remedy displayed
The power of art without the show."

A. B. E.—"The subject of man's body is of all things in nature the most susceptible of remedy, but then that remedy is the most susceptible of error."—*Bacon.*

Ralph S.—The Physio-Medical College of Ohio was founded by Dr. A. Curtis in 1848.

Algernon.—"In your doublet and hose this raw rheumatic day."—*Merry Wives of Windsor.*

East Kent.—An interesting account is given in the *Medico-Chirurgical Review* for July, 1832, by Dr. Kennedy, of Ashby-de-la-Zouch, of Judith Waterford, of that place, then alive, with milk still in her breast at the age of eighty-one. Dr. Kennedy says—"Here then are the remarkable circumstances of a woman who menstruated during lactation, who suckled children (many not her own) uninterruptedly through the full course of forty-seven years (three years of which time she was a widow), and who in her eighty-first year has a moderate but regular secretion of milk."

Arthur, Hull.—The declaration attached by the jury to their verdict at the inquest held on March 14, 1845, on the body of Mr. Cardwell, solicitor, who was presumed to have fallen a victim to homœopathic treatment, was—"That the afflicted gentleman had been cruelly exposed to a system of starvation while in a state of the most extreme debility during about ten days previous to his death, he having during that long time been allowed nothing but cold water by the advice of his medical attendant."

Disinfectant.—Guyton Morveau in 1773 recommended muriatic acid as a disinfectant. This may be called the beginning of acid fumigation, not forgetting the ancient use of vinegar and the known action of acids. Fourcroy introduced chlorine as a fumigating agent in 1791.

A. N. C.—Dr. Webster, Professor of Chemistry in Harvard University, was sentenced to death for the murder of Dr. George Parkman, in one of the rooms of the Medical College, by the Supreme Judicial Court of Massachusetts, at Boston, on March 19, 1850.

Benevolent.—The late Mr. Peabody's total gifts for erecting workmen's dwellings in London amounted to £500,000. In March, 1862, he vested in the hands of trustees £150,000; in January, 1866, £100,000; at the close of the same year a like amount of £100,000; and finally by his will he made up the total to half a million sterling.

Iona.—The body of John Hunter, originally interred in St. Martin's-in-the-Fields Church, was reinterred on March 28, 1859, in Westminster Abbey, on the north side of the nave, between Wilkie and Ben Jonson.

COMMUNICATIONS have been received from—

Dr. Squiar, London; Mr. H. Sewill, London; D. R.; Mr. J. McAdam, Glasgow; The Registrar of Apothecaries' Hall, London; Dr. F. R. Hogg, Meerut; The Honorary Secretary of the Harveian Society; Mr. J. D. Heaton, Leeds; J. D.; The Registrar of the Royal College of Physicians, London; Mr. C. Cogman, London; Mr. A. Clarence Foster, Leeds; Mr. Jonathan Hutchinson, London; Mr. G. Gaskon, London; Mr. J. Chatto, London; Dr. Edis, London.

BOOKS AND PAMPHLETS RECEIVED—

Reports on Consumption in Australia—Report of the Medical Officer of Health for the Borough of Portsmouth—Description of the Proposed Building of the Prince Alfred Hospital, Sydney—National Health and Wealth promoted by the Dry Earth System, Part I., by the Rev. H. Moule—Report of the Meteorological Society—Thorburn's Suggestions as to the Medicinal Treatment of the Unborn Child—Annual Report of the Sanitary Condition of the Fylde District, by P. H. Bird, F.R.C.S.—Annual Report of the Sanitary Condition of Taunton, by H. J. Alford, M.D.—The Treatment of Secondary Syphilis, by J. L. Milton.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—National Food and Fuel Reformer—Philadelphia Medical Times—Pharmaceutical Journal—Centralblatt für die Medicinischen Wissenschaften—La France Médicale—Iron—Melbourne Argus.

APPOINTMENTS FOR THE WEEK.

March 27. Saturday (this day).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 9 a.m. and 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

29. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

30. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

31. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Royal College of Surgeons of England, 4 p.m. Professor W. K. Parker, "On the Structure and Development of the Skull."

April 1. Thursday.

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.

2. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

VITAL STATISTICS OF LONDON.

Week ending Saturday, March 20.

BIRTHS.

Births of Boys, 1282; Girls, 1236; Total, 2518
Average of 10 corresponding years 1865-74, 2329·3.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	920	808	1728
Average of the ten years 1865-74	788·5	751·4	1539·9
Average corrected to increased population	...	...	1648
Deaths of people aged 80 and upwards	...	...	59

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	4	5	1	11	...	7	1	7
North... ...	751729	...	2	6	3	13	1	3	2	1
Central ...	334369	1	1	6	3	4	...	...	1	3
East	639111	1	4	8	...	19	...	5	...	3
South... ...	967692	1	7	11	3	13	...	11	2	6
Total	3254260	3	18	36	10	60	1	26	6	20

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	30·046 in.
Mean temperature	37·0°
Highest point of thermometer	50·0°
Lowest point of thermometer	28·1°
Mean dew-point temperature	31·4°
General direction of wind	N. & N.E.
Whole amount of rain in the week	0·10 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, March 20, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1875.)	Births Registered during the week ending Mar. 20.	Deaths Registered during the week ending Mar. 20	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3445160	45·7	2518	1728	50·0	28·1	37·0	2·78	0·10	0·25
Portsmouth ...	122632	27·3	72	58	...	...	...	...	...	...
Norwich	82842	11·1	48	49	45·0	29·0	35·8	2·12	0·02	0·05
Bristol	196186	44·1	157	105	55·9	28·2	39·0	3·89	0·08	0·20
Wolverhampton ...	71718	21·1	59	51	50·2	24·3	36·5	2·50	0·03	0·08
Birmingham ...	366325	43·6	279	192	52·0	27·8	38·0	3·33	0·06	0·15
Leicester	109830	34·3	104	48	...	...	...	...	...	...
Nottingham ...	92251	46·2	70	63	48·2	29·8	37·0	2·78	0·01	0·03
Liverpool	516063	99·1	370	307	46·0	31·6	37·2	2·89	0·01	0·03
Manchester ...	356626	83·1	283	225	50·0	27·0	37·2	2·89	0·04	0·10
Salford	135720	26·3	127	78	49·2	25·9	36·8	2·67	0·03	0·08
Oldham	87437	18·7	75	61	...	...	...	...	...	...
Bradford	168305	23·3	130	96	48·3	31·8	38·8	2·67	0·02	0·05
Leeds	285118	13·2	217	155	47·0	31·0	38·2	2·33	0·05	0·13
Sheffield	267881	13·6	232	137	46·8	27·5	36·4	2·44	0·01	0·00
Hull	133932	36·8	105	66	45·0	26·0	35·8	2·12	0·06	0·15
Sunderland ...	106342	32·2	94	64	...	...	...	...	...	...
Newcastle-on-Tyne	137085	25·5	100	76	45·0	31·0	35·9	2·17	0·16	0·41
Edinburgh	211626	30·5	121	101	...	...	...	...	...	...
Glasgow	531765	88·1	424	360	46·8	25·3	36·8	2·67	0·06	0·15
Dublin	314666	31·3	176	174	52·9	27·6	40·3	4·61	0·27	0·69
Total of 21 Towns in United Kingdm	7739490	37·0	5791	4194	55·9	24·3	37·0	2·78	0·06	0·15

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 30·05 in. The lowest was 29·81 in. at the beginning of the week, and the highest 30·41 in. on Thursday morning.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

THE LUMLEIAN LECTURES:
ON LIFE AND ON VITAL ACTION IN HEALTH AND DISEASE.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS, LONDON.

By LIONEL S. BEALE, M.B., F.R.S.,
Physician to King's College Hospital.

Lecture I.

[*Concluded from page* 305.)

Of Living Matter, or Bioplasm, and of Formed Material—Simplest Form of Living Matter—Bioplasm of Bacterium—Living Matter Structureless—Of Vital Movements peculiar to Living Matter.

Bioplasm and Formed Material.

The simple living matter of a microscopic fungus, like other forms of bioplasm, is clear, colourless, and structureless, soft, and, when growing quickly, almost diffluent. It is enclosed in a capsule of equally colourless formed material, which, however, is firm, and sometimes even hard. It varies in thickness under different circumstances. By pressure the capsule may be caused to rupture, and the bioplasm within may be squeezed out. When this simple organism is nourished, nutrient pabulum, dissolved in water, permeates the capsule of formed material, and comes into contact with the bioplasm within. The non-living matter then undergoes changes most wonderful, in the course of which it acquires the same properties and powers as the bioplasm, which already exists, possesses. The thickening of the capsule of formed material is effected by the deposition of new formed material, resulting from changes in the bioplasm upon the inner surface of the formed material already existing.

If the fungus particle is placed under favourable circumstances it will *grow*. The particle which is growing not only increases in dimensions, but, as already mentioned, manifests a tendency to separate into two or more parts. Sometimes the living matter exhibits little projections or diverticula from its surface, each of which, after a time, becomes detached and constitutes a separate particle, which may grow and divide like its predecessors. Now the phenomena I have, in very few words, imperfectly sketched—the taking up of pabulum by the living matter, and its conversion into bioplasm—the arrangement of the elements of the bioplasm prior to the formation of the formed material—the moving away of portions of the bioplasm from the rest, as occurs in the production of the buds or offsets—I hold to be *vital actions*, agreeing in all essential particulars with corresponding phenomena which occur in every known kind of living matter. These phenomena differ absolutely from any actions known to occur in any kind of non-living matter whatever. They cannot be imitated, and no actions known can be fairly said to exhibit any true analogy with them. These *vital phenomena* do not characterise the formed material, for the production of this corresponds to the death of the bioplasm. As the formed material is produced, bioplasm ceases to live, and no kind of formed material can *grow* and transform matter and direct its forces as living matter is known to do.

Bioplasm of Bacterium.

The living matter of the bacterium is probably the lowest, simplest form of bioplasm in nature. The entire organism is so minute as to be difficult of investigation. In 1864 I carefully examined bacteria under the one-fiftieth of an inch object glass, and was able to demonstrate that, like the lower fungi, the bacterium consisted of bioplasm, with a layer of formed material upon its surface, as was proved by carefully crushing a very large bacterium while under observation. The membrane was ruptured, and not only was the bioplasm seen to escape, but it exhibited vital movements when free from its envelope.

Bacteria are for the most part elongated and of an oval form, and frequently the little staff-like particle exhibits a transverse line, or is constricted at or near the centre, indicating a tendency to divide at this point. In this way the division and multiplication of already existing particles take place. Bacteria vary much in size, some being as much as the $\frac{1}{3000}$th in length, others so minute as to be visible only with the aid of the one-fiftieth of an inch object-glass. I have figured some less than the $\frac{1}{10000}$th of an inch in diameter.

The germs from which the little particles spring are far more minute, and more difficult to identify. They appear as minute specks, the largest of them exhibiting a circular outline and probably being spherical. The smallest are too minute to be discerned with the highest magnifying powers at our command. If a specimen of fluid, in which these particles are rapidly growing and multiplying, be carefully examined, many new points will be observed to appear from time to time. After watching with great care for a considerable time a given spot, I have assured myself that new particles actually come into existence; and that one does not, after intently watching for a time and concentrating the attention upon a certain space, merely see one coming into view after another, as star after star.

The material in which the minute germs of bacteria are embedded, and which, at least in part, consists of formed material produced by the bacteria, is much softer than the matter of which the capsule of fungi consists. It is perhaps almost as soft as mucus. I believe that even the most minute bacterium germ is surrounded by a layer of such soft formed matter, in which very minute particles of bioplasm divide and subdivide before they attain even the $\frac{1}{10000}$th of an inch in diameter. When, therefore, bacteria, in an early stage of development, dry, it is not possible to identify them. When moistened the dry mass swells up, and the bioplasm in the soft mucus-like matter grows, each particle producing a fresh investment of formed material; and then, if the conditions are favourable, the germs either at once divide and subdivide for a time, or grow into perfect bacteria, which move freely and grow and multiply in this more advanced stage of development.

It would be difficult to say where bacteria germs do not exist. In air, in water, in the soil, adhering to tiny particles of every kind—in every region of the earth, from the poles to the equator, they are to be found. At all periods of the year they retain their vitality. Extreme dryness does not destroy them, and they withstand a temperature far below the freezing point. Under adverse circumstances they remain dormant, and are not destroyed by a degree of heat which is fatal probably to every other living organism. Dr. Bastian tells us that living germs of bacteria are destroyed at a temperature of 160°, but others are of opinion that at least, under certain circumstances, bacteria germs do not die at 212°, and may increase and multiply after having been exposed to this degree of heat.

In the substance of the tissues—nay, in the cells of almost all plants, and in the interstices of the tissues of many animals, bacteria germs exist. I know not what part of the body of man and the higher animals is entirely destitute of particles which, under favourable circumstances, develope into bacteria. Upon the skin and the surface of mucous membranes they exist in profusion, and they abound in the mouth and in the follicles and glands. Changes in the process of digestion are soon followed by the multiplication of bacteria in every part of the alimentary canal, and within a few hours countless millions may be developed. They multiply in the secretions, under certain circumstances, almost as soon as these are formed, and I have adduced evidence to show that bacteria germs exist even in healthy blood. In the very substance of some cells I have seen them, and in many cases, in which little granules have been discerned in connexion with bioplasts, there is reason to believe that some of them are really bacteria germs, passive so long as the higher life is maintained in its integrity, but ready to grow and multiply the instant a change favourable to them and adverse to us shall occur.

As the germs of bacteria are found in healthy tissues and organisms, and grow and develope into bacteria when disintegration and decay occur, we shall not be surprised at their existence in disease. Bacteria prey upon morbid structures and upon the substances resulting from the death of morbid bioplasm. They are found in great number among pus-corpuscles which have ceased to live, and they grow and multiply with great rapidity in fluids which contain disease germs as soon as these begin to lose their specific powers and to undergo decomposition. In the tissues and fluids of the body altered by fevers, they are abundant, and exist, as is well known, in many instances during life. In the evacuations of cholera—and not only of cholera—they are very numerous, and in the columnar epithelium of the small intestine I

have found many. In all parts of the bodies, in the fluids and amongst the solid tissues of animals destroyed by cattle plague, bacteria were present in varying number.

Germs so minute as those of bacteria are constantly passed over, and until they have grown somewhat it is not possible to identify them. This circumstance has led some to suppose that they are really formed anew from non-living matter, or from a substance in a transition state, which is neither living nor dead. But such a view is not supported by facts at present known, nor is there anything to justify any other conclusion than that all matter is either living or not living.

Living Matter Structureless.

As far as can be ascertained by examination under an amplifying power of 5000 diameters, living matter throughout nature is colourless and *structureless*. Of course it may be mysteriously suggested that living matter may nevertheless possess structure, though no one can see it. Water *may* possess structure, but in such a suggestion the word "structure" has a meaning assigned, different from that which is implied when the "structure" of tissues is referred to. No "structure" which can be conceived to exist in bioplasm can possibly account for its properties and actions. Neither is it in the least degree probable that, could we magnify it to any extent conceivable, any "structure" would be revealed, or that from the appearances described we should be able to explain how tissue and other things were formed from bioplasm, or why one kind of bioplasm forms dog, another sheep, and another man.

All the evidence I can collect is in favour of the conclusion that the powers of bioplasm do not depend in any way upon characters that can be fairly termed structural, and I cannot help fearing that some of my contemporaries, biased by previous education and influenced by the pressure put upon them by one or two scientific authorities, have consented to adopt views which, they will find, cannot be supported by facts or argument.

Not only does living matter exhibit no indications of structure, but the highest known form of living matter could not be distinguished from the lowest, and the lowest is not more unlike non-living matter than is the highest. One is, in fact, just as near and just as far from inorganic matter as the other. It has been said that certain organisms only differ from a fragment of albumen by their granular character, but the statement is not correct. In the first place, a granular appearance is not characteristic of living matter. If granules are discerned in it, they are not essential, and are at least as likely to be lifeless as they are to be living particles. Living matter is, in fact, as free from granules as a fragment of the purest albumen. Secondly, the differences between any fragment of albumen and any living particle are enormous—but of a kind quite distinct from that suggested in the above statement.

If a portion of pure bioplasm be carefully examined with the highest powers at our command, and under the most favourable circumstances as to illumination, it will be found to be entirely devoid of granular character. Clear, transparent, and colourless, there will not be discernible in any part of it the faintest indication of structure. Nay, if motionless, its presence can only be recognised by the fact of it being a very little less perfectly transparent than the fluid which surrounds it, and by its refracting property being slightly different from that of the medium in which it lives.

The suggestion so often made, that the relation between living and non-living matter is a close one, is as entirely groundless as the further suggestion that before very long the exact nature of the relation between the two will be cleared up and the chasm between the living and the non-living bridged over. Neither is there anything to justify the statements made for the purpose of inducing people to believe that the non-living passes into the living by insensible gradations of some kind. There are many characters in which the living differs absolutely from any form of non-living matter yet discovered. One broad essential character distinctive of all living particles is a remarkable capacity of movement which has not been adequately accounted for, and I therefore propose to direct your attention to the movements peculiar to living matter.

Of Vital Movements.

Every form of living matter exhibits certain movements, the nature of which has not been determined. The remarkable movements of the common amœba, of the mucus-corpuscle, of the pus-corpuscle, and of the white blood-corpuscle, are familiar examples of vital movements, and these can be seen and studied by anyone who can use an object-glass magnifying 500 diameters or upwards. But every nutritive act, every form of increase and multiplication, each kind of growth, the production of buds or offsets, the development, the formation, and increase of every tissue, involves active movement of the particles of which living matter is composed. Vital movements affect every form of living matter from the very lowest, supposed by some to have been formed direct from the non-living, to the very highest which is concerned in the development of man; but in certain instances only can the movement be actually seen to occur under the microscope. By very slight alteration of the conditions existing during life the movements may be caused to cease, but in many cases in which no movement has been seen we have other evidence that it has occurred. Vital movement, there can be no doubt, accompanied the first dawn of life, and will continue to characterise living matter to the end of time. In fact, vital movements are essential. Their cessation is coincident with the cessation of life. Without them life is not conceivable; and it is equally impossible to conceive any form of matter, not in a living state, which manifests movements like those which characterise life.

I propose to consider the subject of vital movements under the four following heads, viz.:—

1. Vital movement which may affect every part of a mass of living matter.
2. The movement of the constituent particles of a living mass, which takes place in a direction from centre to circumference.
3. Movement of one portion of a mass of living matter from the rest.
4. The movement of a mass of living matter from one place to another.

Lastly, there are certain movements which are indirectly due to the vital movements of bioplasm, such as ciliary action, some movements connected with nerve actions, the movement of certain solid particles in cells, etc., but these will not be discussed here, as I desire to restrict myself, as far as possible, to the consideration of the nature of the intimate changes in living bioplasm only. Neither shall I enter into a discussion concerning the nature of "contractility," which has, by some, been considered to be vital in the same sense as the movements which I am about to describe. I have, however, adduced reasons for removing contractility from the category of vital movements. I shall, therefore, only remark that contractility as it occurs in muscle is essentially distinct from the changes now to be discussed, and I may state that I have referred to this part of the subject in my work on "Protoplasm," third edition, page 209. The original paper was published in the *Transactions of the Microscopical Society* for 1866.

1. *Vital Movements which may affect every part of a mass of Living Matter.*

These movements are undulatory in character, and may be seen in many forms of living matter. The wave-like movement gives rise to continual changes in the thickness of the mass, which, as a whole, may remain quite stationary. If the margin of the mass of living matter be studied, its outline will be observed to continually alter; a slight bulge at one place, a slight depression at another. In a few moments, perhaps, the part which projected will recede, and that which was depressed will become prominent, but with no regularity, with no alternation of movement. Such changes may be seen continually proceeding over every portion of a mass,—in some cases occurring very quickly, in others so slowly that a specimen must be watched intently in one spot for some minutes, or the observer will fail to discern any change. In the amœba these movements are distinct enough, and can be studied without difficulty. The matter which moves is perfectly transparent and structureless. Granules suspended in it may be moved, but they are not the cause of the movement. Wave-like movements may be seen in young epithelial cells. I have seen them in epithelium from the throat and from the bladder of man, and I think there can be no doubt that they take place in living matter generally. In the white blood-corpuscle they have been studied by many. I have given a description of the movements as they occur in the mucus-corpuscle and in the pus-corpuscle, and have appended figures showing the changes observed during the course of a few seconds. I conceive that it is by movements of this kind that the little masses of bioplasm near the surface of the brain, which I believe are concerned in mental operations, act upon the delicate nerve-

fibres which are in contact with all parts of their surface. These are, I believe, the instruments through which the will operates upon the nerve-apparatus by which its mandates are rendered evident.

2. *Movements of the Constituent Particles of a Living Mass which take place in a Direction from Centre to Circumference.*

The actual movements referred to under this head cannot be seen, for they may take place slowly, and affect particles too small to be seen with the highest powers. But that motion in the direction indicated does occur seems to me to be conclusively proved by the fact that in some spherical masses of growing bioplasm, which are increasing rapidly, a new centre (nucleus) appears in the very centre of the mass. After this has grown for a time, another new centre (nucleolus) appears in the centre of the first. The new growth originates centrally, and a newer growth still more centrally. This involves a movement of constituent particles outwards. Now, if bioplasts, in which this change is actually proceeding, be coloured with an ammoniacal solution of carmine, which in some instances may be effected in a few seconds, the remarkable fact will be observed that the new centres have been stained most deeply, although these are situated at the greatest distance from the surface in contact with the coloured solution. All "nuclei" and "nucleoli" are new centres of growth, and invariably consist of living matter. An oil globule may be formed in bioplasm, and may be called a nucleus or a nucleolus, but the formation of such a body is of no importance. It ought never to have received the name of nucleus, and no one ever pretended that all nuclei were of this nature. True nuclei and nucleoli were considered of little importance, but if the evidence in favour of the view of their nature, here advanced, is correct, and I believe it to be incontrovertible, nuclei and nucleoli must be regarded as *vital centres* which have originated in centres of living matter already existing.

The movement outwards of the constituent particles of bioplasm is, I venture to think, the circumstance which determines the flow of the nutrient fluid in the opposite direction. The non-living pabulum, I think, flows to the centre of the particle of bioplasm. Certain of its constituents there begin to live, and then move outwards towards the circumference, their place being taken by new matter which reaches the centre.

3.—*Movement of one portion of a mass of Living Matter from the rest.*

This form of vital movement can be seen without any difficulty. A bulge appears upon the surface of a mass of bioplasm. This gradually increases and becomes pear-shaped. The projecting portion of the living matter moves away from the general mass, with which, however, it may remain connected for some time by a narrow pedicle. Such movement of living matter may be seen in the amœba, in the mucus-corpuscle, in pus-corpuscles, and in white blood-corpuscles, and many other forms of bioplasm. The bioplasm (nucleus) of the frog's red blood-corpuscle often completely divides into several portions, some of which I have seen make their way through the surrounding coloured material into the liquor sanguinis beyond. I have described the phenomenon under consideration as it occurs in the growth and multiplication of yeast, and also in the growth of the mycelium of fungi. What determines the precise spot upon the surface where the formation of the bud or outgrowth commences it is difficult to say. It may be that the first movement takes place where there happens to be least resistance, but certainly it does not necessarily begin at the lowest point or at the highest, or at that part which happens to be nearest to the light, or at that most distant from it. The outgrowth does not usually contain a visible new centre, but its growth soon becomes accelerated, and the rate of formation of new bioplasm in the bud greatly exceeds that of the rest of the mass.

4.—*Movement of a mass of Living Matter from place to place.*

This form of vital movement is also to be seen very distinctly, and so many instances of its occurrence have been recorded, that it must be considered an attribute of bioplasm generally. In many cases, though the movement may not be seen, the evidence of its occurrence is nevertheless most conclusive. Not only amœbæ and allied forms, destitute of locomotor organs, move actively, but many of the bioplasm particles of man and the higher animals may be seen to move from one situation to another under the microscope. The movement of entire mucus-corpuscles, white blood-corpuscles, and pus-corpuscles over a space equal to more than twice the diameter of the corpuscle has been seen by me many times, and I have described the phenomenon in more than one of my works.

In white fibrous tissue, in muscle, nerve, yellow elastic tissue, and some other textures, there is distinct evidence of the movement of the formative bioplasm during the formation of the tissue. In some instances I have satisfied myself that an elongated mass of bioplasm has divided longitudinally or obliquely into two parts, which have moved away from one another in opposite directions, one forming the upper and the other the lower part of the same fibre. The thickening of many fibres results from the formation of new matter from the oval mass of bioplasm as it moves backwards and forwards upon the surface. Before 1861, I demonstrated the bioplasm of yellow elastic tissue, which had not been previously observed, and showed that new tissue was formed from the bioplasm as it moved over the surface of the fibre.(a) In some cases the bioplasm is prevented from moving from place to place in consequence of being imprisoned in a cavity, but it may continue to move actively nevertheless. Thus, in many plant-cells the bioplasm moves round and round the circumference just within the cell wall. In many cases the direction of rotation is that of a spiral, and formed matter, produced by transformation of the bioplasm, is deposited during the movement. The result is a spiral, or double spiral raised line of secondary deposit in the interior of the cell. Sometimes bundles of fibres are formed by the movement of the bioplasm in the interior of a cell after the "cell wall" has been formed. The fibres of the cells of the cartilage of the epiglottis are produced in this way, and I have seen the bioplasm gradually tapering so as to form a delicate fibre, which seemed to have been spun off, as it were, from the bioplasm as it moved round and round the cell cavity.

Of the several primary vital movements I have described none can be imitated. They are peculiar to living matter, and not one of them has been explained by physical law. No mere physical or chemical attractions, or repulsions, on the part of any material particle at all resemble vital movements. Neither can these be adequately accounted for by attributing them to changes in the environment, for no conceivable changes outside would cause such movements. Nor is there any *machinery* in bioplasm to explain the movement.

Of the several movements of living matter, I believe those which affect the ultimate living particles of bioplasm never cease. That moving of matter from centre which involves the moving of pabulum in the opposite direction, I believe to be an essential phenomenon of life. The movement of living particles amongst one another, the movements of a portion of a living mass from the rest, the movement of a living mass as a whole may entirely cease, but I cannot conceive the cessation of motion in a vital centre. The rate of movement certainly varies very much. At one time it may be very rapid, at another it may take place very slowly, but I cannot imagine absolute cessation of movement in the direction indicated, even for an instant, and its recurrence in that same centre.

I beg you to carefully consider the evidence upon which the views I have advanced are based. It has been affirmed that the phenomena occurring in the simplest living matter are not far removed from the phenomena of the non-living, and like these are to be explained mechanically; but only the assertion, not the explanation, is forthcoming. If but one class of these movements of living matter can be accounted for by any laws that are known, can you not insist that the laws be stated, and that it be shown precisely by what means the particles of a living mass that is alive are enabled to move in any direction with equal facility? The particles uppermost in a mass of bioplasm do not move downwards more easily than those at the lowest point move in the opposite direction, neither do the roots of the tree grow into the soil with greater force than its stem shoots upwards.

In this lecture I have shown that in all parts of all living beings, at every period of life, are numerous masses of structureless living matter. From the lowest forms of life to the highest this living matter or *bioplasm* manifests certain phenomena which cannot be accounted for by physics. Among these purely *vital phenomena* I have included certain movements which have not been accounted for. These movements are *vital*, and, as I believe, due to a peculiar power of "*vitality*."

In my next lecture I shall discuss the constitution of this living matter, try to show that the distinction between it

(a) "The Structure of the Simple Tissues," 1861, p. 118.

and matter in every other state is *absolute*, and endeavour to convince you that the construction of every living body is primarily due to vital rather than to physico-chemical actions.

LECTURES ON EXPERIMENTAL AND PRACTICAL MEDICINE.

By BENJAMIN W. RICHARDSON, M.D., F.R.S.

ON THE SCIENCE AND ART OF EMBALMING.

Lecture III.

(*Concluded from page* 112.)

On Embalming under certain Difficulties arising from Diseased Conditions of the Subject.

Some difficulties in carrying out the process of embalming are met with in certain cases of organic disease. These are cases of—(*a*) disorganisation of the tissues, (*b*) exudation of serum, (*c*) morbid growths of large size, and (*d*) changes in the arterial vessels which prevent them from bearing the force of the injection.

I have been embarrassed by each one of these difficulties, and I am not satisfied as yet of having learned the best modes of meeting them, for experience in this art of embalming is gained very slowly. However, I will explain briefly the little I have learned.

The cases in which there is disorganisation of tissue are usually those of phthisis pulmonalis, in which there is a large cavity in one or both of the lungs. There may be analogous cases of difficulty, but I have not met with them. It happens, under these circumstances, that when the preserving fluid is being forced over the arterial circuit, it escapes into the cavity, causing a sound in the chest with each stroke of the bellows or piston, which sound is quite audible. After a time the fluid, if it be still pressed on, rises into the trachea.

In all instances where there is destruction of tissue in the substance of the lung, special care must be taken to inject the preserving fluid into the artery with extreme gentleness, and in this manner the injection may be completed without rupture. In one case of this kind, in which I was assisted by my friends Messrs. Peter Marshall and Hadaway, I succeeded perfectly in injecting the whole body from the brachial artery.

If rupture occur in the lung, the course to be pursued is plain enough: the thorax must be laid open, a ligature must be passed round the root of each lung, and the injection must be carried out through the aorta as already described.

Infiltration of the tissues with serous fluid is one of the most determinate obstacles to success in the embalming process. When it is met with the fluid in all the cavities must be entirely removed, and the aorta must be fixed upon as the vessel through which to inject. Even then it is with the greatest difficulty that the injection can be forced on when the anasarca is great, for the preserving fluid causes coagulation of the albumen of the effused fluid, and the coagulum obstructs. The greatest force applied to the syringe in these instances fails often to make the injection flow freely; and if punctures be made, to let out the exuded fluid, the injection also escapes by them. I have had one case of this character, and although, after many hours of injection through the different vessels, success was attained, the difficulties were unusually great. If another such instance should occur to me, I should give up injection by the arteries, and should carry it out by subcutaneous injection of the preservative solution into the cellular tissue from several hundred points of injection.

When large morbid growths lie in the way of the embalming process, there is one simple course to pursue: the growths must be removed, with the whole of the organ or of the organs in which they are developed. The injection of the solution must afterwards be carried out through the arteries by several injections, as already directed.

Lastly, in those instances in which there is disease of the arterial tubes themselves, and such softening of them that they bear with difficulty the force of the injection, the plan is to allow the injection to diffuse in the slowest manner and at the lowest possible pressure. The force of the injecting pump or of the bellows should not be employed at all. The injection, in these examples, should be made through the aorta at the commencement of the arch; and if at this point the vessel should give way, the tube must be re-inserted, and tied at another or at other points of the arterial circuit. When in any of these examples of difficulty the process of injection is completed, the after-steps of the embalming are the same as have been described in the earlier part of the lecture.

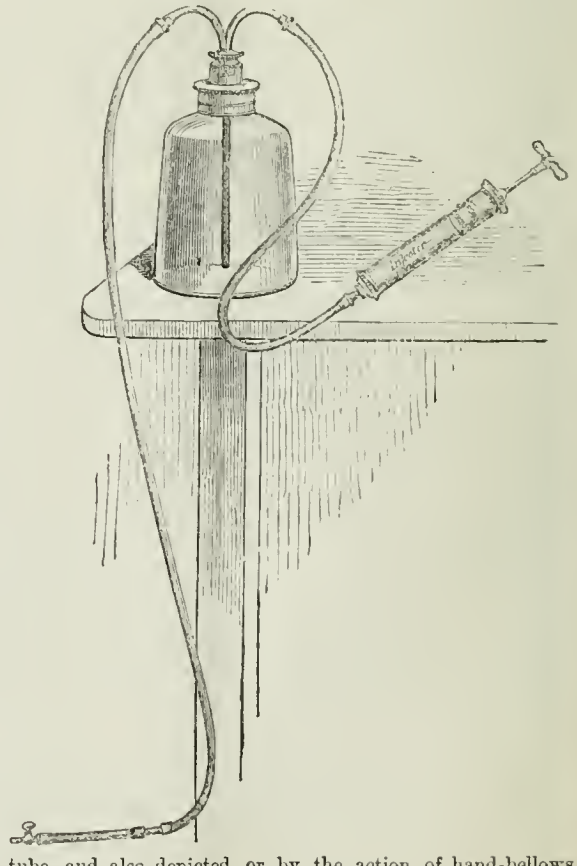
Details after Embalmment.

After the body is perfectly embalmed, and the openings that have been made into it have been neatly closed, it should be swathed very evenly in bandage that has been saturated with carbolic or zinc colloid. The bandaging should commence at the feet, each lower limb being separately encased; above the hips the bandages should cross, and should be passed in alternate crossings so as to encase the trunk quite up to the neck. At this point they should again be made to diverge, and should be each extended down the arm on either side to the wrists, where they should terminate. The hands and face are thus left exposed.

The attendants may now clothe the body, and dress and arrange the hair as they please; which processes finished, the removal of the body to the shell in which it is to lie should be effected as quickly as is convenient. Should it be intended to convey the embalmed body by sea, one additional precaution is essential: the shell must be closely packed between the body and the lid with layers of blanket or pillow. If this be not done there will ensue from the motion of the ship concussion and extreme disfigurement.

Conclusion.

In concluding this lecture, I have only to add a diagram of the injecting-bottle that is most ready for the purpose of embalming. The bottle holds six pints of fluid, and it is fitted into a basket, by which it may be carried ready charged. The neck is provided with tubes, which act like those of a Wolfe's bottle. In use, the hollow needle that is passed into the artery is connected with the long india-rubber tube with the tap attached, shown in the drawing. Then, by the action of the syringe attached to the other



tube, and also depicted, or by the action of hand-bellows, the fluid contained in the bottle is pressed readily over the arterial circuit. This bottle, I may remark, is practically very useful for a variety of other purposes than embalming. It can be used for administering an enema, and, by changing the forcing for an exhausting syringe, it can be transformed

into a very perfect aspirator. I am much indebted to Messrs. Krohne and Sesemann for the intelligence and skill they have again brought to bear in carrying out my designs for these contrivances.

I hope I have now placed before the profession a complete and easily understandable description of the modern art of embalming—such a description as anyone who can make a post-mortem examination can act upon, if he be called to embalm. I hope, also, I have closed the careers of those pretenders who would make a simple art a profound mystery.

ORIGINAL COMMUNICATIONS.

CASES OF OBSCURE NERVE DISORDER.

By C. HANDFIELD JONES, M.B. Cantab., F.R.S.,
Physician to St. Mary's Hospital.

(*Continued from page* 628, *vol.* ii. 1874.)

Case 11.—*Ulcers, probably Syphilitic—Aphonia*

J. B., aged twenty, female, single, admitted September 12, 1874. Short, of broad build, not anæmic; sent up from the country. Catamenia regular; pulse feeble, languid; skin cool; appetite not good. Has been unable to speak above a whisper for more than seven months, and has had sores on her left leg four months. At inner side of leg, a little above the ankle, there is a small separate sore, besides a group originally consisting, as it seems, of three, but two have coalesced. They are enclosed by a thickened area of dull red skin; they look cachetic, and not in process of repair; are rather deep, and produce a watery secretion. She says that her leg was all in a blister at first, from her knee to her foot; the sores came after. No mechanical injury to leg. The epiglottis appears normal, but the lining membrane of the upper opening of the larynx is red and somewhat swollen. The aspect of the ulcers was suggestive to me of a specific cause—viz., syphilis; and in this view two other good observers coincided. No other indication of syphilis was detected, unless the laryngeal hyperæmia should be considered as such. Under tonic remedies, including small doses of opium, which were administered for the first nine days, no improvement took place; on the 21st the ulcers were deeper and more sloughy. Pot. iod. was then given, at first in gr. v. doses, increased soon to gr. x. By October 5 some, but not much, improvement had taken place. She was now ordered Plummer's pill, gr. v. ter die, and on the 12th ung. rubrum mitius as a dressing to the sores. The report on the 19th is that the ulcers are healing well; on November 2 they were just well. The pills had been taken up to October 26. From October 12 to 26 she took ferri et quin. citrat gr. xx. ter die, and for five days previous strychniæ gr. $\frac{1}{20}$ ter die. All this time the voice continued soundless or whispering; once only, when the sister pricked her accidentally, she spoke out loud. From October 26 to November 16 I tried assafœtidæ gr. x. in pil. ij. 2dis horis for six days; then ferri sulphas gr. x.—xx. ter die for seven days; then atropiæ gr. $\frac{1}{150}$, acid. nitrici ℥j., aq. ʒss. ter die for the rest of the time, with a nightly aperient of podophyllin gr. j., aloes gr. ij., ext. hyoscy. gr. j. ft. pil. The ulcers were now well, but the aphonia remained provokingly persistent, though in addition to the above means faradisation had been pretty thoroughly employed externally; and also, though less effectually, internally with Dr. Mackenzie's laryngeal electrode. I do not think the instrument was brought fairly in contact with the vocal cords, but probably with the transverse arytenoid and crico-arytenoid post. muscles. I now returned to the strychnia in the same dose as before, with ℥ij. acid. nit. In five days her voice was so much improved that it was quite audible ten yards off, and it continued as good, or even improved, until her discharge on December 1. The ulcers remained well. Her voice remained quite good until February 27, when she lost it again. I saw her on March 1, looking rosy and well, but aphonic. Strychnia was ordered again.

Remarks.—Three features of this case deserve some comment—(1) the ulcers, (2) the aphonia, (3) the general condition. That the ulcers were syphilitic is rendered very probable by the circumstance that they healed under the employment of mercurials locally and internally, but proved refractory to other medication. They were of tertiary character, and it is noteworthy that no other indications of syphilis seem to have existed, and that she had not the aspect of syphilitic cachexia. I do not think it was impossible that the syphilis was hereditary, having regard to the patient's bearing and character, and her good behaviour while in the hospital; but it is more probable that it was acquired in the usual way, as there had been thick yellow discharge on two or three occasions previously. The genitals examined by the ward sister presented no obvious signs of former lesion. The aphonia was, I believe, such as is usually termed hysterical, and depended essentially on a functional paralysis of the nerves and muscles concerned in phonation. Had it been the result of chronic syphilitic laryngitis there would have been more evident lesion in the larynx, and some decided improvement would have been effected by the mercurials. Though no apparent improvement ensued from the first administration of strychnia or from other tonics and electricity, I do not think they were useless. They contributed to amend the nutrition of the nerves and muscles, and so prepared the way for recovery. We are often too apt to attribute a result to the last agent employed, without taking into count those which have preceded it. No doubt some will regard the recovery as spontaneous, but, as far as I could discover, no other agencies than medicinal were at work; and hysterical aphonia is apt to be very persistent, if some measures are not employed to break the spell. Besides, strychnia is quite a rational remedy for states of functional paralysis. That the patient's *morale* was good, and that defective volition had no more to do with the aphonia than with the ulcers, I fully believe. The general condition was one of evident depression: a feeble, miserable pulse, with a cold, dull red skin, told of a languid circulation, which imperfectly ministered to the needs of the nervous system especially, and rendered it prone to lapse into functional paresis. Like enough, also, her circumstances in a poor country village were not of the most cheerful or invigorating kind. Add to this the existence of syphilitic taint, however contracted, as a further impairment of vitality, and we have probably enough to account for aphonia, or any other nerve disorder. That in this condition, and with tertiary ulcers, mercury should prove successful, while pot. iod. failed, is an exception to the accepted rule, but not, I think, a very rare one.

NOTES ON A

CASE OF DIPHTHERIA FOLLOWED BY PARAPLEGIA—RECOVERY.

By W. J. H. LUSH, M.R.C.S., L.R.C.P.,
Associate of King's College, London; formerly Resident Medical Officer to St. George's, Hanover-square, Dispensary.

On April 12 I was sent for to attend Jane B., aged thirty-one, single, who, I was informed, was suffering from a bad throat, and had great difficulty in swallowing. On visiting her I made out the following history:—She had not been feeling well for the last four days; complaining of headache and nausea, with occasional chilliness, and a sense of stiffness about the neck. She did not give up her occupation, which was that of a laundress, thinking she had caught a severe cold, and that she should soon be well again; but as she continued to get worse, she sent for advice.

Patient was a robust woman, of full habit, and given to intemperance. On examining the throat, I saw that the pharynx and tonsils were much congested, and that on both the latter were spots of diphtheritic membrane. The voice was hoarse, and she complained of difficulty in swallowing, but of very little pain. The breath was very fetid; there was an excessive secretion of saliva; and the glands under the lower jaw were hard and very tender. The pulse was 98, small and weak; temperature 99·5°; respirations 34, very laboured. The bowels had been opened on the previous day. She passed a fair amount of urine, which on examination was found to be slightly albuminous. She was ordered the following mixture and gargle:—℞. Tinct. ferri mur. ʒiij., sp. chloroformi ʒjss., glycerini ʒij., aquæ ad ʒviij.; one-sixth 6tis horis. ℞. Acidi hydrochlorici diluti ʒiij., infusi rosæ acidi ad Oj., to be used frequently as a gargle. I also administered the atomised spray of the muriated tincture of iron twice a day. Beef-tea, milk, and eggs to be given *ad libitum*, together with six ounces of brandy in the twenty-four hours.

April 13.—Countenance pale, and the expression anxious;

pulse 102, weaker; temperature 99°; respirations 32. The diphtheritic membrane on right tonsil had increased in size, and there was still great difficulty in swallowing.

14th.—Patient much weaker. Passed a restless night; diphtheritic membranes not increased in size. She complained of pain in the right leg, and on looking I found she had a varicose ulcer about the size of half-a-crown, which presented a sloughy appearance; linseed-meal poultice sprinkled with laudanum to be applied to the ulcer. Bowels confined, so half an ounce of castor oil was given; urine still slightly albuminous. Mixture and gargle to be continued, as also the atomised spray. Brandy increased to eight ounces.

15th.—Condition much the same, but suffered during the night from vomiting, so iced soda-water and milk were ordered; had also a slight attack of epistaxis; bowels acted freely.

16.—Seems rather better. No return of the vomiting since taking iced soda-water and milk. The slough on the ulcer had come away, leaving a healthy surface; the ulcer to be dressed with lotio rubra. Takes nourishment well, and has less difficulty in swallowing. Pulse 96; respirations 28; temperature 98·5°.

17th.—Feels much stronger, and had passed a better night. Membrane on left tonsil has come away, leaving a healthy-looking ulcer; breath still very fetid. Ordered a solution of permanganate of potash to wash the mouth out with. Pulse 94, weak, but even; respirations 26. Brandy decreased to five ounces.

From this date all the symptoms gradually lessened in severity, and although still very weak she was evidently making a good recovery; but when I saw her on April 26 she complained of a sensation of coldness and loss of power in the lower extremities. Fearing that the troublesome though comparatively common result of diphtheria—viz., paralysis of the lower extremities—was coming on, I ordered her the following mixture:—℞. Tinct. ferri mur. ʒ ij., ether chlor. ʒ jss., liq. strychniæ ♏xl., aquæ ad ℥viij.; one-sixth ter die. I also employed the galvanic current.

I visited her again on April 27, and found there was almost total loss of power in both legs; there was only slight loss of sensation. She was unable to pass her water, and on percussion finding the bladder distended, I passed a catheter and drew off a quantity of clear light-coloured urine which was free from albumen. The galvanism was continued daily, and also the steel and strychnia mixture—the liq. strychniæ being increased to ʒ j.,—and under this treatment the patient gradually regained power in the paralysed extremities, and was also able to pass her water without difficulty, and at the end of six weeks was, comparatively speaking, well.

The above case, though by no means a rare one, presents, I think, one or two points of interest:—

1. It shows the great value of stimulants and tonics in cases of toxæmic poisoning. Unfortunately, we have, at present, no specific remedy to rely on in the treatment of such cases; and all we can hope to do is by the free use of tonics and stimulants to support the patient's strength during this most lowering disease. It may be said that I gave brandy in excessively large doses; but, taking into consideration the intemperate habits of the patient, I think it would have been worse than useless to have given it in smaller quantities.

2. It shows the great advantage of using the atomised spray in preference to sponging the parts with any solution, or touching them with any solid application. It is a well-known fact that, if the diphtheritic membranes be forcibly removed, which is often the case in using a sponge or brush for the application of any solution, they are nearly certain to return in a few hours, and, I believe, with much greater severity; whereas, by using the atomised spray, we get all the advantages of the local application without any of the disadvantages of the rougher method of applying it.

3. It shows, from the state of the ulcer on the leg, which previous to the attack was in a healthy condition, that the diphtheritic poison affects the whole system, and that the exudations not only appear on the pharynx, tonsils, etc., but are liable to affect any sore or mucous membrane in other parts of the body.

4. It shows the great value of ice in cases of vomiting, especially when it is combined with soda-water and milk. In several cases of obstinate vomiting, I have found that, when the patient's stomach refused every other kind of fluid or solid, it was able to retain this remedy.

Fyfield.

ON THE EXTERNAL USE OF THE TINCTURE OF IRON IN ERYSIPELAS

AND OTHER FORMS OF LOCAL INFLAMMATION.

By A. CLARENCE FOSTER, M.R.C.S.

I WISH to direct the attention of my medical brethren to the immense utility of the tincture of iron, locally applied, in arresting erysipelas and many other external diseases when unattended by breach of surface. In simple cutaneous erysipelas, and also in the milder phlegmonous variety, it possesses the decidedly specific effect of subduing, almost at once, the morbid action. I have applied it in numerous instances, and always with the most satisfactory results. So far as my experience goes, it is in these cases incomparably the best external remedy ever used. It seldom happens that more than one painting of the same spot is required; and, having applied it, no other external agent whatever is needed. In scrofulous swellings of the neck its discutient properties are far superior to those of iodine; and where a puerperal breast or inguinal gland in the male has threatened to end in suppuration, the early use of the tincture, every other day or so, with a camel's hair brush has been sufficient to effect resolution, while in similar cases we find frequently that leeches, poultices, and evaporating lotions fail to prevent the formation of matter. Again, the remedy may be applied most advantageously in acute rheumatism, where any particular joint is especially swollen and painful, and also to the inflamed surface surrounding an unhealthy ulcer, or along the course of the absorbents when irritated by a recent, ill-conditioned wound. The well-known remedy, ink, as a domestic application in ringworm has long enjoyed a not altogether undeserved popularity, its curative effect being undoubtedly due to its ferruginous ingredient. Although the external use of the tincture of iron—first introduced by my father, I believe, some five-and-twenty years ago,—is now pretty common in the West Riding, yet its great therapeutic advantages, I have reason to think, are far from being sufficiently appreciated by the profession generally, and I am fully convinced that any surgeon giving the preparation a trial will be amply satisfied with the result.

Leeds.

REPORTS OF HOSPITAL PRACTICE

IN

MEDICINE AND SURGERY.

MISCELLANEOUS OPHTHALMIC CASES, WITH REMARKS.

GUY'S HOSPITAL.

(Under the care of Mr. C. HIGGENS.)

Case 1.—Neuro-Retinitis associated with Cyanosis.

JANUARY 21, 1873.—Jane S., aged nineteen. Has noticed the sight of the right eye failing for about fourteen days. Can now distinguish shadows; left eye unaffected. Her face is extremely blue, and she says the colour has been the same as long as she can remember. There is a systolic apex-murmur.

In the right eye the ophthalmoscope shows grey swelling of the optic nerve and surrounding retina, the margin of the choroidal ring being quite obscured. General haziness of the retina throughout; hæmorrhages situated chiefly in the region of the yellow spot; a dilated condition of the retinal veins, and contracted state of the arteries, all the vessels being more or less obscured. In the left eye there is some dilatation of the retinal veins, but no other change.

March 4, 1873.—In the right eye the optic disc is dead white; there is some atrophy of the choroid in the region of the yellow spot; the retinal blood-supply is much below par; there is no perception of light. Left Eye: Vision reduced to ½; the optic disc is intensely red; the choroidal ring somewhat veiled; the vessels of the retina, both arteries and veins, much dilated.

February 25, 1875.—Both eyes are in exactly the same condition as at last report. Left eye V=½.

Case 2.—Complete Amaurosis—No Morbid Ophthalmoscopic Appearances.

February 5, 1875.—James B., aged fifty. Twelve months ago entirely lost sense of smell, and had some kind of fits

(epileptic ?). Eight weeks ago sight of left eye began to fail, and was soon entirely lost. Two weeks ago the right eye was similarly affected. Is quite blind, not even having perception of light. The ophthalmoscope shows no change whatever.

March 1.—The ophthalmoscope shows marked pallor of the optic discs, the retinal blood-supply being unaffected.

Case 3.—Wound of Sclerotic.

July 20, 1874.—Henry P., aged twelve. Had blow on right eye four days ago. There is a wound of the sclerotic near the inner margin of the cornea. The wound gapes, and the vitreous protrudes beneath the conjunctiva, which is not torn. T — 2. No pain. No sympathetic irritation. The anterior chamber is deep; the aqueous humour yellowish. Counts fingers. The wound was closed with a single suture, and iridectomy performed.

July 23.—No pain. Still some slight gaping of wound. Aqueous chamber re-established. T nearly normal.

August 8.—Wound in sclerotic represented by linear cicatrix. T normal. Spells Snellen 2.

Case 4.—Glaucoma Fulminans.

December 9, 1874.—Catherine P., aged sixty-two. Three weeks ago, right eye was attacked in the night by sudden severe pain; there was also severe headache and vomiting. She imagined she had a bilious attack. All sight was lost by morning. Last night, the left eye, which till yesterday was quite good, was similarly attacked.

Right Eye: T + 3, pupil widely dilated, fixed; bare perception of bright light. Left Eye: T + 3, pupil dilated, fixed; perception of shadows. No details of the fundus can be made out in either eye from opacity of the vitreous.

Iridectomy performed upwards in both eyes. The iris in the right eye was found to be very rotten, and some difficulty was experienced in its removal.

December 14.—Both eyes T normal, can count fingers.

January 4, 1875.—Some return of increase of tension. Iridectomy performed downwards in both eyes.

February 15.—Both eyes T normal; reads Snellen 3 at eight inches with ease. The right eye appears rather the better of the two. The ophthalmoscope shows no change. The visual field is only slightly contracted.

Remarks.—Case 1 is interesting as showing for what a considerable time a condition of hyperæmia of the optic nerve and retina, verging on inflammation, may exist without further change taking place. When, in March, 1873, I saw the condition of the optic nerve and retina above mentioned, I was quite satisfied that the left eye would shortly be in the same condition as the right; but, as stated in the report, in February, 1875—nearly two years since the condition of the left eye was first noticed—vision was the same, and no apparent change had taken place. Whether the neuro-retinitis was in any way connected with the cardiac affection, I am not prepared to say: it was not due to embolism. Case 2 is a good instance of a class of cases in which vision is lost quite suddenly, or fails entirely in the course of a few days; and in which the ophthalmoscope shows *at first* no change. I have, however, no doubt that this patient's optic discs, which are now becoming pale, will eventually present good instances of white atrophy. There is at present in the surgical wards of Guy's Hospital a somewhat similar case, in which sight was suddenly lost, the ophthalmoscope also showing no morbid change. The patient is a lad, aged eight, suffering from caries of the vertebræ. Case 3 shows the good result to be obtained by closure of wounds of the sclerotic by sutures. Iridectomy was performed, as there was a want of balance of tension between the aqueous and vitreous chambers. Case 4 is a good example of a rare form of glaucoma. It shows how quickly sight may be lost from increase of intra-ocular tension; also the relief which may be given by the performance of iridectomy. Should (as in the case reported) the symptoms return after one iridectomy, we should not be deterred from performing a second; and we may do this with every chance of success. Another point of interest is the length of time (three weeks) during which the retina was subjected to severe pressure, without the destruction of its function.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.

(Under the care of Mr. GEO. LAWSON.)

Case of Intra-Uterine Syphilitic Iritis.

A little girl, aged seven months, was brought to the hospital by her mother on March 9, because she said the left eye looked strange, and she was afraid that the child could not see with it.

On examination, there were seen all the well-marked appearances of an old attack of iritis. The pupil was contracted, and very irregular from numerous adhesions between the pupillary border of the iris and the lens capsule; and in the central portion of the lens capsule, in the pupillary area, there was an old deposit of lymph.

On inquiring into the history, the mother stated that the child had always been a very delicate baby, but that the eye had never been inflamed since birth. When one month old she suffered from what she called thrush, which was afterwards followed by an eruption about the nates and vulva.

Mr. Lawson remarked that in this patient there was no doubt that the child suffered from iritis in utero, which had run its course, and ended, as such cases frequently do, in a partially closed pupil; and that what the mother described as thrush was simply the aphthæ about the mouth which are so often seen in syphilitic children, and which was followed by the usual specific eruption of congenital syphilis about the nates.

ST. PETER'S HOSPITAL.

STONE IN THE BLADDER—LITHOTOMY—RECOVERY.

(Under the care of Mr. TEEVAN.)

BENNET S., aged sixty-three, farmer, was admitted into the Hospital on August 5, 1873, having been put under Mr. Teevan's care by Mr. Hughes Hemming, of Kimbolton.

History.—Five years ago, when the patient was riding in a cart, he noticed that he was often obliged to get down to make water, and on his return home the same night he passed some blood, and for ten days afterwards his urine was of a sanguineous hue. For two years he remained perfectly well, when small pieces of gravel began to pass. Two years ago he commenced to suffer pain when urinating, and was unable to ride in a cart if it shook much. On June 26 continuous hæmorrhage from the urethra set in, and persisted for a fortnight, although he was perfectly quiet at home when the bleeding commenced. On August 5 he came up to town, and suffered no pain on the journey, nor was there any bleeding. For some years past he has kept quiet, and done but little work. Has had rheumatism, but not gout. Patient was born in Buckinghamshire, and his parents in Northamptonshire.

Present Condition.—The patient is a very fat and healthy-looking man, but seems dispirited, and often cries for hours. So long as he keeps quiet he suffers but little pain, and his urine is clear and free from albumen.

On August 8 Mr. Teevan sounded the man, and found a stone, which gave forth a very clear distinct click when struck. No bleeding followed the manipulation, nor was there any irritation set up.

9th.—To-day Mr. Teevan passed a lithotrite, and found the stone to be about one inch and a half in one diameter, and rather less in the other.

On the following day hæmorrhage appeared, and, although it considerably abated on the third day, it continued for ten days almost uninterruptedly, notwithstanding the application of ice and the internal administration of iron and gallic acid.

September 1.—Patient is much exhausted through loss of blood, and looks blanched and wrinkled. Pulse 112. From this date he gradually improved in health, and September 15 was appointed for lithotomy. At 11 a.m. on that day an enema was administered to him, and half an hour afterwards bleeding reappeared, and continued for three days; but it was not so severe as the previous attack, and did not affect the patient's health. The patient stated that ever since he had been in the hospital he had passed a little blood after straining at stool or taking a short walk.

21st.—As the enema had on a former occasion occasioned bleeding, a dose of the confection of senna was given to the patient at bed-time.

22nd.—Patient's bowels were thoroughly well opened this morning. Ordered a basin of beef-tea at 11 a.m. Pulse 82. At 3 p.m. Mr. Daws put the patient under the influence of ether, and Mr. Teevan introduced a catheter staff, and gave it to Mr. W. J. Coulson to hold. After opening the bladder by the lateral method, Mr. Teevan tried to introduce his forefinger into the bladder, but found the perineum much too deep

and fat to permit of its being done; and accordingly inserted the end of a large probe-pointed director into the groove of the staff, and pushed it onwards into the bladder. The staff was then withdrawn, and a very slender fenestrated forceps piloted into the bladder along the director. The stone was at once caught, but when Mr. Teevan commenced to extract it, he found he had grasped it in the wrong axis, and had consequently to let it go and re-seize it. During the withdrawal of the calculus the wound was found to be too small to permit of the stone being taken out without laceration, and a probe-pointed bistoury was introduced, and the wound enlarged in a direction outwards and downwards. Very little blood was lost at the operation, and the patient had a good strong pulse when removed from the operating-table. The stone was of lithic acid, weighed barely one ounce, but measured three inches and seven-eighths in one circumference, and three inches and a half in the other. At 10 p.m. the pulse was 96, the skin cool and moist, and the tongue clean. Has been sick once. Suffers much pain from the smarting of the urine in its passage through the wound.

23rd.—Pulse 88; temperature 99·5°. Had a few hours' sleep last night. Bowels open twice. A small clot of blood came away through the wound.

24th.—Patient quite comfortable; had a good night. Pulse 84; temperature 98·2°. Edges of wound seem ecchymosed and everted.

25th.—Patient looks well. Two clots of blood came away through the wound.

26th.—Pulse 94; temperature 98·8°.

27th.—Pulse 88; temperature 99°. Nurse reported that some fæces escaped through the wound.

29th.—Pulse 84; temperature 97·3°. Appetite good. Edges of wound cleansing.

October 1.—Patient passed some urine per urethram to-day. Wound looks well.

7th.—Patient has had a cough for the last few days, and some fæces have escaped through the wound.

10th.—Cough much better. Sits up for a short time each day.

18th.—Wound fast healing. Patient is very well in all respects.

On November 8 the patient left the hospital for his home quite well, with the exception of a minute fistula, through which a small quantity of flatus and fæces occasionally escaped.

Many months after his return home, Mr. Hughes Hemming divided the fistula by means of the elastic ligature, and the patient is now (March 11, 1875) as strong and as well as he ever was.

Presentation to a Surgeon.—Mr. George Stratten Symmons, on his retirement from the post of Medical Officer of the Ledbury Union, which he had filled with great advantage to all parties whom he attended, was presented with a testimonial. This consisted of a black marble timepiece, two feet in length and fourteen inches high, and a purse of fifty sovereigns. The timepiece has a suitable inscription. There was a large gathering of the gentry of the neighbourhood, some poor-law officials, and poor persons. The Rev. J. Buckle in presenting the testimonial made some very complimentary and appropriate remarks, which were responded to with much good feeling and eloquence by Dr. Symmons.

Insusceptibility to Vaccination.—In reference to Prof. Zeissl's case of this (*Medical Times and Gazette*, March 20), Dr. Singer, who performs upon the average 500 vaccinations annually, and always from arm to arm, relates two instances which have come under his notice. The first occurred in a healthy, well-nourished infant seven months old, which in the course of three years was vaccinated five times, in three of these from arm to arm, and in two by original cow-pock lymph. No result whatever followed, although other children vaccinated at the same times and in the same manner exhibited the finest vesicles. In the other case, after five vaccinations had been performed in vain, on the sixth occasion the child was vaccinated in the right arm with original cow-pock, the vaccinating needle being used for two punctures and a lancet for the third. The left side was vaccinated in like manner with lymph from an infant's arm. On the fourth day the lancet punctures of both arms were surrounded by a bright red circle, which next day died away. This was not manifested around the needle punctures.—*Allg. Med. Zeit.*, March 9.

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Medical Times and Gazette.

SATURDAY, APRIL 3, 1875.

THE NATURE OF CONSUMPTION.

No. III.

Of modern researches bearing upon the nature of consumption, the most important are certainly those which have been made upon the artificial production of tuberculosis in animals.

Towards the end of the last and at the commencement of the present century some observations of this kind were made by physicians—Kortum, Hébréade, Salmade, Bichat, Lepelletier, etc.,—who, however, regarded phthisis as being but a form of scrofula, and whose experiments were accordingly made, for the most part, with pus obtained from scrofulous sores. Of these observers, Kortum, who published a commentary on scrofulosis in 1789, enjoys the unenviable distinction of having first endeavoured to inoculate a healthy infant, both by friction over the unabraded skin of the neck and by subcutaneous introduction, with scrofulous pus; and five-and-twenty years later these experiments were repeated by Lepelletier, who introduced the morbid pus with vaccine matter. Happily, in all cases these experiments were without result; and it is fair to add that Lepelletier, at all events, disbelieved in the contagiousness of scrofula, and that he inoculated himself with serum derived from a blister raised upon a phthisical subject without any result beyond slight local inflammation—an experiment he was willing to repeat.

In 1805, Salmade made some experimental observations, partly in conjunction with Bichat, in order to test the validity of his views respecting the non-contagiousness of phthisis: he inoculated animals with "tuberculous" matter derived from diseased lungs, but did not succeed in obtaining any secondary lesions. Lepelletier's experiments upon animals were more complete, or at least more thorough, but they all seem to have been made with pus only, derived from scrofulous persons, one of whom, it is true, soon afterwards died of phthisis. This matter he introduced into four guineapigs by every available method—by subcutaneous insertion, by the stomach, by injec-

tion into a large vein, and by inoculating the wound made in exposing the vein. Of these animals, two died within a fortnight, but no internal lesions were found; the other two were healthy ten weeks afterwards. These inoculation experiments by physicians in earlier times were not, however, sufficiently numerous, nor were they conducted with the necessary precautions, to render them of any but historical value; their object was to dissipate or confirm the strong suspicion that even then prevailed in the minds of many respecting the contagiousness of phthisis or scrofulosis. Being attended with no positive result, they were forgotten until the question to solve which they were undertaken was again revived and put to the test by Villemin in 1865, in obedience to a conviction at which he had arrived from other considerations respecting its etiology—that tuberculosis was a specific disease, due to a special virus which could be transmitted from man to man, as the virus of syphilis or small-pox could be transmitted. Bayle had similarly looked upon tuberculosis as a specific disease, the virus of which he also compared to that of syphilis; and Laennec regarded with some alarm, as being possibly tubercular and infective, an induration upon his finger, the result of a post-mortem scratch.

Villemin's important observations were very soon communicated to the Pathological Society of London by its then President, Mr. Simon, and attracted much attention. Mr. Simon at the same time brought forward the results of some experiments of his own in confirmation of their accuracy; and he has since, in his capacity of Medical Officer to the Privy Council, afforded opportunities for those researches upon the same subject by Dr. Burdon-Sanderson, which have most enriched our knowledge in this modern field of inquiry.

In his experiments Villemin introduced into the subcutaneous cellular tissue of twenty-two animals, rabbits and guineapigs, mixed grey and caseous tubercle; and all of them but four either died or were killed in from one to four months after the inoculation, grey granulations and tuberculous masses being found in every case, more or less extensively distributed through several of the following internal organs: the lungs, peritoneum, liver, spleen, kidneys, and lymphatic glands. Similar experiments with dogs, cats, goats, sheep, and fowls proved abortive, save in the case of one dog, in which characteristic lesions were found in many organs, showing that all animals are not equally susceptible of the poison, although perhaps none are exempt. On taking a second series of animals, and inoculating them with diseased matter taken from those first tuberculised, they with equal or even greater certainty died of the same disease. When, however, such non-tuberculous matters as pus or carbuncle were inoculated, Villemin obtained no tuberculosis.

These experiments lost in their repetition—which was soon undertaken by Andrew Clark, Lebert, A. Vogel, Herard and Cornil, Roustan, Feltz, Sanderson, Wilson Fox, Marcet, Waldenburg, and others—some of that definiteness of result which seemed at first directly to decide in the affirmative the question as to the specific nature of tubercle, although all the positive facts observed by Villemin were confirmed by the majority of the other experimenters, some amongst whom, however—Andrew Clark and Feltz,—demurred to the lesions arising from the inoculation being regarded as tubercular, whilst Vogel and a few others obtained either negative or only partial results.

One of the earliest additional facts elicited by these further researches, and which tended to diminish the simplicity and for a time to cloud the attractiveness of Villemin's discovery, was that pointed out by Dr. Andrew Clark—viz., that the matter inoculated need not be, in the first place, tubercular, and need not contain grey tubercle, in order to produce the characteristic disseminated lesions of animal-tuberculosis, for he, in two instances, had succeeded in producing them by the insertion of non-tuberculous matter. At about the same time, also, Lebert experimented upon a great number of animals with various substances introduced in different ways, and of eleven animals which he inoculated with what indeed he regarded as "tubercular matter" (but not in the sense of Villemin)—viz., grey granulation, caseous or chronic pneumonia, and other phthisical products—with uniformly successful results, he could not in any given case amongst them say, from the pathological results produced, whether he had inoculated the animal with pure grey tubercle or with some of the other inflammatory lesions. This has also proved to be the general experience of others. Lebert's other experiments, in which he introduced pus into the veins, or inoculated with expectoration, or with melanotic or sarcomatous or cancerous growths, were as a rule negative in their results, or productive of pyæmia or septicæmia, although in exceptional cases he succeeded in producing the characteristic disease, animal-tuberculosis.

These observations of Andrew Clark and Lebert, showing that animal-tuberculosis can be produced by the inoculation of certain non-tuberculous material, have been confirmed and still further extended by Drs. Wilson Fox and Burdon-Sanderson, who have shown that the same general disease may follow upon the introduction of setons of cotton or silk: and Dr. Waldenburg has produced it by the insertion of tuberculous or other matter that had been rendered inert by steeping, first in spirit, then in hot water or in fuming nitric acid.

The fact of such indifferent materials being capable, when inoculated, of setting up tuberculosis in animals, would tend to strengthen the position of those who have doubts as to this disease being identical with that which occurs in man. A minute examination into the structure and distribution of the lesions, however, leaves little room for such doubts as to their identity; and, on consideration, certain facts will diminish the importance we might otherwise attach to the somewhat weighty objection. And first of all let us remember that, although the inoculation of almost any morbid material, or even the long-continued irritation of a seton or foreign body, may give rise to one definite disease (tuberculosis) in animals—a disease new and strange to the animals (guineapigs) most used for experiment,—yet that the most typical grey tubercle, in very minute quantity, has been found to be the most potent in this respect, its effects, when inoculated, being almost certain. Then in all cases a certain considerable period of incubation must elapse before internal lesions can be found—a period which has not been very accurately determined, but which seems to be a fortnight, or longer. This incubation period, if we may so call it, appears, too, judging from Dr. Fox's tables, to have been much shorter when tubercle than when any other substance was inoculated. The distribution of the lesions in animals is strikingly like that of acute general tuberculosis affecting the serous membranes in the form of the miliary granule; the solid organs in the same form, either singly or conglomerate or in larger masses, arising from commingling with catarrhal or inflammatory products. It is singular, however, that the coverings of the brain—a favourite seat of tubercle in man—are never affected in animal-tuberculosis. In outward form and texture, in colour, firmness, and disposition to become cheesy in the centre, and in their close and intimate attachment to the tissues in which they occur, the granulations in animals are identical with those of human tubercle.

As regards their minute structure, it would suffice to say that no point of difference has been discovered by Dr. Fox or Dr. Sanderson, whose researches, from their minuteness of detail, and their authority and great unanimity, have placed this, among other points, beyond dispute. In minute structure, then, these small-celled miliary growths accurately resemble human tubercle: their lymphatic character, their

seat in the perivascular sheaths of vessels and in the peribronchial tissue and walls of the alveoli, their distribution in serous membranes, determined by that of already existing elementary lymphatic tissue, are those of tubercle. The comparatively wide area of alveolar thickening around tubercle in the lungs, and the remarkable obliteration of vessels, are features noted by Dr. Fox as common to both the animal and human disease. The lobular caseous consolidations, when they are present, as they often are, in the lungs of animals, consist of a combination of the tubercular element just mentioned with air-cells blocked by the epithelial products of an alveolar catarrh. This condition is minutely the same, and not macroscopically at all unlike what we may often see in human tuberculosis of a more chronic kind; and it has been remarked that the earlier the tuberculised animal is killed, the more miliary are the tubercular lesions found.

PUBLIC ANALYSTS.

The efficient working of any Adulteration Act will be obviously impossible if the disputes and differences of opinion which prevailed some time ago among public analysts are still to continue. Many suggestions have been made respecting the possibility of establishing a Court of Appeal, to which disputed analyses may be referred; but none of these suggestions have as yet met with much support,—and this for reasons which can be easily understood. The analytical work necessary for the careful examination of food and drink is of a special kind, and after the passing of the Adulteration Act of 1872 it was soon made manifest that the chemists were few and far between who had had much, if any, experience on the subject. New methods had to be devised, and it was only chemists accustomed to original research, and possessed of technical knowledge, who could master the difficulties which the detection of the various adulterants presented.

If the Government had appointed, or were now to appoint, official chemists as referees in disputed cases, these chemists would be obliged to resort for instruction to the published methods of men whose work they would be called upon to revise. This would seem very like a pupil revising the work of his teacher, and would afford further opportunity for the display of official inefficiency. The decisions of such referees would carry no weight, and the same kind of discontent and discredit would ensue which occur periodically when a Government Bill is introduced into Parliament replete with errors and incongruities, which sound scientific advice (if such had been sought) would have prevented from appearing. Undoubtedly, however, it is more than merely desirable that an ultimate court of reference should be constituted for the purpose of dealing with disputed cases of food analysis. We have already too often witnessed the spectacle of magistrates at their wits' end amidst conflicting nomenclatures and discordant results, and some effective step should be taken as soon as possible to rescue them from a dilemma which prevents the proper administration of justice.

As it is essential for the future progress of food analysis that the methods adopted should be simple and uniform, it is satisfactory to learn that the Society of Public Analysts have set to work in earnest to remedy many of the evils already existing, and which have caused so much public distrust. They have agreed to adopt certain well-considered standards of purity in articles of food, drink, and drugs, notably in the case of milk, any departure from which, in the samples presented to them, is to be the subject of prosecution. They have also agreed upon a definition of adulteration.

Three-fourths of the body of public analysts in the United Kingdom constitute the newly formed Society. Their appointments have all been sanctioned by Government; their work is of a special kind, and requires special qualification and special knowledge. The men who form this Society are daily engaged in the actual work of food analysis, and among them we find some of the most eminent chemists in the country. It seems, then, that it is to this body we must look to provide in time the men who may constitute a final court of reference, the decisions of which would carry real weight, and, when given to the world in disputed cases of moment, would not be likely to be invalidated by public criticism.

The necessity of making the final appeal to those educated and practised as analysts is very apparent. When disputed points of law occur, the appeal is to those who have studied and practised in our courts of law, and who are still, though not as advocates, daily engaged on legal questions. As a Bench of Judges decides upon disputed points of law, so a Court or Department of Analysts would form a proper tribunal for the settlement of disputed cases of food analysis. The grounds of decisions arrived at might be made public by an official organ, and so valuable precedents would in time be laid down, which would govern many of the cases, and also assist the doubting magistrate when conflicting evidence might happen to perplex him. But, as in the case of the Bench, the Court of Appeal of Analysis must be constituted of experts and workers who are independent; they must be appointed and paid by Government, *i.e.*, by the nation; and must no longer practise for private clients. It has been recommended that the authorities of the Inland Revenue Laboratory should be the final Court of Appeal for disputed analyses; but though the authorities there have the recommendation of being independent of public favour, we take leave to doubt, to say the least, whether they have the requisite knowledge and skill for the constitution of a Court of Appeal that would command confidence and respect. The appeal, if it is to be satisfactory, must, we take it, be to a chemist and analyst, or to two or more chemists and analysts, of generally recognised eminence and distinction; and we are rather inclined to think that the required work might be extremely well, if not best, done by a Government laboratory, the responsible head of which should be the most distinguished, or one of the most distinguished, chemists of the day. A very few years ago there was a Government office of dignity, honour, and emolument, which used to be held by great chemists, as Brande and Graham; but by the grace of a "Liberal" and "economical" Chancellor of the Exchequer, *nous avons changé tout cela*, and after the death of Professor Graham the Mastership of the Mint as a separate and paid office disappeared. The Chancellor of the Exchequer became Master of the Mint, *ex officio*, and our struggling country saved £1500 a year. The Presidency of an Imperial Laboratory of Analysis, or of any otherwise named court of appeal, might, however, be made an office of such distinction and remuneration that chemists of the first rank would desire it; and if we are earnestly and thoroughly to attempt to put a stop to the adulteration of food, drink, drugs, etc., the office would be one of such importance and responsibility that even a "Liberal" Government would feel that it must be highly salaried.

The work alluded to as already done by the Society of Public Analysts affords good promise for the future. They meet frequently for the interchange of information on the analytical progress they are individually making, and we look to the Society as the training-school for English analysts of the future, which, we hope, will rescue English analytical chemistry from the not undeserved suspicion of untrustworthiness which bad training—or, rather, the lack of any training at all—has brought upon it.

Mr. Sclater-Booth stated in the House of Commons some time ago that he had been in communication with the Society of Public Analysts, and that it was probable that he would adopt some of their suggestions for the amendment of the Sale of Food and Drugs Bill. It seems a pity that this con-

sultation did not take place before the introduction of the Bill, as it might have prevented much of the deserved opprobrium which the unsatisfactory nature of the Bill has brought upon its framers.

SPECIAL HOSPITALS.

One of the results of the recent unseemly proceedings at the Mansion House, of those who are dissatisfied with last year's distribution of the Hospital Sunday Fund, has been to direct public attention somewhat more critically than heretofore to the claims, pretensions, and merits of special hospitals. In common with our contemporaries, we have from time to time endeavoured to enlighten the public as to the value or no value of many of the so-called hospitals and infirmaries, whose clamorous appeals for funds daily appear in the advertisement columns of the lay press; but it is to be feared that our efforts in this direction have not been attended with any large measure of success: and the reason of this is not far to seek. Medical papers are not largely read by the general public; and unless our efforts to instruct the public as to what medical institutions are worthy of their support are seconded by the lay press, they necessarily fail to accomplish their object. We notice, therefore, with considerable satisfaction that our vigorous contemporary the *World*, in its issue of the 24th ult., directs the attention of its readers to the subject of "Special Hospitals," and delivers statements and opinions which, by rousing a spirit of inquiry, cannot fail to have a very beneficial effect. Our contemporary says, "In a great many of these bastard charities the larger part of the payments of the patients goes practically and directly into the doctor's pockets; the tradesmen who supply the 'hospital' assist to form the committee; the public supply the funds for carrying on what is, in truth, a not very high class doctor's shop; and the officials live by the commissions on collecting and expending the subscriptions and donations. To start a special hospital or dispensary is now notoriously the easiest device of the eager aspirant to medical success by a short cut, and of the middle-aged bankrupt in fame and fortune."

There is, indeed, a vast amount of truth in this description of the mode of conducting the class of "hospitals" and "dispensaries" referred to; but the difficulty is, how to meet the evil. As long as the charitable public will continue to give handsome donations to any "hospitals" that will boldly advertise themselves, without making any inquiry as to their merits or the mode of administration of the funds, so long will there be found self-created philanthropists to receive and disburse the money so given, under the hollow pretence of affording medical relief to the sick poor; and, as the *World* says, "many of the special hospitals and dispensaries are not truly public charities, but private enterprises of by no means a desirable character, offering no securities for the good treatment of the patients, for the useful expenditure of the funds, or for conferring any real benefit on the public." These views, and the facts on which they are founded, cannot be too widely known, and if our outspoken contemporary fulfils its threat of showing "who and what the founders of some of these special hospitals are, and what is their method of working them," it will be doing a great public service, in which it should be supported by all who wish well to medicine as an honourable profession.

THE WEEK.

TOPICS OF THE DAY.

In an article under the heading "Guilty or Insane?" in a recent number of this journal, we commented with some severity on a trial and its results. A man named Kavanagh, a certified lunatic, had been allowed to remain at large, and poisoned a cousin of the name of Wilkinson with laudanum. The evidence of insanity would appear to have been ignored by the jury, who brought him in guilty of murder. We are gratified to state that the Home Secretary adopted our views as to the very unsatisfactory nature of the trial and its result, and has reprieved the man, who was declared by the certificates of two medical practitioners to be of "unsound mind."

Dr. W. Ogle, F.R.C.P., Medical Officer of Health for East Herts, in speaking of the privy accommodation in the villages of that district, says—"The law gives power to compel an owner 'to provide sufficient privy accommodation,' but leaves it an open question what is to be considered sufficient.' As it was necessary for the guidance of the inspectors that some definite understanding should be arrived at on this point, he got the several rural authorities to agree to consider any house insufficiently provided that shared its closet or privy with more than one other. Health and decency alike require some such provision as this. That the use of one and the same closet by a number of houses is a not uncommon cause of the spreading of infectious disease, he has no manner of doubt, and the very name of privy is a misnomer for a place used in common by half a dozen different families, including persons of all ages and sexes. The rule, then, adopted by the sanitary authorities in his opinion only errs on the side of leniency. Guided by it, the inspectors have caused a considerable number of closets to be erected. After allowing, however, for these, it appears that, out of the 2564 cottages, 62 are without any privy at all; in 143 more it is so dilapidated as to be unfit for use; and in another 342 it is used by more than two families. In other words, in no less than 547, or 20 per cent. of the whole, the accommodation is insufficient. As to filthy condition he would say nothing, except that it is almost universal. The faulty construction, however, of most of the existing privies cannot be passed over without notice. Almost invariably the cess-pits are so made as to allow their contents to soak into the ground; the object of this being not only cheapness in construction, but to render the emptying less frequent. Quite recently one such was reported to a sanitary authority that, though close to a house, had only been emptied once in twenty-seven years. The consequence of this is, of course, that the ground about gets sodden with excrement, and that the well, if there be one near, is poisoned. In the course of last year a formidable outbreak of typhoid fever in one village of this district, and of dysenteric diarrhœa in another, were traced directly to such pollution of the wells. A stringent rule should be laid down that no cess-pit shall on any account be allowed in the neighbourhood of either well or dwelling-house unless it is so constructed as to be perfectly water-tight. The Rural Sanitary Authority of Stortford have already instructed their inspector to that effect, and Dr. Ogle expresses a hope that the other authorities will do the same.

We learn from the *Madras Mail* that the Government of India, in an order of the 11th inst., state that they are desirous of every encouragement being given to ladies to study for a degree in medicine, in which case, it is observed by Dr. Furnell, they must attend the full curriculum of prescribed studies; but when the ladies themselves prefer the more limited and practical course of study suggested by Dr. Furnell, arrangements may be made accordingly, and, on the completion of the course of study, certificates can be given by the collegiate authorities of the degree of efficiency acquired in each subject. The *Mail* says that the division of the course of study recommended by Dr. Furnell is approved, and the Government fully concur with the Surgeon-General and Dr. Furnell that, with the exceptions specified, ladies desirous of becoming doctors must be prepared to attend the courses of lectures with students of the opposite sex. The Government understand these exceptions to be midwifery and

surgery, and one or two lectures in anatomy and physiology. By the adoption of the arrangements proposed by Dr. Balfour, of allowing the ladies to attend the lectures given at the Lying-in Hospital by the warrant medical officer to the pupil midwives, it would appear that no additional expense need be incurred on account of midwifery lectures. The Surgeon-General will report the expense which will be incurred for pre-collegiate training, and for separate lectures in surgery, anatomy, and physiology, during the course of three years' study referred to above. The expense involved in the case of any of the ladies determining to study for the degree of M.D. should also be stated. No fees will be required for the present from lady-students.

Jealous apparently of the beneficial results of its recent sanitary improvements, its consequent immunity from the prevalence of zymotic diseases, and the generally healthy condition of the town, the Local Board of Health of Woolwich at their last meeting resolved that a statement embodying those facts should be forwarded to Mr. Gathorne Hardy, that he may publicly correct an erroneous impression caused by his statement in Parliament that the soldiers' families could not be removed from the huts on the Common into private lodgings, as there was fever in the town itself. Mr. Rizon, Registrar of the district, attended the meeting, and stated that the town had been very healthy all through the winter; and Captain Behcuna, Royal Artillery, who is one of the Government members, said that from his own knowledge there had been no fever or diphtheria among the civil population except a few sporadic cases. Since the occupation of the Red Barracks by the soldiers' families recently removed from the infected huts on the Common, we understand that seven cases of diphtheria have occurred, of which five have proved fatal. The disease in these cases was probably contracted before leaving the huts.

The Hampstead Hospital war has not yet terminated. The Hampstead Committee have determined to bring their case before Parliament. Petitions against the present site are being prepared with much vigour and industry. The occasion of the Easter holidays was taken advantage of, and visitors to the Heath were invited to sign petitions. Paper, pen-and-ink, and canvassers were to be found on various parts of the Heath. It is stated on good authority that in this way several thousand signatures were obtained. *Apropos* of the question of "district hospitals," Dr. Matthew Corner, Medical Officer of Health of Mile-end Old Town, writes a very sensible letter to the *Times*. He thinks the best way to terminate the bitter feud respectiug the site of the Hampstead Hospital, and to avoid future similar contentions, would be to build these institutions where they are wanted, and where only they can be made effectually available for the purposes intended, and produce the maximum amount of good; whereas the erection of large hospitals for infectious diseases upon such inaccessible suburban sites as Hampstead Heath—inaccessible, that is, in relation to the distance from the crowded centres requiring their aid—would produce a minimum amount of good only. He believes the principal difficulty to contend with in advising the removal of poor patients to these hospitals is the objection of relatives on account of distance,—and this applies not only to the sentiment of parting, but to the really valid ground of danger of removal to long distances in cases of exhaustive disease; and when this objection is raised, it cannot, in the majority of cases, be professionally controverted. The effect of all this is, that the hospitals are occupied by patients who, as a rule, do not come from homes of the worst sanitary class, and that the latter are left to be contended with as best they may by the local poor-law and sanitary authorities. He thinks most metropolitan parish medical officers will concur with him in this view. It has always been obvious to him where these buildings are wanted—that is, in the midst of or as near as practicable to the populations requiring them. Of course they would be on a much smaller scale than the sick palaces now projected or already built, and in proportion to the number of inhabitants; in the case of small districts two or more might combine. It may be objected, he observes, that an elevated site and pure air are essential in the treatment of these diseases. But infectious diseases do occur, and patients die, in apparently the most salubrious places; and if well-to-do people—if tradesmen and their families in densely-populated localities—can be ill and be treated in their own houses, why, he asks, cannot the poorest class be ill and be treated in a well-appointed hospital in the same locality? Both the welfare of the patients and prevention of the spread of infection would be better secured than by removal to the great buildings so far away, wherein so many similar cases are concentrated. It is clearly both consistent and humane that in such cases as these the remedy should be brought to or placed within as easy reach as possible of the patients, and that the latter should not be compelled to travel a great distance, often at absolute risk of life, before they can reach the remedy.

Dr. Edouard Hitzig, of Berlin, who is well known for his researches on the functions of the brain, has been elected to the chair of Psychology in the University of Zürich.

THE LATE SIR RANALD MARTIN.

Few men in modern times, and amongst a certain circle, have been better known than the late Sir Ranald Martin; and to those who were acquainted with him it will be no matter of surprise to hear that a large meeting of his admirers and friends—chiefly consisting of members of the medical profession—assembled on the 24th ult. at Willis's Rooms, for the purpose of considering in what manner a permanent recognition of the services rendered by him in the advancement of the science of tropical medicine, and in promoting the establishment of sanitary reforms both in India and in this country, should be carried out.

The chair was taken by Sir Galbraith Logan, K.C.B., late Director-General of the Army Medical Department, who introduced the subject to the meeting by announcing that he and many other intimate friends of the late lamented gentleman had thought that his memory should not be allowed imperceptibly to lapse into the forgotten past, but that by some public demonstration and resolution the recollection of him should be kept green for a long time to come. To those who knew him well there would, of course, be no necessity for a memorial, because his characteristics would remain engraved upon their memory so long as they lived. Sir Galbraith then proceeded shortly to sketch the career of Sir Ranald Martin; he informed the meeting that after that gentleman had received his primary education in the profession, he went to India, where he was very early selected for the post of Medical Officer to the Governor-General. At Calcutta, soon after, he was promoted to the highest position in the Government service, and enjoyed the confidence and friendship of the whole of the European community there. Returning home with a well-earned reputation, his opinions were still eagerly sought by the authorities, who, for a period of twenty years, availed themselves of his experience in all medical affairs: in this manner he became a member of the Royal Commission appointed to inquire into the supposed shortcomings of the Medical Department during the Crimean War. At all times and seasons his best efforts were directed to obtain for the medical profession a full recognition, so far as status, rights, and honours were concerned. Subsequently he was sent out to inquire into the circumstances of India, where his practical knowledge was of great service. His attention was particularly directed to sanitary matters, and the success which followed his exertions in this channel may be deduced from the fact that whereas the rate of mortality in the army in

India was formerly 68 per 1000, it was now under 20 per 1000. Concluding his speech with a brief reference to Sir Ranald's private life, the chairman proposed "That this meeting is of opinion that the services rendered to his country by the late Sir James Ranald Martin, in advancing the science of tropical medicine and promoting sanitary reform in India and at home, with the inestimable result of improving the health and diminishing the death-rate in the army of India, are worthy of commemoration."

Sir George Burrows, Bart., seconded the motion, expressing his satisfaction, as a friend and admirer of the late Sir Ranald Martin, that the matter of the memorial had been taken up by the late Director-General of the Medical Department of the Army. As President of the Royal College of Physicians he came to support what might be described as a military movement, because Sir Ranald was honoured by all who knew him, not only for his military services, but for the important assistance he had rendered by his labours to the medical profession generally, and at the same time to say that all connected with the institution over which he presided sympathised most cordially with the movement.

The resolution having been unanimously adopted, Sir William Muir, the present Director-General of the Medical Department, moved "That this meeting is of opinion that the most fitting memorial of the services of one so long associated with the advancement of military medicine will be the foundation of a prize, to be called the 'Ranald Martin Memorial Prize,' to be competed for in the Army Medical School at Netley by the candidates for commissions in the medical services of the British and Indian Armies, and the Royal Navy."

Sir W. Fergusson, Professor Parkes, and others also bore testimony to the value of the services rendered to the profession by Sir Ranald Martin, and the following resolutions were also adopted:—"That considering the disinterested manner in which the late Sir J. R. Martin devoted his time and energies to promote the interests of the officers of the medical services, and more particularly that it was mainly through his efforts that the question of admitting medical officers to the honours of the Bath was brought before Parliament, the medical officers of the three services be earnestly invited to co-operate with the Committee appointed by this meeting in carrying out the object embodied in the first resolution; and that the Committee be asked to solicit the aid of the administrative officers of the British and Indian armies in India in carrying out the object of this meeting."

The following gentlemen were eventually appointed the executive committee for carrying out the object of the meeting:—Sir Galbraith Logan, K.C.B., Sir W. Fergusson, Bart., Sir George Burrows, Bart., Sir William Muir, K.C.B., Sir Alexander Armstrong, K.C.B., Surgeon-General W. C. Maclean, C.B., E. A. Parkes, M.D.; J. Fayrer, M.D., and G. D. Pollock, Esq., Treasurers; and P. O'Brien, Esq., Hon. Sec.; and the Committee were instructed to solicit the aid of the public and the administrative medical officers.

HERPES GESTATIONIS.

THERE can be no doubt that alterations in the uterus sometimes express themselves by coincident changes on the surface of the skin. We see this in the pigmentations which accompany pregnancy, in the exacerbation of acne rosacea at the menstrual periods, and in the occasional occurrence of urticaria during the development of cancerous and other tumours of the uterus. The subject, however, is still obscure, and we want many more facts before a satisfactory theory of the connexion between the two organs can be framed. A valuable contribution to the literature of the subject by Dr. Bulkley, of New York, has lately appeared in the *American Journal of Obstetrics*, vol. vi., No. 4. Under the title of "Herpes Gestationis" he describes a peculiar affection of the skin directly dependent on pregnancy, of which he has himself observed one case, and of which he has collected eight nearly similar cases recorded by other observers. The eruption consists chiefly of erythematous patches, on which groups of papules, vesicles, and bullæ form, generally appearing first on the extremities, and afterwards involving the greater part of the body. The vesicles do not follow the course of any particular nerves. The bullæ may reach the size of a hen's egg, but seldom exceed that of a large bulla of herpes. The eruption is accompanied with intense irritation, and sometimes with pain. It may make its appearance at any period of gestation up to the seventh month, and generally continues till after delivery, and it may recur at each successive conception. When the uterus is emptied, the disease slowly retrogrades by the development of fewer and fewer vesicles with each successive crop, so that all signs of it have usually disappeared before the end of the first month. Some patients suffer afterwards from urticaria, neuralgia, and other indications of nerve disturbance; but this is the exception, and most patients recover completely. The children are not, as a rule, in any way affected by the eruption in the mother.

Treatment did little good in most of the recorded cases, and it was only possible to palliate the symptoms and give some relief to the irritation up to the time of confinement, when the disease gets well spontaneously. Dr. Bulkley, however, in the case which came under his own notice, found that great relief was afforded by the use of the tar wash, to which he has given the name of "liquor picis alkalinus," and which consists of two drachms of liquid pitch, one of caustic potash, and five of distilled water; these are well mixed together, and a teaspoonful of the liquid is diluted with four ounces of water, and applied to the skin. Dr. Bulkley recommends quinine and iron internally, and he also believes that benefit was derived from the use of arsenic. He lays great stress on the value of "a considerable portion" of oatmeal as a food taken just before going to bed, and he has obtained excellent results in other cases, in which there was a low state of health and impaired nutrition, by giving oatmeal and other foods in a digestible form late in the evening. In conclusion, we hope that Dr. Bulkley's monograph will serve to direct the attention of obstetric practitioners to the influence of uterine alterations on the skin, and that they will aid in the elucidation of the subject by reporting their cases.

OBSTETRICAL SOCIETY OF LONDON: DISCUSSION ON PUERPERAL FEVER.

AT the meeting of the Society on April 7, Mr. Spencer Wells will open a discussion "On the Relation of Puerperal Fever to the Infective Diseases and Pyæmia." The attention of those who take part in the discussion is requested—

1. To the question if there be any form of continued fever, communicated by contagion or infection, and occurring in connexion with childbirth, which is as distinctly caused by a special morbid poison, and as definite in its progress and the local lesions associated with it, as typhus or typhoid, scarlet fever, measles, or small-pox.

2. May all forms of puerperal fever be referred to attacks of some infective continued fever—as scarlet fever or measles—occurring in connexion with childbirth, on the one hand; or, on the other, to some form of surgical fever, or to erysipelas, caused by, or associated with, the changes in the uterus and neighbouring parts following the process of childbirth?

3. If all cases of contagious and infectious diseases which occur under other conditions than that of childbirth are set aside, does there remain any such disease as puerperal fever?

4. Assuming that a form of continued fever—communicable by inoculation, contagion, or infection—does frequently occur in connexion with childbirth, how can its spread in private and in hospital practice be most certainly prevented or checked?

5. What relation have bacteria and allied organic forms to the pyæmic process in the puerperal state?

6. What is the value of antiseptics in the prevention and curative treatment of puerperal fever?

The meeting will commence at eight o'clock. The necessary

preliminary business will occupy but a short time. At its conclusion Mr. Wells will commence his opening address, and will limit himself to fifteen minutes. It is expected that the speakers generally will not exceed this limit. Dr. Braxton Hicks, Dr. Barnes, Mr. Jonathan Hutchinson, Dr. Hall Davis, Dr. William Squire, Dr. B. W. Richardson, and many other gentlemen are expected to take part in the discussion; and at the second meeting, should the discussion be adjourned, it is hoped that Professors Lister (of Edinburgh) and Billroth (of Vienna) will be present, with Dr. Fordyce Barker, of New York. Mr. Wells will ask for a few minutes at the close of the discussion, in reply to the various speakers.

THE STRUCTURE OF THE SWEAT-GLANDS.

H. Heynold, of Leipsig, has published in *Virchow's Archiv* (Band lxi., Heft. 1, s. 77) an elaborate paper on the convoluted glands (sweat-glands) of the human skin. The skin was hardened for examination either in a 2 per cent. solution of bichromate of ammonia, or in a half per cent. osmic acid solution, in which the specimens remained twenty-four to twenty-six hours. The hardening was completed in the ordinary way with absolute alcohol, and the sections were stained with log-wood or carmine. His results with regard to the ordinary sweat-glands are as follows:—1. All the secreting tubes (*Schläuche*) of the glands have a more or less distinctly marked coating of plain muscular fibres. 2. They all have a lining of simple cylindrical epithelium, which has a sharply defined outline towards the lumen of the tube, and is without a cuticula. 3. None of the excreting ducts have a muscular coat, but they have several layers of cubical epithelium, and the innermost of these has a distinct cuticula. In the axillæ, Heynold describes two kinds of sweat-glands—(*a*) the ordinary form, such as occurs on the body generally; (*b*) a form peculiar to the axillæ. The latter have a very wide lumen and a thick muscular coat; their epithelial cells are cubical, and form a single layer; they have a very broad cuticula, and their contents become of a brown colour when treated with osmic acid, and in some parts even of a deep black, probably from the presence of fat-globules. The excretory ducts of the axillary glands have either a single or a multiple epithelial lining, and the innermost layer always has a cuticula. When the epithelial layer is single, they sometimes have a muscular coat and a broad lumen, but they are narrow and without muscles when it is multiple. Heynold describes a special form of epithelial cells in the glands of the auditory meatus. They differ both from those of the ordinary sweat-glands and from those of the axillæ. They have the shape of a long cylinder, which sends out fine processes at the base, while it is limited at its inner end by a sharp line which strongly refracts light. In each cell three zones can be distinguished: that nearest the lumen is homogeneous, the central one is granular, and the peripheral one is again homogeneous and contains the nucleus. A series of glands which form a broad zone about one to one and a half centimetres from the margin of the anus have been described by Gay (*Wiener Sitzungs Berichte*) as exactly similar to the large axillary glands, and so forming a special group. Heynold, on the contrary, finds that their structure is as nearly as possible identical with that of the ordinary sweat-glands of the general surface.

THE CONJOINT SCHEME.

At the last meeting of the Council of the College of Surgeons, the President reported to his colleagues the result of his interview with the President of the College of Physicians respecting the resolutions in relation to the appointment of examiners, and accepted by the Council as a basis for conference with the authorities co-operating for a Conjoint Scheme. A letter from the President, together with a reply from the President of the College of Physicians, was read, from which it appeared that the latter, on behalf of his College, refused to entertain the proposal with regard to the appointment of examiners contained in the above-mentioned resolutions, which were brought under the notice of the Council by Sir James Paget in January last.

At the present moment the following motion by Sir James will no doubt be read with some interest, viz.:—

"To propose the following method of appointing examiners under any Conjoint Scheme for an examination for practice in England, which method, if approved, may be submitted to other authorities co-operating in such Scheme, and, if accepted by them, may be adopted by this College in the event of its obtaining the enabling Act, viz.:—That the appointments of examiners be divided among the co-operating authorities. That each of the authorities devise its own method of making the appointments assigned to it. That to the College of Surgeons be assigned the appointment of not less than ten examiners, nor less than one-fourth of the whole number; including therein not less than three-fourths of the examiners in surgery, and not less than half of those in anatomy and physiology. That the Universities appoint one-fourth of the examiners in each of the subjects of examination. That the rest of the examiners, including one-fourth of those in anatomy and physiology, and three-fourths of those in all other subjects except surgery, be appointed by the College of Physicians and the Society of Apothecaries, in such proportions as they may think fit. That in each of the subjects of examination there be supplemental examiners, who may take the place of examiners disabled by illness or otherwise. That the number of such supplemental examiners in each subject do not exceed one fourth of the number of ordinary examiners in the same subject. That the supplemental examiners in surgery and in anatomy and physiology be appointed by the College of Surgeons, and those in the other subjects by the College of Physicians and Society of Apothecaries in such manner as they may think fit."

A plan is annexed showing the suggested distribution of the appointments of the proposed forty examiners, and of ten supplemental examiners.

	Ordinary examiners to be appointed by the				Supplemental examiners to be appointed by the		
	College of Surgeons.	College of Physicians and Society of Apothecaries.	Universities.	Total.	College of Surgeons.	College of Physicians and Society of Apothecaries.	Total.
Anatomy & Physiology	4	2	2	8	2	0	2
Chemistry	0	3	1	4	0	1	1
Materia Medica, Medical Botany, and Pharmacy	0	3	1	4	0	1	1
Surgery	6	0	2	8	2	0	2
Medicine	0	6	2	8	0	2	2
Midwifery	0	6	2	8	0	2	2
	10	20	10	40	4	6	10

CHARGE OF MURDER AGAINST AN UNQUALIFIED PRACTITIONER.

At the Manchester Police-court, last week, a man named Alfred Thomas Heap, who has been practising as a surgeon in Gorton-lane, Manchester, was committed to take his trial at the assizes on a charge of wilful murder, he having, as alleged, caused the death of a young woman named Margaret M'Kivett by operating on her for the purpose of procuring abortion. According to the evidence it appears that on the 12th ult. the deceased went to the shop of the accused. She was taken upstairs to a bedroom, where the accused performed some operation, his housekeeper being present the greater part of the time. Before leaving, the deceased gave the accused a sovereign for his attention. The same evening she was taken very ill with pains in the abdomen, vomiting, etc. She gave birth to a child, but symptoms of peritonitis set in, of which she died four days after. Mr. T. Jones, Pathological Registrar

at the Manchester Royal Infirmary, stated that he had made a post-mortem examination, and found clear evidence of confinement or abortion having taken place very recently, and that death was due to inflammation caused by two punctures of the womb. The accused's housekeeper was also committed for trial as an accomplice.

HEALTH OF LONDON.

In the metropolis last week there were 1680 deaths, showing an increase of 13 on the average numbers. The annual death-rate was 25·4 per 1000. In the outer ring it was 21 per 1000. The deaths included 24 from scarlet fever and 59 from whooping-cough. To the seven principal diseases of the zymotic class 152 deaths were returned, against 168 and 180 in the two preceding weeks. The mortality from diseases of the respiratory organs, which in the three previous weeks had been 612, 566, and 498, were 508 last week, and exceeded the average by 106; 320 were from bronchitis, 122 from pneumonia, and 17 from asthma. In the Asylums District Small-pox and Fever Hospitals at Homerton and Stockwell there were 131 patients on the 27th ult., of which 64 were under treatment for scarlet fever, 45 for fever, and 11 for small-pox. All the metropolitan small-pox patients are now sent to the Small-pox Hospital at Stockwell; that at Homerton for small-pox patients is not now in use.

MEATH HOSPITAL AND COUNTY OF DUBLIN INFIRMARY.

This noble institution has just lost one of the most illustrious of its staff by the resignation of Dr. Stokes, who for nearly half a century has been Physician to the Hospital, and to whom, with Dr. Graves, the credit of introducing a system of clinical instruction into hospital practice is so largely due. Dr. Stokes retires amidst the sincere regrets of all his colleagues, and to his successor he leaves no easy task—that of maintaining the prestige of the Meath Hospital, with all its glorious memories and traditions, with its European—nay, its world-wide—fame.

ANDERSON'S UNIVERSITY, GLASGOW.

Dr. A. M. Buchanan, the new Professor of Anatomy, has succeeded at once in winning the admiration and confidence of the students of his class. At the close of his first course of lectures, on the 24th inst., he was presented by a number of the students of the University with an address, expressing their admiration of his conduct and teaching, and a handsome ebony walking-stick, with a richly chased gold head, bearing an inscription and monogram. The proceedings must have been very gratifying to the young Professor.

THE ROYAL IRISH ACADEMY.

At a stated general meeting of the Academy, held on Tuesday evening, March 16, Dr. William Stokes, D.C.L., F.R.S., Regius Professor of Physic in the University of Dublin, was re-elected President for the ensuing year. Amongst the grants for scientific purposes awarded this year by the Academy we find one of £25 to Dr. Reuben J. Harvey, Lecturer on Physiology at the Carmichael School of Medicine, for the purpose of prosecuting researches on the relative value of methods of staining microscopical preparations.

The Local Government Board have awarded Mr. Geo. Okell the sum of £16 11s. for efficient vaccination in his district. This is the second time that Mr. Okell has received the Government grant.

Injection for Hypertrophied Tonsils.—Dr. Jakubowitz injects into the enlarged tonsil two or three times a week a small quantity of the following solution, and a few of such injections prove sufficient to effect a cure:—Pure iodine 10 centigrammes, iodide of potassium 2·40 grammes, distilled water 30 grammes; M.—*Union Medicale*, March 27.

FROM ABROAD.

Supply of Milk for Paris.

In a paper by M. A. Husson on this subject, published in the *Journal de la Société de Statistique*, for January 1875, we find some facts that are of interest at the present time, when so much attention is turned to the subject of the supply of pure milk, and which does not seem to have been attained better by our neighbours than by ourselves. A more general use of milk is probably made by the Parisians than by the Londoners, and the source of supply has in both cases been greatly expanded by the agency of the railways; those centering in Paris bringing this valuable article from various localities situated as far as 100 kilometres and upwards from the capital. Prior to the organisation of the railway supply the milk was not derived from cows kept within the town and its environs to anything like the extent that prevailed in London, as large speculators brought it to depôts by post from distant localities. There are, however, about 5000 cows kept in stables in Paris, which during twelve or fifteen months yield ten litres or more per diem. Milk not having been liable to the *octroi* duties, the quantity consumed cannot be exactly stated, but several approximative estimates have been made. Thus, in 1813 it was calculated that the mean consumption of each inhabitant amounted to 71 litres 96 per annum, or 0 litre 20 per diem; and this is supposed to be rather under than above the actual quantity. In 1856 the quantity was calculated at 86 litres 80 per annum, and 0 litre 24 per diem. The estimates for the year 1869 were made with far greater care and exactitude. During that year there arrived by the railways 81,231,058 litres, and from the country by the ordinary roads 12,034,050 litres. To these have to be added the product of 5065 cows kept in Paris, each furnishing milk at the rate of 10 litres per diem—*i.e.*, 18,487,250 litres,—making a total of 117,752,358 litres. This quantity compared with the population gives 61 litres 45 per annum, or 0 litre 16·83 per diem, for each individual. The consumption of 1872, as compared with that of 1869, has diminished by near 10,000,000 litres, which may be accounted for by the probable diminution of the population consequent on the events of 1870, and by the restriction upon consumption which the general distress has induced.

The milk, however, which is delivered out in Paris, has, like that of London, too often been subjected to manipulation. First, to prevent its coagulation during transport, when the temperature is high, a portion of the milk is boiled before it is sent off, or a solution of bicarbonate of soda is added. This is called a conservative solution by the wholesale milk vendor, and is formed by adding 100 grammes of the bicarbonate in lumps to one litre of warm, but not boiling water. In summer, or when the weather is hot or stormy, ten centilitres of this are added to twenty litres of milk. Not only may the milk be altered in its proportions by the use of this solution in the hands of greedy and ignorant persons, but there may be also a fraudulent abstraction of cream or addition of water. To mask these frauds various substances may be added to thicken or colour the milk. The authorities have long since been on the alert to detect these sophistications, and sealed samples are unexpectedly seized while the milk is on its road or after it has arrived at the milk-shops. These are subjected to careful analysis and comparison with standard milk, and the prosecutions which are set on foot on the discovery of adulteration almost always succeed. As, however, even genuine milk varies in composition, in order to keep within the limits of a just estimate, a certain amount of toleration is allowed in these investigations. Thus, normal milk on a mean contains 13 per cent. of fixed matters and 4 per cent. of butter; and when the samples submitted to analysis furnish 11·50 per cent. of fixed matters and 3 per cent. of butter, the milk is pronounced as exempt from fraud. Under the influence of this surveillance the Paris milk has undergone considerable amelioration. Thus, in 1871 the milk seized on railways furnished no less than 44 per cent. of adulterated milk. In 1872 this proportion sank to 34 per cent., and in 1873 to 16 per cent. In the shops matters were still worse, the proportion of adulterated milk seized being 53 per cent. in 1871, 44 per cent. in 1872, and 34 per cent. in 1873. "It is evident how much yet remains to be done while adulteration still continues so to prevail; and the suppression of fraud

would become much easier did the public, ordinarily so inclined to indifference in matters which regard its interests, second by its co-operation the vigilance of the authorities."

Digitalis in Diseases of the Heart.

From two clinical lectures delivered by Dr. H. C. Wood, jun., and reported in the *Philadelphia Medical Times* for November 14 and 21, we abstract the following points of interest:—

"Digitalis, then, in man, by its action on the inhibitory apparatus, prolongs the period of diastole, thus giving time to the ventricles to fill up with more blood than usual; and also increases the muscular power of the heart, so that when it contracts a greater volume of blood is thrown with a greater force into the arterial system. Before we begin to apply these principles, remember also that the vascular system under the control of the vaso-motor nerves is probably kept in a state of contraction by the employment of digitalis.

"Almost nothing but common sense is needed now to apply these facts to the treatment of heart diseases. If what has been said is true, digitalis ought to be useful when there is a deficiency of heart-power. Remember that it is not a rag that will stop up a leak, and do not fall into the common error of expecting the drug to perform impossibilities. It cannot tighten a leaking valve; it cannot open and smooth down a contracted orifice. In other words, in valvular lesions it can only indirectly remedy the defects: and although you will get the most surprising results from its use, yet in every case of valvular lesion there comes, sooner or later, a stage when digitalis is powerless. It is when the valves are healthy and the cardiac failure is simply due to weakness of the muscular walls, that digitalis exerts its most wonderful powers. Nothing is more marvellous in clinical medicine than the relief you can sometimes rapidly afford in cases of simple dilatation of the heart."

After some illustrative cases, Dr. Wood goes on to describe the conditions characterising the dilated heart. Owing to its want of power, the circulation begins to fail, and all the tissues become in urgent want of more and better blood. The beats of the organ become rapid, irregular, and even more inefficient. Digitalis stays it, and gives it time to fill itself with blood and power to propel this through the system. The tissues are supplied, the lungs become cleared, and dyspnœa abates. Never in these cases of rapid pulse with weak heart must aconite or veratrum be given, for, antagonists as they are to digitalis, they would in such cases act as poisons. In hypertrophy of the heart, however, when the whole frame may be shaken by its powerful impulse, digitalis may bring on a condition of spasm, and the patient may die from syncope due to a contracted heart. It is here that veratrum and aconite will prove of service. Irritable heart, again, induced in soldiers and others subject to excessive muscular strain, and usually having a tendency to dilatation, is greatly benefited by digitalis; but when, as in some instances, there is a tendency to hypertrophy, veratrum is indicated. In valvular disease accompanied by dilatation, digitalis is not so useful as in simple dilatation, but by strengthening the muscle it is of service. The administration of digitalis in valvular disease accompanied by hypertrophy may seem to contradict the views expressed above; but here the point to be decided is whether there is or is not *relative* hypertrophy—*i.e.*, whether the increase is proportioned to the amount of extra work to be done. If it be not so, then the heart, although hypertrophied, is virtually as if dilated, and the use of digitalis is indicated. This is the criterion that should guide us in its administration. Practically, the minute diagnosis of the exact character of the valvular lesion is, in relation to the use of digitalis, of much less importance than a consideration of the condition of the system. Almost always when there are venous congestions and dropsies the heart is weak; and it is a practical rule, with very few (if any) exceptions, that cardiac general venous congestions and dropsies call for digitalis.

After describing the nature of mitral and aortic valvular disease, Dr. Wood goes on to say—

"In the earlier stages of cardiac disease, digitalis helps in effecting what may be called a cure. It is a mistake to suppose that the existence of valvular disease necessarily dooms a patient to a short life, or to one of suffering, or even of decided invalidism. If the disease commences before the age of nineteen it is very apt to terminate fatally before thirty; but if it is developed after puberty, the victim may enjoy a comfortable life of many years' duration. Nature cures valvular lesion by compensatory hypertrophy; and the rational aim of treatment is to aid nature in this, and, above all, to prevent the failure of cardiac strength that ends in cardiac dilatation. Digitalis will not only aid in averting dilatation, but will also aid very greatly in the production of hypertrophy."

We have not space for the explanation of the mode in which digitalis effects these purposes, but quote what Dr. Wood says regarding the administration of this drug:—

"Probably the infusion is the best form. If there is much dropsy, it may be given in the pill form, combined with squill, of each one grain three times a day. Of the tincture you can give five, ten, fifteen, or twenty drops every four, three, or two hours. In all cases you increase the dose gradually until some effect is attained; but you must do this very carefully, as digitalis is eliminated very slowly from the system, and sometimes, when it has been taken for a long time, a sudden poisonous effect results. Its effects, indeed, are always slow to show themselves, and they also subside very slowly, so that the medicine should be at once withdrawn temporarily when a decided influence is apparent. . . . . I do not want to impress you with the idea that digitalis is a dangerous drug. It has been given in doses of from a half to one ounce without any dangerous symptoms. The tincture has been given in these doses in the treatment of acute alcoholism; and the old school of therapeutists have been at their wits' ends why it did not kill the patient already suffering from the great nervous exhaustion of delirium tremens. They even suggested that the alcohol in the tincture counteracted the depressing effect of the drug. But what are a few drops of alcohol to a man who is in the habit of taking over a pint a day? And how could such small doses of the stimulant counteract the enormous dose of such a powerful sedative as digitalis has been supposed to be? Digitalis in these cases did not kill the patient, gentlemen, because it is not a cardiac sedative, but is a cardiac stimulant. Do not, therefore, be afraid of digitalis in valvular heart disease. Use it cautiously, but boldly; use it freely, but judiciously: and you will find that it deserves even a better title than that of an 'opiate for the heart.'"

Employment of Aspiration in Intestinal Obstruction.

In a note laid before the Académie des Sciences (*Gazette Hebdomadaire*, March 26), M. Demarquay states that the idea had occurred to him whether the same result that is obtained in gastro-enterotomy might not be attained by a simpler procedure which might be employed by any surgeon. When an obstacle suddenly opposes the course of the contents of the intestine, gas accumulates above the obstruction, producing tympanites, which is also accompanied by nausea and vomiting—the intestinal canal becoming paralysed by the excessive distension. If, then, at the commencement of the affection, before any local or general peritonitis has supervened, we are able to relieve the tympanites by an artificial removal of the gas, we find the intestinal movements are sometimes re-established, and with these a disappearance of the obstacle occurs. M. Demarquay has met with three cases in which he has had recourse to this procedure with success.

He gives a summary account of the last of these cases. It occurred in a man aged twenty, who was admitted into his service on February 25 with all the signs of intestinal obstruction, the commencement of which dated from the 23rd. There were present nausea, mucous vomiting, considerable tympanites, restlessness, and suffocative paroxysms due to the thrusting up of the diaphragm. On the 26th the patient's condition was still more aggravated, and four intestinal punctures having been made—two on the right and two on the left side—by means of Potain's capillary trocar, a large quantity of gas was drawn off by aspiration. The abdomen immediately became flaccid, to the great relief of the patient, and the noise of the motion of gas in the canal, due to the re-establishment of the peristaltic action, was heard. As on the 27th there was still tympanites present, displaying the form of the convolutions of the intestine under the wall of the abdomen, a large quantity of gas and liquid intestinal matters were withdrawn by means of four additional punctures. In the course of that afternoon all symptoms of obstruction had disappeared.

The Glasgow Society for Prevention of Cruelty to Animals has, on the motion of Sir William Thomson, seconded by Professor Nichol, resolved to petition Parliament in favour of a Bill for imposing proper restrictions on the practice of vivisection.

REVIEWS.

A Practical Treatise on the Diseases of the Eye. By Haynes Walton, F.R.C.S., Surgeon and Ophthalmic Surgeon to St. Mary's Hospital. With plates and engravings. London: J. and A. Churchill. 1875. Pp. 1174.

Under the above title the author has given to the profession, with many additions and in part rewritten, the third edition of his earlier work upon the "Surgical Diseases of the Eye." The present work claims to be a complete treatise on the subject, and represents the experience of a hospital surgeon of long standing, and who is also responsible for the ophthalmology which is taught in a distinguished medical school. It is to be regretted, at the outset, that its inconvenient size must place the book beyond the reach of an ordinary student; and all the more because the excessive bulk is mainly due to the extracts from the works of other writers, and the narration of cases which have occurred in the experience of others, and which have been reported elsewhere. It must be said, too, that the materials are so arranged that in order to study the tumours, or the injuries, or the ordinary diseases of the various parts of the eye,—of the conjunctiva, for instance,—the student will have to refer to three different portions of the work. It is not unreasonable to assume that the book is meant as a standard work of reference for those whose professional path points in the direction of ophthalmic surgery; and these have a right to expect from Mr. Walton, at the very least, an impartial and judicial survey of the progress of recent work.

There are chapters in this volume, such as those upon the diseases of the orbit, the orbital tumours especially, and those which are devoted to the various injuries which are met with, which are of the highest value, and which are written in the style of the older ophthalmic surgeons—a style which is very rarely to be met with, unfortunately, in the books of the present day. On the sympathetic inflammation which may follow many forms of injury, Mr. Walton speaks clearly and decidedly, and, from his lengthened experience, with great authority; and the chapter upon the various entozoa which attack the eye is, perhaps, the most interesting and instructive of its kind to be met with. On the other hand, it must be said that some of the subjects—and those, too, which have the greatest interest for the modern school of teachers—have been treated of in a way that must be disappointing. In speaking of cataract, for instance, modern operations are barely described—some, indeed, are not even mentioned; and those which are so honoured, are so only to be condemned, and apparently without ever having been so much as tried. Under these circumstances, one is not surprised that the ancient operation of couching is spoken of as "being inferior to extraction, but not to be condemned and made obsolete." As long ago as 1861, Mr. Walton wrote that "the operation for displacement is essentially a very bad one," etc., etc.; so that the generally received opinion, that the present generation have never had an opportunity of seeing the operation performed, is presumably not quite correct. Those who remember the discussion which raged for some time around the operation of iridectomy, will naturally turn to the chapter on glaucoma, and, as in the case of cataract, so here will Mr. Walton find himself almost alone in his opinions. Whatever may be the *modus operandi*, the weight of evidence is irresistibly in favour of iridectomy in acute glaucoma, and it is impossible to resist the conclusion that the author's depreciation of its value is not founded upon a fair or sufficiently extensive trial of its influence.

Amongst the additions to the volume is ranked all that pertains to the anomalies of the accommodation and of the refraction. The article upon the instrumentation of the ophthalmoscope is from the pen of an accomplished physician; and the concise account of the anatomy of the eye, with which the work opens, is a valuable addition by one of Mr. Walton's colleagues. The entire work is full of illustrations, many of which are very good; the coloured plates from the hand of Mr. Burgess at the end being exceedingly good. The large lithographic plates which depict the anatomy of the eye will be useful; but it surely must be a mistake to say they were drawn from recent specimens?

In conclusion, it must be owned that, although very often it is exceedingly difficult to find a particular subject, the work contains a large amount of valuable material; but it may be doubted whether the profession will be satisfied with it as a fair illustration of recent work in this direction. The strides which this branch of surgery has taken of late years are so extensive and so rapid, that it may well be questioned whether any surgeon can do justice to his subject, and to the work of others, who devotes a large share of his time to the practice of general surgery.

The Medical Profession in all Countries. Containing Photographic Portraits from life. By Messrs. Barraud and Jerrard. Vol. II. Small 4to. London: Messrs. J. and A. Churchill. 1875.

In this most interesting volume these well-known artists thoroughly maintain their high character in the great care with which the portraits are taken. What can be more natural than the pose of the late Sir Ranald Martin and Dr. Edward Smith, admirable in every respect? Time, however, lays his heavy hand on some of those happily still amongst us. We almost failed to recognise James Luke, F.R.S., the twice-elected President of the College of Surgeons, with moustache and beard. Cæsar Hawkins, F.R.S., another twice-elected President of the College, although at least a year his senior, looks several years his junior. The volume, which contains two dozen portraits, is accompanied by modestly written notices of each. "A real portrait," says Lord Orford, "is truth itself, and calls up so many collateral ideas as to fill an intelligent mind more than any other species." How pleased his lordship would have been with such a work as the one we thus briefly notice.

The Present State of the Army Medical Service as a Life-Career for the Surgeon. By Edward Hamilton, A.B., M.D. Univ. Dub., Vice-President of the Royal College of Surgeons in Ireland, etc. Fannin and Co., 41, Grafton-street, Dublin; and Longmans, Green, and Co., London. 1875.

The above pamphlet has been very carefully compiled with a view of calling attention to the present unsatisfactory condition of the Army Medical Service as a career for the young medical practitioner, and the hardships inflicted by the Warrant of 1873 are fully discussed. Whilst cordially agreeing with the author in the temperate, but vigorous, protest which he has made against the manner in which several of the provisions of the Warrant in question have been carried into effect, we cannot help remarking that prior to 1873 the unification scheme had a large number of supporters in the Army Medical Department itself. The general hospital system, however suitable and necessary in time of war, will, we think, be found inappropriate to a time of peace; and we are perfectly prepared to see, at no very distant date, a return to the regimental plan. The re-imposition of the charge of hospital stores and equipment upon medical officers, even if special pay had been allowed to make up for prospective losses, is certainly a mistake, and we quite agree with the late Mr. Sidney Herbert's remark in 1858, in releasing military surgeons from this onerous charge, that it was "indispensably necessary for the efficiency of medical officers, in order to enable them to devote more time to the higher duties of their profession."

Dr. Hamilton's little book will have done good service in showing from an unprejudiced and ex-departmental standpoint how unpopular amongst the profession the Army Medical Service has become; but we trust that the present Secretary of State for War is already imbued with the absolute necessity of reconsidering the various causes of discontent in the Service, and his speech the other day holds out a definite promise of amendment in the future.

Bacteria in Rotten Eggs.—Bacteria being now the order of the day, popping up wherever they are sought for, we may notice that M. Guyon, in a communication to the Académie des Sciences, March 15, affirms that he has never failed, in several hundreds of rotten eggs which he has examined, in detecting bacteria and vibriones.

Treatment of Pemphigus.—Dr. Hillairet, founding his plan of treatment upon the analogy which exists between pemphigus and the second degree of burns, employs in cases of this affection, which is generally so rebellious to treatment, the remedies found useful in burns—viz., the covering of the parts with wadding soaked in oleo-calcareous liniment. The pruritus soon abates, and the bullous eruption ceases at the end of a variable period.—*Union Médicale*, March 23.

GENERAL CORRESPONDENCE.

DR. RUMSEY.

Letter from Dr. William Farr.

[To the Editor of the Medical Times and Gazette.]

Sir,—Dr. Henry W. Rumsey, of Cheltenham, has just retired in consequence of a severe attack of illness, which disables him from continuing his practice; and it is thought by many that this is a favourable opportunity for expressing their appreciation of his services to the sanitary cause, to the profession, and to the public. A sketch of his labours, extending over the greater part of his career, and of his consequent claims, has been drawn up, and is now in circulation.

I first met Dr. Rumsey before a Committee of the House of Commons, pleading at once for the poor and for the Poor-law medical officers. He was associated with his intimate friend, Robert Ceely, of Aylesbury; and to the energetic action of these two men, acting in concert with the Provincial, the British Medical Associations, and the press, the progressive improvement in the medical relief of the poor owes its origin. He took an active part in the endeavours of those who were seeking to put provident societies on a sound footing. Dr. Rumsey wrote on the Health and Sickness of Town Populations (1846); and in the year 1856 published his classical volume of "Essays on State Medicine"; which was followed year after year by a series of striking papers on sanitary science and administration. Dr. Rumsey is a scholar; and his writings, remarkable for clearness of exposition and originality of view, have undoubtedly contributed to impress the Legislature with its present views of the importance of public hygiene, which, like every good cause, has had to encounter hostility. If a sagacious Prime Minister has given the world the new reading of *sanitas sanitatis*, Dr. Rumsey has some claim to the credit of party enlightenment. But Dr. Rumsey began his labours in an age of indifference for the cause, which is only beginning to triumph when he is cruelly struck down.

Some persons held that public health is an affair that can be handled by nuisance inspectors. Dr. Rumsey, on the contrary, saw clearly that the public health could be best dealt with by specially educated medical men, well versed in science; and it is his great merit, that in the General Medical Council, as well as elsewhere, he sought to obtain a special qualification from the examining bodies for State Medicine. This would be in all time to come a guarantee of competency to the public; while it would open great careers to eminent State physicians, proceeding on the lines laid down by the Father of Medicine. One of the last papers I heard by Dr. Rumsey was on this very subject.

Dr. Rumsey, its chairman, was in constant correspondence with the joint Committee of the Social Science and the British Medical Associations; he spared no labour, and frequently at the sacrifice of his professional time came to London. His correspondence on public matters was uninterrmittent. Among many other avocations Dr. Rumsey was a vigilant sanitary critic. He criticised freely the Legislature, the Government, the public offices, including that with which I am concerned, and the registration of vital statistics. On some of these subjects he was, I think, wrong; at least I differed from him; but I do not hesitate to say that his criticisms were often beneficial, were animated by public spirit, and were characterised by fearless honesty of purpose.

During his career Dr. Rumsey has received many honorary marks of the appreciation of the profession; and has been recently elected a Fellow of the Royal Society. But at the close of thirty-seven years, full of his labours for public objects and professional interests—in which he has expended much and received nothing—it does appear to me that if Dr. Rumsey were still in the vigour of his life the time has come when some substantial testimonial might be presented to him. Such a step could only tend to encourage men to devote themselves to the public service. And now Dr. Rumsey, after climbing the steep side of the hill, is smitten down before he can enjoy the full fruits of professional fame, his claim is enhanced. He is a man of whom we may be justly proud. And the appeal now made in the name of that noble fraternity which binds the profession together as one body cannot be in vain. He will receive the crown he has won at last.

The British Medical Association and the Social Science Association, at the meetings of which Dr. Rumsey has presided in the Health Sections, will probably turn their admirable organisations to account in favour of the movement.

A central committee has been formed in London, including the most eminent men; and now that it is proposed to invite leading members of the profession in the provinces to establish corresponding committees, their support will, I doubt not, be afforded. Dr. Rumsey himself practising in the provinces, was one of their brilliant ornaments, and one of the most strenuous asserters of their claims and rights.

I am, &c., William Farr,
Chairman of the Central Committee.

General Register Office, Somerset House,
London, March 12.

THE ARMY MEDICAL DEPARTMENT.

[To the Editor of the Medical Times and Gazette.]

Sir,—Mr. Hardy seems to have been puzzled by the different views expressed by writers on the above Department, some being in favour of the regimental system, some preferring the staff system, and some wishing to establish a combination of both. Now, personally I have no very violent feelings in favour of any one system more than another, as I am inclined to think that more depends on the way in which it is worked than on the system itself. I am inclined to think that a great deal of the grumbling which has been heard of late has been caused, not by unification *per se*, but by things which have come in with it or at about the same time. For instance, under the old system—at least some years ago—medical officers received, when they could be spared, two months' leave every year, and as many short periods of leave in addition as they could get. Now, all these short periods are added up, and the total deducted from the sixty-one days allowed in the year. Could this change produce anything but discontent? Again, in the old days two medical officers were gazetted to a regiment; now only one is attached. Consequently he is tied by the leg, kept always hanging about, and perhaps made to do the duty of a so-called station hospital in addition, morning and evening visit, and has to put himself very likely under obligations to some practitioner in the neighbourhood to get his sixty-one days' leave. Can he be expected to be as contented as under the old system? A man attached to a regiment can hardly be in as good a position as a gazetted man. I am not sure that he ought to accept a regimental invitation. I feel pretty sure this latter fact is alluded to in Mr. Hamilton's pamphlet. Again, under the former regulations exchanges were allowed. I have seen it stated that they are now prohibited. If they really are, I hardly know one thing more likely to cause discontent. A man, for instance, knows by bitter experience how ill the climate of India suits him; he is ordered there again; applies to be allowed to exchange; is refused; then applies for a medical board, is allowed six months longer at home; then ordered out; still unable to go, or, being able, fears he is only going to repeat his former career of misery;—the alternative is before him: go and suffer in a climate your constitution unfits you for, or go on half-pay. Perhaps this case is strongly put, but it is written on the supposition that exchanges are really disallowed. If they are, in common justice why are they, when every facility seems about to be given to combatant officers to exchange? Again, look at the harshness of the rule which obliges medical officers invalided home to go on half-pay if not fit for duty in six months, and allow juniors to go over their heads: this has, however, long existed as a grievance. We may be sure that men suffering from one or more or all of the above grievances do not go about the country and praise up the Army Medical Service; and hence it need not be wondered at if it gets a bad name among the students. And now that purchase is abolished, many who formerly would have very likely gone in as medical officers would go in as combatants. Would it not be cheaper and better for a boy with military tastes to enter the combatant branch at eighteen, and begin to draw pay and get on in his profession at once, than to begin to study medicine at that age, pay a lot for his education, and then enter as a surgeon four or five years after? The old regimental system was not perfection, there is no doubt of it, but was it not better than the present half-and-half system, with one man attached instead of two gazetted? If we do continue a regimental system where medical officers are forced

to live with combatant officers, it is to be hoped means will be taken not to let relative rank be the mere dumb thing in many respects that it has been. It is all very well to say a man's position depends on himself. In the combatant ranks it is nothing of the sort. A field officer has his position in right of his rank, and be he ever so stupid or odd, respect is paid to him when he chooses to exact it. We never hear of the practical jokes, for instance, that have been heard of as played off against surgeons (or surgeons-major) being played off on combatant majors. Any officers who dared would run the risk of being placed under arrest. I may perhaps allude to the perpetual state of uncertainty in which medical officers, or rather many of them, live, caused by the constant moves, as another cause of discontent. As it is desirable to arrive at some conclusion as to the causes of the present discontent, and as Mr. Hardy seems in earnest, I send you this letter to try and aid the discovery. I am, &c., X. Y. Z.

REPORTS OF SOCIETIES.

OBSTETRICAL SOCIETY OF LONDON.

WEDNESDAY, MARCH 3.

W. O. PRIESTLEY, M.D., F.R.C.S., President, in the Chair.

THE following gentlemen were elected Fellows of the Society:—R. J. Maitland Coffin, M.R.C.P. Ed. (Malta), Charles J. Cullingworth, M.R.C.S. (Manchester), John H. Ewart, L.R.C.P. (Manchester), P. Brown Giles, jun., L.R.C.P. Ed. (Hereford), Augustus Jukes, M.B. (St. Catherine's, Ontario), Alfred E. And. Laurence, M.D. (Bristol), Charles Liebman, M.D. (Trieste), Eugenio Rey, M.D. (Turin), Fred. W. Salzman, M.R.C.S. (Brighton), David E. Seton, M.D. (South Kensington), and Fred. William Strange (Aurora, Ontario).

CLINICAL NOTES ON THE EARLY COURSE OF CANCER OF THE CERVIX UTERI.

Dr. CHARLES LIEBMAN read a paper on this subject. After quoting the opinions of many eminent authors, he narrated the particulars of four cases observed by himself, in which he showed that the disease generally spreads much higher on the lining membrane of the cervical cavity than on the exterior part of the neck. Amputation of the neck he considered useless in all cases of cancer, excepting those of pedunculated cancroid papillary tumours of the cervix.

Dr. WILTSHIRE thought the "beginnings of cancer" of singular importance to the profession as a matter of clinical as well as of pathological interest. It involved an important practical point, for it is obvious that if we can find out the beginning of the disease, and are thus enabled to treat early the implicated tissues, we may at least have the satisfaction of arresting the disease, and that sometimes for a considerable period. Dr. Wiltshire mentioned two cases in illustration of his remarks. In both considerable benefit followed removal of such portions of the diseased tissues as could readily be attained. He had sometimes used chromic acid with considerable success.

Dr. HEYWOOD SMITH remarked on the far greater frequency of cancer in the lips of the uterus than in the fundus or body. He had tried Dr. Gibb's method of treatment, with plugs of strong perchloride of iron, and in a large proportion had seen, with some arrest of discharge, grave symptoms supervene—symptoms as of septicæmia. He laid stress on the rule that Dr. Barnes had insisted on, viz., that in all cases, when practicable, early removal should be had recourse to.

The PRESIDENT remarked that Dr. Liebman had drawn attention to an interesting pathological subject. The object of his paper was to point out that authorities generally regarded the vaginal portion of the cervix as the seat of the beginnings of cancer, whatever its form might be; but that he had observed cases in which the disease commenced in the cervical cavity, and he had been able to demonstrate the development of masses of epithelioma in that locality, while the external labiæ were entirely unaffected. The author, however, did not seem to be conversant with the researches of Virchow and other pathologists who had observed cancer originating both in the mucous membrane of the cervix and body of the womb, and had demonstrated the development of cancroid in the uterine walls themselves. Cancer beginning first in the fundus uteri was not uncommon. Sir James Simpson had written a paper on the subject, and he believed instances had been published by Dr. Barnes and others. He had in recollection more than one case where he had watched the progress of malignant disease in the body and fundus of the uterus, and where ulceration had made its way into the peritoneal cavity, with the cervix to all appearances scarcely at all involved. The difficulty of diagnosis in cases of cancer of the interior of the uterus was no doubt very great, and he knew no way of distinguishing a malignant growth situated in the fundus from an enlargement of a benign character except by observing the nature of the discharges, the comparatively rapid growth, and the persistent pain associated with the former. In the treatment of epithelioma or other malignant disease of the cervix, he believed there was a general concurrence of opinion that when the tumour had a margin of healthy tissue above, it was desirable to amputate the cervix; but he had not yet made up his mind whether in worse cases—viz., when the disease had advanced above the line of demarcation between the cervix and body of the uterus, and it was not possible to remove the whole morbid growth—it was desirable by operative procedure to remove a considerable portion by way of staying the progress and lessening the discharges. He thought this might be justifiable where the discharges and loss of blood were great, and rapidly reducing the patient; but where the symptoms were less urgent his experience rather indicated abstinence from interference, as any but palliative measures had seemed to give an impetus to progress, and to lead to more rapid development of the disease.

Dr. ROGERS thought the paper was useful to the Society, if only to elicit the opinions of the Fellows. He considered it impossible to cure cancer by means of escharotics, though of these bromine was the most useful. If the tissue be scraped first, and destroyed effectually by means of bromine, it often produced an amount of benefit that warranted our doing it, but it required great care, as it was a powerful escharotic.

Dr. BARNES, not having heard the paper, would limit his observations to one question of treatment referred to by the President. After the experience of quite a considerable number of operations, he had arrived at the conclusion that the most effective, as well as the most safe, mode of dealing with cancer of the cervix uteri was by the galvanic cautery. If the diseased mass was projected into the vagina in such a manner as to permit of its being surrounded by a wire, it should be removed flush with the vaginal roof. There was rarely any serious bleeding, sometimes almost none; now and then if a small artery sprouted, the use of the porcelain cautery of the battery had effectully stopped it. In those cases in which the disorder did not form a projecting mass, the button galvanic cautery could be moved over the surface, destroying the necrosed portion. Comparatively healthy granulations commonly followed; the so-called cachexia disappeared for a little; there was almost always freedom from hæmorrhage for a time; and the general condition greatly improved. He had only known one casualty from the proceeding, a woman in St. Thomas's Hospital, who died a few days after operation from peritonitis. In all the other cases reprieve or benefit was experienced. In one case the subject had two pregnancies, and she was alive five years after operation, although the disease returned.

Dr. WYNN WILLIAMS remarked that the cancerous matter may be deposited in any of the tissues of the uterus as in other parts of the body; also that different forms of cancer begin more frequently in one structure than in the other: thus, the epithelial form commences in the skin and mucous membranes, whereas the medullary commences in the deeper seated parts. So it is with the uterus; we may have cancerous deposit in any part of the uterine organs. He had seen, in consultation, three cases within the last twelve months where he diagnosed cancer of the fundus. He did not think that anyone could well mistake the peculiar odour of a cancerous mass in its latter stages for the odour of a disintegrating fibroid. In cancer of the fundus the greatest care should be taken in passing the sound, as a very eminent physician informed him on one occasion, whilst examining the uterus, he was unfortunate enough to pass the sound through the cancerous tissues into the peritoneum, the patient dying in a few hours of peritonitis. There can be no doubt that the cancerous mass, wherever situated, should be removed when practicable, either by the écraseur or by the galvanic cautery, as mentioned by Dr. Barnes; and even, if the whole of the mass be not removed, if the uterus be mobile, and the surrounding tissues not

infiltrated, we should endeavour to destroy the remaining portion by injecting bromine into it, or applying it by means of cotton-wool. This he had done in several instances where the neck of the uterus had been removed, and the actual cautery applied by other medical men, with the result apparently of removing the whole of the disease, for after a lapse of six or seven years the disease had not reappeared.

Dr. Routh said the Society might recollect his bringing the subject of uterine cancer forward several years ago; and subsequent experience only confirmed the opinions then expressed; indeed, one of those women, a case then believed to be hopeless, was, he had heard, still alive and in perfect health. He did not believe cancer of the fundus was quite so rare as had been stated. Occasionally it was overlooked and mistaken for fibroids; indeed, it was quite impossible in many cases to make a diagnosis, because the bloody or fetid discharges were common to cancer and disorganising fibroids, or might occur independently of these; but if there was marked pain at night, which persisted for any length of time, with menorrhagia, it was safe to put down the case as one of cancer. Perhaps some very rare forms of neuralgic uterus with menorrhagia might puzzle us occasionally, but the previous history generally cleared up the case. When the cancer affected the cervix exclusively, and always in cases of papillary or epitheliomatous cancer, it was the right thing to remove it at once. He had done so in several cases, and many had had no recurrence. He usually employed the ordinary wire écraseur in preference to the electric cautery, as it was much more easy of application, especially if the tumour was large or irregular, because the electric wire was so thin; then, again, the electric wire often burnt a good way around the burning wire, and if the cervix had to be taken away high up, there was fear of injuring the attachment of the vagina and uterus, and so getting into Douglas's space from the after sloughing, and producing death by peritonitis. He was not satisfied with leaving the case to heal at will after such excision; he waited four or five days, and then destroyed the surface again by means of bromine or the actual cautery, allowing the destruction to extend to part of the lining membrane of the uterus if he had reason to fear it was diseased at all. And then he often expedited the healing process, especially by a solution of gastric juice, which had a marked effect in bringing about cicatrisation. This he had proved often, not only in cancerous sores, but in others which turned out very obstinate and difficult of cure by other means. The marked difference between it and the perchloride of iron in healing power could be seen often if we dressed a wound half with the iron and half with gastric juice; and he was glad to find that Dr. Barnes confirmed the healing power of this agent. A relapse would not justify cessation from further interference. A second operation often proved effective where the first had failed. Lastly, in cases of hopeless cancer accompanied by fetor and loss of blood, and when a patient was dying a miserable death, he thought we should interfere. Destruction of the ulcerating surface often stopped both the general cachexia and gave great relief, and the patient gained temporary restoration of health. Where the hæmorrhage preceeded from the cavity he applied the persulphate solution of iron or the perchloride directly to the cavity on lint; and more recently, by means of an instrument similar to that devised by Simpson for passing caustic into the womb, though larger, he introduced into the cavity, either after dilatation by sea-tangle or without, if the opening was sufficiently patent, the dry solid perchloride, with the best results. Sometimes the arrest of hæmorrhage was instantaneous, and seldom gave rise to any trouble; once only he had seen some metritis which supervened and lasted three or four days. In any case he thought it was perfectly unjustifiable to leave even hopeless cases of uterine cancer to die a miserable death, and be a pest to themselves and others, in our present state of knowledge, when so much temporary relief could be given.

Dr. Aveling stated that after scooping or removing by any other means the cancerous structures, he had found nitric acid as efficacious and more easily applied than the actual cautery.

Dr. Wiltshire said he had used chromic acid with great benefit; it acted as a deodorant as well.

Dr. Bloxam said that all present would agree that it was of the utmost importance, in those cases which were beyond the reach of operation, to mitigate the suffering caused to patient and friends by the extremely fetid discharges. He had heard bromine named, but not iodine or iodoform. The last was both a deodorant and an anodyne, and deserved more notice than it had yet received in this country. It could be applied in powder or wool, as a pessary with cocoa-butter, or in solution in glycerine.

Dr. Edis remarked that the object of Dr. Liebman's paper was to show that in the majority of cases of cancer of the uterus the disease commenced in the lining membrane of the cervix, and not primarily in the lower portion of the cervix itself. He (Dr. Edis) had long recognised the fact, and in place of amputating the cervix by means of the écraseur or galvano-caustic he had been in the habit of employing the actual cautery in the form of a pear-shaped bulb, to destroy the lining membrane and interior of the cervix, thus producing a conical cavity, the base representing the os uteri, which ultimately contracted, leaving merely a small aperture. In several instances this had been attended by marked success, the patients living for many years after the date of operation without any apparent return of the disease. The chief points enabling us to arrive at a correct diagnosis as regards the fact of its being cancer were the almost undilatable condition of the cervix, the extreme tendency to bleed on the slightest touch, the fixidity of the cervical mucous membrane, and the rapidity with which the disease extended.

Dr. J. Braxton Hicks said, with regard to the deep burning of the galvanic wire mentioned by Dr. Routh, this was obviated by making the battery more powerful, and screwing up the wire more quickly. The galvanic wire had one great advantage over the ordinary écraseur: it cut quite clean and knife-like, and was adaptable to the more sessile growths; whereas the écraseur drew in and puckered up such forms, and brought away the softer portions, gliding off the harder, which it left behind. This he had seen frequently. With regard to the practice advocated by most of the speakers—viz., removing those parts which we could, and destroying the rest by cautery, caustics, or styptics, or other plan,—he coincided; indeed these he had advocated in papers elsewhere and at this Society. It afforded much benefit and comfort to the patient, removing the cachexia very effectually till the return of the disease. This he had shown in a paper in the *Guy's Reports* some years since, and concluded that the so-called malignant cachexia was owing, not to the malignant diathesis, but to the absorption of the material from the malignant growth prior to the existence of sloughing, and though after breaking up occurred it was increased. Regarding the place of origin of malignant disease, he considered, as the result of observation, that it could spring from any tissue in the uterus, and then spread to other tissues; that each fresh tissue affected would take on the action more according to its own nature than to that from which it was influenced: for instance, that epithelioma would not communicate epithelioma to fibrous or connective tissue, but, supposing that epithelium was first affected, and the malignant action extended to fibrous tissue, then rather that scirrhus was formed; and so, in connective tissue, we get the infiltrating kind, like that which occurs in the connective tissue in the breast. However, this opened up the question as to the nature of malignant disease at large, which was too wide a subject for the present time; but he would say that he had seen, on the confines of malignant disease of the cervix removed by amputation, under the microscope, the mode of extension taking place in the nuclei of the fibre-cell, enlarging, then dividing inside the old cell, bulging out its centre. In like manner, as he had pointed out in the *Guy's Reports*, and again in the *Pathological Transactions*, he had seen the nucleus in the wall of the bloodvessels enlarge, and then divide into two or three cells, bulging into the canal of the bloodvessel, giving it a bead-like appearance, but ultimately going on so far as to obstruct the current completely; and this would serve to explain why it was that sloughing so readily occurred in some of these growths.

Dr. Murray quite agreed with the President as to the difficulty of diagnosis in cases of cancer of the fundus uteri and fibroid disease of the body of the uterus. He had lately seen a case where not until after death was it shown that true cancer of the fundus uteri existed, and death resulted from perforation of the uterine walls, with hæmorrhage into the peritoneal cavity. During life none of the symptoms present belonged more especially to either cancer or fibroid disease.

Epithelioma of the Cervix Uteri.

Dr. Clement Godson communicated for Dr. Chas. J. Savory the particulars of a most interesting case of epithelioma of the cervix uteri, complicated with pregnancy; removal of diseased portion; subsequent delivery of a healthy child; recurring pregnancy. J. W., aged thirty-five, married sixteen

years, eight children, had a sanguineous and at times watery discharge, offensive in character. A large cauliflower excrescence was detected, and removed by the écraseur on October 27, 1870. On January 12, 1871, she was delivered of a female living child, both doing well. On June 25, 1873, she was again taken in labour, and after some little difficulty turning was accomplished, and a dead child extracted, no undue hæmorrhage occurring. Patient succumbed thirteen days after, apparently from sheer exhaustion—two years and nine months from the date of first operation. Dr. Godson remembered the case well. The enlargement of the uterus was attributed to the disease supervening so immediately on parturition. Pregnancy being overlooked, the patient was perhaps spared the perils attending Cæsarian section. The case showed how much might be done to the uterus and its appendages during pregnancy without abortion taking place.

The President asked whether the question of making incisions in the cervix to facilitate the expulsion of the child had been proposed in place of Cæsarian section.

Dr. Murray remarked that a practical point of great interest was that even if pregnancy be diagnosed there would be no harm in removing the mass.

Dr. J. Braxton Hicks remarked on the importance of having some rules for the management of cases of pregnancy in malignant disease of the cervix. He thought it, however, almost impossible to obtain any. Each case must be judged of by itself. However, in considering whether we should induce labour or leave the case for Cæsarian section at full time, a primary question would arise—Can the woman live till full term? Again, in determining the question in regard to the induction of labour, is the disease limited to the os and lower cervix, or does it extend to the lower part of the body of the uterus in such a way as to render delivery very difficult? If these are difficult, a third may arise—Can we leave the induction to the viability of the child, or must we procure abortion? So much depended on the amount and position of the disease and the state of the patient, that Dr. Hicks feared it would be difficult to lay down definite rules. He instanced some of the cases which he had seen.

Dr. Heywood Smith thought it fortunate delivery did not happen soon after the operation, for he was sure that the puerperal state was a very great element of additional danger. He had a similar case some three years ago. Labour set in about the fifth month; delivery was effected by podalic version, and the child born alive. Removal of the malignant disease of the cervix was effected by means of the écraseur, the tissue cut through being apparently healthy. The patient, however, died on the fifth day. The better practice would have been to have postponed the operation until the puerperal state had been recovered from.

The President thought one of the most interesting points in the paper was that the operation was performed without bringing on labour. It was generally supposed that no operation should be performed during pregnancy—not even removing a tooth,—but the case proved otherwise.

Mr. Spencer Wells, at the next meeting, will introduce the subject for the evening's discussion—"The Relation of Puerperal Fever to Infectious Diseases and Pyæmia."

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, March 9.

Sir James Paget, Bart., F.R.S., D.C.L., LL.D., President, in the Chair.

Urinary Crystals and Calculi.

Dr. William M. Ord read a paper with the above title, being observations on some of the circumstances determining the forms of crystalline deposits in urine, and on some of the conditions under which renal and vesical calculi are produced. The starting-point of the paper is the remarkable difference between the crystalline form of pure uric acid and the form of uric acid in urine, the former being in oblong rectangular tablets, the latter in rhombohedra with rounded obtuse angles; the former in separate crystals, the latter very often in zeolithic masses. After a brief notice of former observations showing that uric acid deposited in the presence of albumen and other colloids tended to assume spherical forms, and in the presence of sugar and other crystalloids tabular and angular forms, a series of experiments having for their object the determination of the causes of the altered form of urinary uric acid are related. The conclusion drawn from these experiments is, that mucus and the colouring matter of the urine are both agents in producing the ordinary urinary form of uric acid; that either agent is capable of exerting this influence without the presence of the other; that these are probably the sole agents in ordinary urine. The forms of uric acid in albuminous urine are next considered. It is remarked that while they tend generally to sphericity, they vary much in the degree of their tendency. It is inferred from a series of observations which are related in a generalised form that a larger proportionate quantity of urea in albuminous urine constitutes *pro ratâ* an obstacle to the sphere-forming process. Two forms of uric acid are noted as occurring in sugary urine—one a flat rhombohedron with chiselled ends, the other a six-sided tablet with sharp ends, the latter being a rare form. Purulent mucus is shown to have a great power of converting uric acid to sphericity, and of causing aggregation of spheres into calculi. Dr. Vandyke Carter's observations on the structure of calculi are referred to, and it is argued that the experiments now related agree from the synthetic point of view with his analyses. The influence of colloids, and particularly of mucus, in favouring the formation of calculi within the urinary passages is inferred to be of first importance, and much worthy of regard as bearing upon practice. Uric acid and other crystalline substances do not of themselves tend to form calculi, but are moulded by the other constituents of the urine. The part taken by the temperature of the body in furthering the process is discussed and regarded as important. The forms of urates, and the influence upon them of chlorides, albumen, and mucus, are next noticed. Mucus in a high degree, and albumen in a less degree, are noticed as favouring the formation of spheres, chiefly in association with a concentrated condition of the urine. This particularly applies to the spherical form of urate of soda observed by Golding Bird, Thudichum, Beale, Roberts, and others. Oxalate of lime: The formation of dumb-bells under the influence of colloids, already elsewhere suggested by Dr. Beale, and described by the author, is referred to, and several cases of spheroidal modifications of oxalate of lime in urine containing colloids are brought forward. Triple phosphate is much less easily moulded by colloids than the substances hitherto treated. But it is shown that mucus aided by warm temperature can, and does, modify triple phosphate towards sphericity, and favour calculous deposit. And the forms obtained under such circumstances agree in a remarkable way with the forms of triple phosphate found by Dr. Vandyke Carter in calculi. The influence of albumen on the form of nitrate of urea is noted. Bearing of the foregoing observations on micro-morphology: It is urged that in the microscopy of the future we shall, beyond recording the forms of the tissues, go on to interpret the meanings of forms, compelling form to tell the story of growth and function, following out the relations between form and substance, and proceeding to the discovery of the laws of tissue-formation.

Mr. Brooke, referring to one of the figures of oxalate of lime crystallised in the presence of mucus, asked whether the pentagonal form which it was represented as having was accurate.

Dr. Ord replied in the affirmative. The figure was that of the centre and sides of an octahedron tending to the spherical form.

Dr. Dickinson said, in regard to the comparative frequency of uric acid and oxalate of lime as the nucleus of calculi, that he did not agree with the author and the statements found in text-books. His own experience was that oxalate of lime was by far the most important. Urinary calculi were most abundant in districts where the drinking-water was hard from the presence of salts of lime; and the chemical condition of the urine had probably more to do with the development of calculus than had catarrh of the urinary tract.

Mr. Thomas Taylor referred to his own investigations on the structure of calculi, and especially to his examination of those in the Museum of the College of Surgeons. In regard to the organic material or basis of urinary calculi, he said that he could have wished that Dr. Ord had designated it by a more definite term than "mucus." He had himself found extreme difficulty in separating the organic from the inorganic constituents without destroying the former; and after separation it had been impossible to determine the nature of the organic.

Mr. Taylor described his views on the process of formation of urinary calculi. The albuminoid exudation which coated the crystalline basis was probably derived from the pelvis of the kidney.

Mr. Savory spoke in the highest terms of the original investigations of Mr. Rainey upon the influence of viscidity on the form of crystals. These discoveries had not received the attention which they deserved.

Dr. Broadbent pointed out that no animal basis was required to connect the crystals.

Dr. Ord replied. He said that, with respect to Dr. Dickinson's remarks, he had referred to the chief ingredients, not the nucleus of calculi. In regard to the difficulty described by Mr. Taylor as having been found by him in discovering the nature of the organic basis of calculi, he pointed out that the ordinary reactions of mucin may be lost after combination in calculi. Finally, he acknowledged his great obligations to Mr. Rainey both in the undertaking and execution of his present investigation.

THE PATHOLOGICAL SOCIETY.

Tuesday, March 16.

Mr. George Pollock, F.R.C.S., President, in the Chair.

Syphiloma of the Heart.

The report of the Morbid Growths Committee on Dr. Burney Yeo's specimen of growth in the heart (see *Medical Times and Gazette*, January 16, page 74) was read. The endocardium was found to be unaffected; the growth extended into the myocardium without demarcation. There was no other growth of the same kind. Microscopically the growth was composed of masses of cytoblasts, of irregular shape and size, and a few fusiform cells, with a scanty non-cytogenous matrix. The cell-growth could be traced for some distance outwards between the muscular fibres. Still farther from the centre, where the heart was macroscopically healthy, there was an increase of the connective tissue. There was no evidence of degeneration. The reporters considered the change to have been a complex one, consisting of (1) hypertrophy of the connective tissue; (2) accumulation of embryonic cells; and (3) atrophy and absorption of the muscular substance. The whole appearance resembled that of a granuloma, and it was to be described as a syphiloma of recent and rapid growth.

Skin Disease associated with Disease of the Nervous System.

Mr. Jonathan Hutchinson brought forward an infant in which this association existed. The child, now twenty-four months old, was the sixth of the family; its parents were healthy, and there was no reason to suspect syphilis or other constitutional disease. The infant was healthy at birth, but at the age of a few days it was exposed on the pillow to very great cold, and thereafter was attacked with bronchitis, and convulsions lasting for hours and threatening to prove fatal. At the end of ten days the skin became affected; it was inflamed, and covered with vesicles, and after several weeks large scabs formed on several parts. From this condition the child gradually recovered. The foregoing history was furnished to Mr. Hutchinson when he first saw the child at six months. Just before this, however, the right eye had been removed by Mr. Couper for inflammatory disease of the choroid and retina. The skin on examination was found to present in places superficial cicatrices evidencing previous ulceration; these were peculiarly pigmented; and a few scabs were mixed with them on the limbs. During the last eighteen months the condition of the child has improved. For the last year the skin has been sound. The child has grown, but both muscular and intellectual development has been very imperfect; it cannot stand; the thumbs are bent on the palms; it speaks but a few simple words; it has only five teeth; the head is small, and the anterior fontanelle is firmly closed. The remaining eye is also defective, the pupil being dilated, and vision impaired. Mr. Hutchinson said that he could not call the disease by a name. He remembered two cases in adults where the skin became affected after exposure to cold. He would draw attention to this as a possible cause, without venturing on any theory. The convulsions were very important when taken along with the condition of the eye and the teeth. The disease was probably connected with some condition of the spinal system; the skin of the head had never been affected. Yet the arrangement of the pigmented patches had no relation to the distribution of nerves. The brown marks were to be found in the parts of the skin that had been most inflamed, although traces of scars were not always visible. The affection was nearly symmetrical, but was slightly more marked on the left side of the trunk and limbs.

Dr. Murchison said that the effect of cold on the distribution of pigment had once been brought under his notice. A gentleman of forty was exposed to the force of a severe storm of hail on one side of his face. No inflammation followed, but within a few days some parts of the skin became very dark and some light, and the hair in places turned white. The patient suffered much from the cold at the time. The corresponding side of the face afterwards became somewhat atrophied, and the pigmentary change extended round the neck. There was no facial paralysis whatever; the atrophy was slowly developed, and it persists.

Chronic Herpes.

Mr. Croft brought forward a patient with a vesicular eruption on a scar after removal of a growth with similar vesicles. In 1872 Mr. Croft exhibited a piece of integument excised from the left side of the chest of a child over the seventh intercostal space (*Medical Times and Gazette*, 1872, November 16, p. 557). Vesicles were there seen on the surface, either containing a clear or a hæmorrhagic fluid, or dry. The deep portion of the growth was nævoid. The whole was removed, the child being eight years of age. In January last the child again came under observation. The scar was found covered with vesicles, which had returned four months after the operation. The eruption was, as before, attended with pain, and pressure caused faintness or even sickness. Mr. Croft said that he believed there was no essential connexion between the nævoid growth and the vesicles, and that the growth was essentially neurotic, and ought to be styled chronic herpes. The eruption would appear to be connected, not with a local affection of nerve, but with some condition of the centre—the root of the spinal nerve.

Internal Strangulation.

Dr. Mahomed showed a specimen of strangulation of the intestines by a fibrous band. The patient, a man of eighteen, began to suffer from abdominal pain and sickness eight days before his death, after a meal of badly cooked potatoes. The vomiting persisted, and became fæcal on the seventh day; there was no passage by the anus. No abdominal tumour could be felt. The patient was suffering at the same time from a hard chancre, condylomata, and eruption. He had never had similar symptoms before. Post-mortem, a fibrous band was found passing across the peritoneal cavity from the anterior abdominal wall to the right iliac fossa. In the latter situation it reached the lower end of the ileum, and passed one and a half times round the gut, which it enclosed in a noose. The anterior extremity of the band was connected with the abdominal wall, where it divided into two parts—one passing up to the umbilicus, and the other down to the superior vesical artery. The posterior extremity of the band entered the mesentery, and joined the superior mesenteric artery. The structure was therefore an abnormal hypogastric artery. The intestine was obstructed at the seat of stricture, and was greatly distended above. There was no local peritonitis. A small diverticulum was found below the obstruction—probably the remains of the vitelline duct. Dr. Mahomed said that it was a question whether the band had always encircled the gut, and had only lately constricted it,—at the commencement of the fatal illness.

Mr. Spencer Wells asked whether the urine was examined in this case, and if so whether any bile was found in it. He said that he put this question because a specimen which Mr. Knowsley Thornton was about to exhibit was from the third case in which this phenomenon had been observed to come on as an early or first symptom of obstruction of the intestine. He believed that it might be a symptom of great value clinically.

Mr. Knowsley Thornton therefore showed his specimen illustrative of

Obstruction of the Intestine after Tapping of an Ovarian Cyst.

A woman had been admitted into hospital apparently dying of liver disease; but on being tapped the swelling on the right side discharged a quantity of fetid pus. The patient improved, was discharged, and after a time returned to be treated by ovariotomy; but she was found to be again ill, the

urine contained bile, and she died. On examination it was found that at the seat of the tapping the intestine had suffered constriction, and that the symptoms had been due to this condition. The question was, what was the significance of bile in the urine in such cases?

Mr. John Wood spoke on the anatomical aspect of Dr. Mahomed's specimen. He said he believed that the abnormality was not to be accounted for as it had been in the description given. He had never seen such a connexion between the superior mesenteric and the hypogastric arteries.

Dr. Murchison said that in regard to the question of bile occurring in the urine in intestinal obstruction, he was not familiar with any such association. Surely jaundice was not a common symptom of obstruction of the bowels? He asked whether the bile acids or the pigments were found in the urine.

Mr. Spencer Wells explained that in the case mentioned by himself and described by Mr. Thornton there was marked jaundice, but no apparent disease of the liver. The same occurred in his second case, not in the first. The discovery of bile in the urine in three cases of obstruction of the bowels in succession was so remarkable that he had been induced to record them. In all cases the obstruction was far down. It was a well-known fact that high obstruction is attended with almost complete suppression of urine.

Mr. Maunder suggested the examination of urine in cases of strangulated hernia.

Mr. Hulke said that in two cases of obstruction of the small intestine which he could recall—not far from the situation in Mr. Wells's cases, and by fibrous bands—there was no jaundice and no bile in the urine.

Mr. Jonathan Hutchinson believed that suppression of urine in high obstructions was due to vomiting, which prevented the absorption of fluids. He referred to the case of intussusception in a dog which he had exhibited at a previous meeting (*Medical Times and Gazette*, January 9, page 51), where the animal was deeply jaundiced.

Molluscum Fibrosum.

The President announced the result of his operation on the case of Molluscum Fibrosum which he had brought forward at the last meeting (see *Medical Times and Gazette*, March 27, page 352). The anatomical condition found was quite the same as previously described by him—namely, hypertrophy of the skin,—but there was a good deal of albuminoid deposit in the areolar tissue. The vessels were large, the veins reaching the size of the little finger. The patient never recovered from the effects of operation, and died in the following week.

Mixed Tumour of the Wrist.

Mr. Barwell exhibited such a specimen, removed by operation from a woman of fifty-one, who was in perfect health. The disease was first observed five years ago, as a nodule as large as a pea. Nineteen months ago a small ulcer formed at the carpal end of the tumour, and it became painful. Before removal it presented the appearance of very hard nodules, movable on the anterior annular ligament and on each other. When excised it was found to be composed of cartilaginous and bony tissues, united by a stroma, partly of spindle-shaped cells. The skin superficial to the tumour was so occupied by the morbid growth that it was removed along with it. (The specimen was referred to the Committee on Morbid Growths).

Myeloid Tumour of the Head of the Humerus.

Mr. Barwell also exhibited the head and upper part of the shaft of the humerus, removed by operation from a boy of ten, for malignant disease. The history of the case was that of ordinary joint-disease—the boy had fallen on his elbow, the shoulder became affected, and was excised. It was then found that the parts were involved in disease which presented various forms of sarcoma,—giant-cells, fibre-cells, and evidences of fatty degeneration being discovered. The disease returned within a month after operation near the coracoid process, and spread down to the arm. This form of malignant disease was probably hereditary in the patient's family.

Tumour of the Scapula.

Mr. John Wood exhibited the left scapula, with large growths involving both aspects of the bone, which he had removed by operation from a man of twenty-four. The disease had been of five months' duration; when first seen, a tumour projected under the deltoid and the muscles of the back, and tilted the scapula out. Mr. Wood described the steps of the operation of removal of the diseased bone, which was performed under ether. The disease involved the substance of the subscapularis and serratus magnus, as well as the sheath of the brachial plexus. Chloride of zinc was freely used. Only two arteries of any size required ligaturing. The wound was now healing very satisfactorily, and the patient recovering his health and strength. There was no appearance of return of the growth. Mr. Wood referred in this connexion to a very similar case, where Sir William Fergusson removed the scapula and arm many years ago. There the brachial plexus was scraped free of the growth, and the patient was still alive.

Fibro-Fatty Tumour from the Zygomatic Fossa.

Mr. Wood also exhibited a specimen of this nature. The disease occurred in a boy of twelve; it projected as a tumour in the temporal fossa, while it encroached upon the mouth, pushing the upper jaw in and the cheek out, and preventing the apposition of the teeth. It had existed for five years, and been variously treated. Mr. Wood, in removing the tumour, made an incision in the temple and a second in the cheek, and by passing a finger in at either opening succeeded in almost enucleating the growth. Adhesion existed at one point, and this was overcome by forceps; the tumour was then removed in two parts. A sponge soaked in chloride of zinc solution was then passed through the wound, and a drainage-tube left in it. Scarcely a bad symptom followed, and the patient is fast recovering. On examination of the tumour it was found that some of the cells were remarkably like those of a nasal polypus—probably immature fat-cells. It was difficult to see how the present tumour could have any nasal connexion.

Mr. Maunder said that in two cases of nasal polypus he had found a process extending into the zygomatic fossa; of these one died, and the other is still alive with the process *in situ*, the root being at the base of the skull. These tumours were purely fibrous.

The President remarked, in reference to Mr. Wood's first case, that he adopted previous compression of the subclavian artery in operating for removal of the scapula; the result had been that there was little or no depression.

Ovarian Cyst with Papillomatous Growths in its Interior.

Mr. Knowsley Thornton exhibited a simple ovarian cyst with such growths, which had been removed by Mr. Spencer Wells last month. The disease had lasted three years, and increased after tapping last July. From the interior of the cyst, which was unilocular, and presented no septa, there sprang papillary growths or buds, consisting of a superficial epithelium continuous with that lining the cyst, and a connective tissue as in the outer part of the cyst-wall. Some of the buds contained cartilage and bone. The cyst was probably derived from a single Graafian vesicle.

The second specimen shown by Mr. Thornton was that previously referred to in the proceedings of the meeting in connexion with obstruction of the bowels after tapping (*vide supra*). The cyst in this case also probably grew from a Graafian vesicle. Unilocular cysts were generally said to be cured by tapping. But would not such an operation involve the risk of the escape of some of the cells or buds contained in the fluid into the peritoneal cavity, where they might set up fresh growth? Extirpation would obviate this risk.

Mr. Spencer Wells said that this case showed the value of the microscopical examination of the cystic fluid. Here there was a simple cyst, but examination of the contents proved that it was not extra-ovarian, but contained elements of the Graafian vesicle. The necessity of ovariotomy was thus at once foretold. It proved that not only would tapping give a chance of infection, but that it would not effect a cure.

Dr. Dobell has been elected a Consulting Physician to the Royal Hospital for Diseases of the Chest, City-road. The Council of the Hospital have presented a handsome framed and glazed vote of thanks to Dr. Dobell on his retirement from the post of Physician, which he has held for the past sixteen years.

Professor Parker, F.R.S.—This distinguished gentleman brought his interesting course of lectures "On the Structure and Development of the Skull" to a close on Wednesday last in the theatre of the College of Surgeons. In June next Professor Henry Lee will commence his course of six lectures "On Syphilis and on some Local Diseases affecting principally the Organs of Generation."

NEW INVENTIONS.

EFFERVESCING FLUID CITRATE OF MAGNESIA, AND DOUBLE-STRENGTH FLUID MAGNESIA.

Messrs. Kinmond and Co., of Leamington, have brought out an effervescing fluid citrate of magnesia in an ingeniously arranged "duplex" bottle. The larger compartment of the bottle holds "fluid magnesia" of double the strength of the liquor magnesiæ carbonatis of the British Pharmacopœia, while the smaller attached compartment contains a sweetened and flavoured solution of citric acid. The fluids are meant to be used in the proportion of two tablespoonfuls from the large to a teaspoonful from the small compartment, which, when mixed, form a pleasant effervescing drink. It is a very handy, portable invention, and likely, we should think, to meet with much favour.

Messrs. Kinmond and Co. have also sent us a sample of a double-strength fluid magnesia, which contains twenty-six grains of carbonate of magnesia per fluid ounce—that is, twice the quantity per ounce contained in the ordinary solutions. This will, no doubt, be found very convenient and useful. But we may observe that with this solution, as with the one above noticed, unless the bottles are kept very carefully corked a deposit of magnesia takes place.

OBITUARY.

WILLIAM BEATTIE, M.D., F.R.C.P., etc.

This accomplished and amiable physician died at his residence, 13, Upper Berkeley-street, Portman-square, on the 17th ult., at the ripe age of eighty-two. He was born in the Vale of Annan, Dumfriesshire, received his early education in Clarencefield Academy, and entered as a student of the University of Edinburgh in 1813. After taking the degree of M.D. he prosecuted his studies in London till 1822, and afterwards at the chief medical schools on the Continent. He commenced practice in London in 1830. Through the introduction of Sir Andrew Halliday he was appointed Physician to William IV. and Queen Adelaide, when Duke and Duchess of Clarence, and held this appointment for eight years. For three years he acted as private secretary to their Royal Highnesses, and accompanied them in their visits to foreign courts. His only recompense for these services as physician and secretary was a present of silver plate. Dr. Beattie's literary works are well known. "The Courts of Germany" was published in 1827, "John Huss," a poem, in 1829; afterwards, in succession, appeared "Heliotrope, or a Pilgrim in Quest of Health"; "Polynesia," a poem; "Switzerland Illustrated"; "Scotland Illustrated"; "The Waldenses, or Protestant Valleys of Piedmont"; "The Castles and Abbeys of England"; "The Danube Illustrated"; and "Dramatic and Prose Miscellanies." His most popular work, however, is "The Life and Letters of Thomas Campbell," to whom he was both friend and physician, and it was through his persevering efforts that a statue to the poet was placed in Westminster Abbey. Dr. Beattie was also strongly attached to Samuel Rogers, who requested him to close his eyes, as he had done those of Campbell. Dr. Beattie proved himself a steady friend to the Countess of Blessington in her trials and reverses, and rendered valuable services to Lady Byron. Dr. Beattie was a member of many of the historical and medical societies of Europe, and contributed to the leading periodicals. Several of his works have been translated into German and other Continental languages, and he published a Latin treatise on pulmonary consumption. In an unfortunate moment Dr. Beattie was induced to invest a large sum in the Albert Assurance Office, and when the Company failed he lost upwards of £7000. This was a great shock to one of his advanced age, and probably accelerated his end; but he bore the loss with manly fortitude, and all he said in reference to it to the writer of this article was that he regretted that he should be obliged to give up his charitable donations to the amount of £300 a year. He was a most kind-hearted, generous man, and no one in distress ever appealed to him in vain. For forty years he gave his professional aid without fee or reward to clergymen and literary men. He had an exalted opinion of the medical profession, never looking upon it as a trade. He died a widower, and has left no family.

SILAS PALMER, M.D. Edin., F.S.A., etc.,

Died at his residence, London-road, Newbury, Berkshire, on the 24th ult., in the fifty-seventh year of his age. He had an extensive practice, but managed to devote some time to, and was well known for, archæological and antiquarian researches in the county and the adjoining counties. For some years he was the local secretary to the British Archæological Association. He established several years ago the Newbury and West Berks Field Club, and his efficient services as honorary secretary mainly contributed to the success of the annual excursions made by the members. He was the author of articles in the *Brit. Archæol. Journ.*, and contributed "Case of Urethro-Vaginal, Recto-Vaginal Fistula, and Calculus Vesicæ, successfully treated," *Prov. Med. Journ.*, 1852; and "Treatment of Herpes Zoster—Cases of Knots on the Umbilical Cord and Furrows on the Nails."

MEDICAL NEWS.

Apothecaries' Hall. — The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, March 25:—

Day, Edward Joseph, Woodgates, Dorset
Karop, George Charles, Middlesex Hospital.
Prichard, Arthur William, Clifton, Bristol.
Seward, William Joseph, Hereford.
Wilkins, Gilbert Hamilton, 112, Brixton-road.

The following gentlemen also on the same day passed their primary professional examination:—

Angove, William Thomas, St. Bartholomew's Hospital.
Birt, Louis Francis Hugh, Charing-cross Hospital.
Blackman, Joseph George, Charing-cross Hospital.
Hill, Alfred Bostock, Birmingham Hospital.
Mains, Walter, Middlesex Hospital.
Price, Ebenezer Edmund, Middlesex Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that take place.

Cumming, H. Gordon, M.R.C.S., L.R.C.P., L.S.A.—House-Surgeon to the Devon and Exeter Hospital, Exeter.

Gay, Harry, M.R.C.S. Eng., L.S.A.—Medical Officer to the East District of Spilsby Union, *vice* Dr. Thimbleby, resigned.

Hilles, J. R., L.R.C.S.I., L.M.—Assistant Resident Medical Officer at the Kilburn Dispensary.

Johnston, J., M.B.—House-Surgeon to the Children's Hospital, Birmingham.

Odlum, D. C. G., M.B., C.M.—Assistant Medical Officer to the Durham County Asylum.

Parkes, Alfred, M.R.C.S.—House-Surgeon to the West Bromwich District Hospital, *vice* J. Johnston, M.B.

Parkhouse, Henry, M.R.C.S., L.S.A.—Senior Resident Medical Officer at the Kilburn Dispensary.

BIRTHS.

Brown.—On March 25, at 1, Bartholomew-road, Kentish Town, the wife of Andrew Brown, L.R.C.P.E., L.R.C.S.E., of a son.

Daly.—On March 30, at 101, Queen's-road, Dalston, the wife of Frederick H. Daly, M.D., of a daughter.

Hill.—On March 25, at 17, Guilford-street, Russell-square, the wife of John D. Hill, F.R.C.S. Eng., of a son.

Mosely.—On March 26, at 5, Grosvenor-street, Grosvenor-square, W., the wife of B. E. Mosely, M.R.C.S. Eng., of a daughter.

Orton.—On March 28, at Crouch End, Hornsey, the wife of F. Orton, M.D., of a son.

Smith.—On March 23, at 2, Portugal-street, Grosvenor-square, the wife of Heywood Smith, M.D., of a son.

MARRIAGES.

Crombie—Bell.—On March 13, at Rangoon, British Burmah, Alexander Crombie, M.D., H.M. Indian Army, to Zélice Minto, eldest daughter of the late William Bell, M.D., Inspector-General of Hospitals.

Gundry—Davey.—On March 24, at Frampton Cotterell, William, eldest son of Joseph Gundry, Esq., Sidcup, Kent, to Florence E. Barwell, seventh daughter of James George Davey, M.D., formerly of the Ceylon Civil (Medical) Service, Northwoods, Gloucestershire.

Jeffes—Elliston.—On March 30, at St. Martin's-in-the-Fields, London, Thomas Edward Jeffes, Esq., solicitor, Brussels, second son of the late John Jeffes, Esq., solicitor, of Harleston, Norfolk, to Amelia Mary (Millie), elder daughter of the late William Elliston, M.R.C.S., Ipswich.

MacSwinney—Holcombe.—On March 25, at the Cathedral, Colombo, George Henry MacSwinney, M.D., of Haldamulla, Ceylon, to Corbetta Catherine, second daughter of Charles Alexander Holcombe, M.D., of Liverpool.

DEATHS.

Best, Alexander Vaus, M.D., F.R.C.S. Eng., of Aberdeen, at Hyères, France, on March 25.

Cumming, James Cameron, M.D., late of 1, Cadogan-place, London, at Exmouth, on March 23, aged 72.

Eastwood, Gertrude Edith, daughter of J. W. Eastwood, M.D., M.R.C.P., at Dinsdale-park, Darlington, on March 28, aged 3.

Gabb, Janet, beloved wife of A. W. Gabb, M.R.C.S., and daughter of the late Archdeacon Trew, at 4, Spring-grove-villas, Cheltenham, five days after the premature birth of a son, on March 23, aged 37.

Hardinge, Jane, the beloved wife of Henry Hardinge, M.D., at 18, Grafton-street, Berkeley-square, on March 26, aged 52.

Hawthorne, Harriette Isabella, second surviving daughter of the late George Stewart Hawthorne, M.D., of Liverpool, at Fir-grove, Lydiate, near Ormskirk, on March 26.

Johnson, Mary Hannah, wife of James Johnson, M.D., at The Chantry, Norwich, on March 27.

Macmullen, Anne, widow of the late S. H. Macmullen, M.D., at Taunton, on March 29, aged 90.

Muirhead, Janet Catherine Mary, only child of Claud Muirhead, M.D., at 7, Heriot-row, Edinburgh, on March 28.

Nevill, Edward Keating, C.E., A.B.T.C.D., second son of William Nevill, M.B., Dungannon, Ireland, and grandson of the late very Rev. John William Keating, D.D., Dean of St. Patrick's, Dublin, on board the ss. *Elysia*, from New York, shortly before the ship entered Lough Foyle, on March 18.

Stewart, Duncan, M.D., late Surgeon-Major H.E.I.C.S., at Tunbridge Wells, on March 26, in his 71st year.

White, Alice Jane, beloved wife of Dr. B. White, Surgeon A.M.D., at Sandgate, Kent, on March 28, aged 24.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

Bradford Infirmary and Dispensary.—Physician. Candidates must be duly qualified. Applications, with testimonials, to Mr. Charles Woodcock, Secretary, 65, Market-street, Bradford, on or before June 12.

Brixton, Streatham, and Herne-hill Dispensary.—Resident House-Surgeon. Candidates must be unmarried, and possess both a medical and surgical qualification. Applications, with testimonials, to J. T. Mercer, Esq., M.B., Leicester Villa, Effra-road, Brixton, S., on or before April 5.

Central London Ophthalmic Hospital, Gray's-inn-road, W.C.—Assistant-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before April 3.

Cheltenham General Hospital and Dispensary.—Honorary Medical Officer to the Branch Dispensary. Candidates must be duly qualified. Applications, with testimonials, to the Board of Governors, on or before April 17.

Dundee Royal Infirmary.—Resident Medical Superintendent. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, D. Gordon Stewart, Esq., Solicitor, Dundee, on or before April 21.

Liverpool Royal Infirmary.—Resident Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to the Chairman of the Committee, on or before April 10.

Royal Edinburgh Asylum.—Assistant-Physician. Applications, with testimonials, to Dr. Clouston.

St. Thomas's Hospital.—Assistant Obstetric Physician. Candidates must be medical graduates of a University in the United Kingdom. Applications, with testimonials, to the Treasurer, at St. Thomas's Hospital, Westminster-bridge.

Sheffield Public Hospital and Dispensary.—Assistant House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to Dr. J. C. Hall, Honorary Secretary.

Torbay Infirmary, Torquay.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Honorary Secretary, Hemsworth, Torquay.

Wolverhampton and Staffordshire General Hospital, Wolverhampton.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Chairman of the Medical Committee, on or before May 3.

Worcester County and City Lunatic Asylum, Powick, near Worcester.—Second Assistant Medical Officer. Candidates must be unmarried, qualified, and registered. Applications, with testimonials, to Dr. Sherlock, at the Asylum, on or before April 5.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Burton-upon-Trent Union.—The Etwall District is vacant; area 17,527; population 4307; salary £60 per annum.

Gravesend and Milton Union.—Mr. F. W. E. R. Goedicke has resigned the Milton District; population 13,073; salary £85 per annum.

Wirral Union.—Mr. F. Peirce has resigned the Upton District, area 12,310; population 4731; salary £30 per annum.

APPOINTMENTS.

Bradford (Yorks) Union.—Wm. B. Procter, F.R.C.S. Eng., L.S.A., to the Workhouse.

Downham Union.—Samuel H. Wheatcroft, M.R.C.S. Eng., L.S.A., L.R.C.P. Edin., to the Sixth District.

Ellesmere Union.—Thos. L. Bookey, L.R.C.S. Ire., L.K.&Q.C.P., L.S.A., to the Hanmer District.

Great Yarmouth Borough.—Mr. Francis Sutton as Analyst.

Greenwich Union.—E. H. Downing, M.R.C.S. Eng., L.R.C.P. Edin., to the South Deptford District.

Hatfield Union.—J. Wonkey, M.R.C.S. Eng., L.S.A., to the First District. L. F. Osbaldeston, M.R.C.S. Eng., L.S.A., to the Third District.

Henstead Union.—David S. Penrice, M.R.C.S. Eng., L.S.A., to the Second District.

Liverpool Parish.—Armand Bernard, M.B. Dub., L.R.C.S. Edin., to the Seventh and Eighth Districts. John Sinclair, M.D. Glasg., M.R.C.S. Eng., L.S.A., to the Tenth District.

Mansfield Union.—Thos. Godfrey, M.R.C.S. Eng., L.S.A., to the First District and the Workhouse.

Whitby Union.—Charles M Meller, M.D. St. And., M.R.C.S. Eng., L.S.A., to the Fylingdales District.

Woburn Union.—John Waugh, B.M.&M.C. Dub., to the Toddington District.

SUPERANNUATION ALLOWANCE.

Liverpool Parish.—Mr. James Garthside, after thirty-four years' service as a Medical Officer of the Parish, has been awarded a retiring allowance of £100 per annum.

The Social Science Association has fixed October 6 to 13 for holding the Congress, at Brighton, this year. At the same time there will be in connexion with it an exhibition of sanitary appliances and apparatus.

Royal College of Surgeons.—At the last meeting of the Council, on the 24th ult., the following gentlemen, having been elected Fellows at a previous meeting, were admitted as such—viz., Messrs. Alfred George Roper, L.S.A., of North-end, Croydon, diploma of Membership dated October 8, 1840; and Peter Broome Giles, L.S.A., of Staunton-on-Wye, Hereford, December 11, 1840.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

L.R.C.P. Edin.—The late Sir James Young Simpson, Bart., was born at Bathgate, Linlithgowshire, on June 7, 1811. Created a baronet in 1866.

E. R.—It was a true observation of Dr. Arnold, "It is not labour, but vexation, that hurts the man." Dr. Cumming also observes that "Work never kills, but worry too often does." The poet says—

> "When sore affliction comes
> In the decline of life, 'tis like a storm,
> Which, in the rear of autumn, shakes the tree
> That frost had touched before, and strips it bare
> Of all its leaves."

Mr. Simpson.—The primary examination in Anatomy and Physiology for the diploma of Membership of the College of Surgeons will take place this day (Saturday).

Ethnologist, Bristol.—On application to Professor Flower, we have no doubt he will show you the painting formerly belonging to John Hunter, of portraits of White Negress, her husband (a native of Yorkshire), and their offspring, a son and daughter; the latter was nearly as dark-coloured as if her mother had been black, and had short, woolly, jet-black hair. The painting is by Zoffany, R.A.

Dr. Campbell.—Sir James Simpson's "Notes on the Inhalation of Sulphuric Ether in the Practice of Midwifery" appeared in the *Monthly Journal of Medical Science*. Shakespeare says—

> "Not poppy, nor mandragora,
> Nor all the drowsy syrups of the world
> Shall ever med'cine thee to such sweet sleep."

The Lancet.—It was a common occurrence for persons to call on their medical men to be bled; and Sir Cæsar Hawkins, who retired about 1777, is said to have made *one thousand guineas* per annum by his lancet alone. There is a portrait of him in the College of Surgeons, painted by the celebrated Hogarth.

H. M., St. Bartholomew's.—Certificates of a course of lectures on Comparative Anatomy are required for the Fellowship of the College of Surgeons. Mr. St. George Mivart will lecture on the subject in May, June, and July, at the Catholic University College, Kensington.

L. Seymour.—Interesting biographical sketches of the late Mr. Thomas Wormald appeared in this journal, and in the last volume of *St. Bartholomew's Hospital Reports*. Messrs. Barraud and Jerrard have just published a photograph of the gentleman.

The Ashley Fund.

The following is the final list of subscriptions to the above-named fund:—

Dr. Greenhall, Hastings	£1	0	0	J. C. Vawdrey, Esq.	1	1	0
J. T. Clover, Esq.	2	2	0	J. J. Russell, Esq.	5	0	0
Dr. Atwood	3	3	0	A Friend	1	1	0
H. Stear, Esq., Saffron Walden	2	0	0	T. Davies, Esq.	5	5	0
Mrs. Jolley	1	1	0	R. Michell, Esq.	1	1	0
R. O. White, Esq.	2	0	0	W. B. Owen, Esq.	1	1	0
J. E. Erichsen, Esq.	10	10	0	J. Owen, Esq.	0	10	6
Dr. Dow	1	1	0	Miss Hopkins	0	10	6
J. Brewer, Esq.	3	0	0	Mrs. Sconce	3	0	0
Mrs. B. Sanderson (per Dr. Priestley)	5	0	0		£52	7	0
Dr. Thos. Bennett, San Francisco	1	0	0	Amount previously published	152	7	6
Mrs. Henderson	1	0	0	Total	£204	11	6
G. Critchett, Esq.	1	0	0				

COMMUNICATIONS have been received from—

Mr. T. W. Blake, Hurstbourne Tarrant; Mr. H. Raynes, Gringley-on-the-Hill; Mr. H. S. Barfoot, London; Dr. A. Snydea, Seneca; Dr. McCraith, Smyrna; Dr. Druitt, Madras; Dr. Gppeat, Berlin; Mr. W. W. Reeves, London; The Registraa of Apothecaries' Hall, London; Mr. T. Hopoood, Sunderland; Dr. E. Hart Vinen, London; Dr. W. Faaa, London; Messrs. Kinmond and Co., Leamington; Mr. G. Okell, Winsford; Mr. B. Vincent, London; The Registraa-Geneaal, Edinburgh; Professor Huxley, London; Mr. H. J. Haadwicke, Sheffield; Mr. B. J. Veanon, London; Mr. Georoe Lawson, London; Mr. A. Wynter Blyth, Barnstaple; Dr. B. W. Richaroson, London; Mr. H. Morais, London; Dr. Eois, London; Dr. R. Douglas Powell, London; Mr. J. Chatto, London.

BOOKS AND PAMPHLETS RECEIVED—

Thoughts, Philosophical and Medical, selected from the Works of Francis Bacon, by J. Dowson, M.D.—Annual Report of the Medical Officer of Health for the Basford Rural District—Concerning the Army Medical Department, by "Union"—McKendrick and Dewar on the Physiological Action of the Chinoline and Pyridine Bases—Tenth Annual Report of the Glamorgan County Lunatic Asylum, Bridgend—Annales des Maladies de l'Oreille et du Larynx, tome i., No. 1—Küss's Lectures on Physiology, edited by Duval; translated, second edition, by R. Amory, M.D.—Garrett on the Human Voice, second edition—Principes de Thérapeutique Générale, on le Médicament étudié aux points de vue Physiologique, Posologique, et Clinique, par Prof. J. B. Fonssagrives.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Natnre—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—National Food and Fuel Reformer—Philadelphia Medical Times—Pharmacentical Journal—Centralblatt für die Medicinischen Wissenschaften—La France Médicale—Iron—Wiener Medizinische Wochenschrift—Hereford Times—L'Impartial—New York Druggist—Medical Temperance Journal—The Transatlantic—Chicago Medical Jonrnal—American Practitioner.

APPOINTMENTS FOR THE WEEK.

April 3. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 9 a.m. and 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

5. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectnm, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

Medical Society of London, 8 p.m. Mr. Henry Smith, "A Short Communication on a Case of Injury simulating Extravasation of Urine." Mr. Lennox Brown, "Considerations on the Treatment of New Formations of a Benign Character in the Larynx." Dr. Metcalf (of Geneva), communicated by Dr. Sedgwick, "A Case of Nnmerous and Severe Injnries from a Fall."

Goontological Society, 8 p.m. Meeting.

Royal Institution, 2 p.m. General Monthly Meeting.

6. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Pathological Society, 8½ p.m. Dr. Charlton Bastian will open a Discussion "On the Germ Theory of Disease; being a Discnssion of the Relation of Bacteria and Allied Organisms to the Virulent Inflammations and to the Specific Contagious Fevers."

Royal Institution, 3 p.m. Prof. Duncan, "On the Grander Phenomena of Physical Geography."

7. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Royal Microscopical Society, 8 p.m. Mr. H. C. Sorby, "On a New Mode of Applying Spectrum Analysis to the Microscope, &c."

8. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.

Royal Institution, 3 p.m. Prof. Sceley, "On the Fossil Forms of Flying Animals."

9. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

Clinical Society, 8½ p.m. Dr. Buzzard will exhibit a patient with Disseminated Sclerosis. Dr. Dowse, "An Unusnal Case of Lead-Poisoning." Mr. Jonathan Hutchinson, "Case of Intracranial Aneurism diagnosed during Life, and in which Spontaneous Cure occurred, and the patient lived eight years." Dr. Hermann Weber, "Three Cases of Pyæmia caused by Acute Suppuration of the Middle Ear; and a Case of Acnte General Tuberculosis caused by Chronic Inflammation in the same locality."

Royal Institution (Weekly Evening Meeting, 8 p.m.), 9 p.m. Sir William Thomson, "On Tides."

VITAL STATISTICS OF LONDON.

Week ending Saturday, March 27.

BIRTHS.

Births of Boys, 1244; Girls, 1120; Total, 2364.
Average of 10 corresponding years 1865-74, 2258·1.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	831	846	1680
Average of the ten years 1865-74	781·2	777·2	1558·4
Average corrected to increased population	...	...	1667
Deaths of people aged 80 and upwards	...	...	89

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	6	3	1	10	1	1	1	6
North	751729	...	1	4	2	13	...	2	...	4
Central ...	334369	...	2	2	1	1	...	1	1	2
East	639111	...	3	5	1	20	...	2	1	1
South	967692	1	5	10	9	15	...	3	2	9
Total	3254260	1	17	24	14	59	1	9	5	22

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	30·047 in.
Mean temperature	42·7°
Highest point of thermometer	56·5°
Lowest point of thermometer	29·1°
Mean dew-point temperature	34·4°
General direction of wind	Variable.
Whole amonnt of rain in the week	0·01 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, March 27, 1875, in the following large Towns:—

Boroughs, etc. (Municipal bonndaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1876.)	Births Registered during the week ending Mar. 27.	Deaths Registered during the week ending Mar. 27.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3445160	45·7	2364	1680	56·5	29·1	42·7	5·95	0·01	0·03
Portsmouth ...	122632	27·3	76	49	...	...	...	...	...	...
Norwich	82842	11·1	44	40	57·0	28·5	40·5	4·72	0·04	0·10
Bristol	196186	44·1	117	109	54·1	25·7	43·1	6·17	0 03	0·08
Wolverhampton ...	71718	21·1	54	32	54·0	26·8	42·7	5·95	0·00	0·00
Birmingham ...	366325	43·6	275	182	58·4	30·4	44·2	6·78	0·00	0·00
Leicester	109830	34·3	93	62	...	...	...	...	...	...
Nottingham ...	92251	46·2	57	51	54·9	31·2	42·2	5·67	0·03	0·08
Liverpool	516063	99·1	334	296	52·9	38 8	43·8	6·56	0 16	0·41
Manchester ...	356626	83·1	264	233	55·0	26 5	42·3	5·73	0·08	0·20
Salford	135729	26·3	110	83	55·4	25·1	42·1	5·52	0·12	0·30
Oldham	87437	18·7	82	62	...	...	...	...	...	...
Bradford	168305	23·3	106	111	51·6	30·6	43·2	6·22	0·03	0·08
Leeds	285118	13·2	216	107	53·0	32·0	43·0	6·11	0·03	0·08
Sheffield	267881	13·6	235	133	52·0	32·5	43·3	6·28	0·05	0·13
Hull	133932	36·8	102	82	55·0	32·0	42·2	5·67	0·06	0·15
Sunderland ...	106342	32·2	98	62	64·0	32·0	45·8	7·67	0·01	0·03
Newcastle-on-Tyne	137665	25·6	121	61	...	...	...	...	...	...
Edinburgh	211626	50·5	130	108	56·0	33·0	43·5	8·06	...	...
Glasgow	534564	88·6	396	331	53·3	35·3	43·0	7·22	0·36	0·91
Dublin	314666	31·3	176	198	57·9	38 1	47·3	8 50	0·20	0·51
Total of 21 Towns in United Kingdm	7742889	37·0	5150	4072	64·0	25·1	43·5	6 39	0·08	0·20

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 30·05 in. The highest was 30·22 in. on Tuesday evening, and the lowest 29·87 in. at the end of the week.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

LECTURES ON INJURIES TO THE HEAD.

By JONATHAN HUTCHINSON, F.R.C.S.,
Senior Surgeon to the London Hospital; Surgeon to Moorfields Ophthalmic Hospital and the Hospital for Skin Diseases.

Lecture IV.

CASES ILLUSTRATIVE OF OSTEITIS AND PYÆMIA.

I show you here a portrait in which the greater part of the thrombus is concealed by red blood-coagulum, but in which you will note especially well the fact that the thrombus begins from the veins of the dura mater. Where these open into the sinus there are large rounded bulging masses quite smooth on their surfaces, and not in the least adherent to the red clot which surrounds them; nor do they adhere to the walls of the sinus, but simply become connected with the latter by passing up into the open mouths of the veins. Their enveloping membrane is, I suppose, a deposit of fibrine from the blood; and the puriform and purulent fluid which they contain is derived from the inflamed veins, and has been gradually poured forth, and only prevented by the enveloping membrane from passing freely into the circulation. That the inflamed veins are those which come from inflamed dura mater is also well demonstrated in this sketch.

Case 18.—*Lacerated Wound of the Scalp by a Dog-bite—Exposure of the Bare Bone—Excellent Progress for a Fortnight—Severe Rigor on the Fourteenth Day—Recurrent Rigors—Double Pneumonia—Death—Autopsy.*

Oct. 15.	S.	A healthy boy, ten years old, had his scalp severely torn by a dog.
„ 16.	Sun.	No head symptoms.
„ 17.	M.	Doing well.
„ 18.	Tu.	
„ 19.	W.	Is doing very well; wounds healthy.
„ 20.	Th.	
„ 21.	F.	
„ 22.	S.	He is up and about the ward.
„ 23.	Sun.	
„ 24.	M.	Wounds fast closing; one is quite healed.
„ 25.	Tu.	
„ 26.	W.	
„ 27.	Th.	For the last ten days he has been up constantly, and seems quite well.
„ 28.	F.	Felt poorly, and could not eat so well as usual.
„ 29.	S.	The first rigor—a very severe one; there is still bare bone.
„ 30.	Sun.	Repeated rigors; frontal headache.
„ 31.	M.	Rigors; pneumonia discovered in right side.
Nov. 1.	Tu.	Repeated rigors; not very severe ones; dyspnœa.
„ 2.	W.	
„ 3.	Th.	Rigors still recur; rapid pulse, and no appetite.
„ 4.	F.	Rigors; no paralysis; no cerebral symptoms.
„ 5.	S.	Increasing dyspnœa and debility.
„ 6.	Sun.	Much the same; no cerebral symptoms; quite rational.
„ 7.	M.	Died; œdema of scrotum and left lower extremity.

Autopsy.—Death of large portion of left parietal bone. Pus between dura mater and bone. Puriform thrombus in longitudinal sinus; left iliac vein occluded. Deposits in lungs, liver, and spleen.

John W., a healthy boy, aged ten, was attacked by a large dog, knocked down, and his scalp extensively torn. This was on October 15. He was admitted into the hospital directly after receiving the injury. He had a triangular flap of skin, including all the tissues of scalp, torn up from the left parietal bone. The pericranium was laid bare, but not torn up, excepting, perhaps, at a few points. It bled rather freely. It did not appear that the lad had received any blow in his fall: the injury was a *laceration*, not a contusion.

The flap of skin was adjusted in its place, and for some time all went on perfectly well. The boy had no cerebral symptoms whatever, and in the course of a week the wound was looking as if it would soon be healed. It was granulating freely. The boy was now allowed to be up and about the ward, indeed he had only kept his bed for a day or two after the injury.

On October 28 he did not eat his dinner quite so well as usual, but nothing particular was noticed; the wound was looking a little pale.

On Saturday, 29, whilst up and at dinner, the nurse noticed that he was crying, and on asking the matter, found he was cold and shivery. He was at once got to bed, and Mr. ——, the house-surgeon, was sent for. A very severe rigor followed, and lasted for nearly twenty minutes, being succeeded by a very hot skin, and profuse sweating. During the rigor, Mr. —— informed me that he could not, for a time, feel the pulse at the wrist. The pupils were widely dilated. At four in the afternoon, about four hours after the rigor, I saw the boy; he was in bed and looked flushed and feverish. Skin hot and moist; pulse 120, sharp and irritable; tongue a very little furred; pupils rather small, of equal size, and quite active. The right hand and arm were decidedly hotter than the left.

The boy, at first, said he had no headache; but afterwards, on being asked where he had pain, put his hand to his left forehead, and said that he had had pain there. It was impossible to ascertain whether he had had headache for some days or not. Indeed, the misleading character of juvenile testimony was most forcibly shown in this case, for he denied that he had ever shivered or felt cold at all, although I put the question in all forms I could think of, to make him understand it. He had eaten no dinner to-day. His wound now was a granulating surface, about two inches long, at the anterior angle of which, a surface of dry bare bone, the size of a three-penny-piece, was exposed. The granulations were pale and glassy.

30th.—Another rigor; he complains much of frontal headache

31st.—The right pupil is the larger; the left, probably, contracted. Yesterday he had three severe rigors, followed by sweating. He has complained much of pain in his head. At present he looks quite comfortable; his face is not flushed; his conjunctivæ are pale, and eyes clear and brilliant, and, excepting that he is a little pale, no one, to look at him, would suppose that he ailed anything whatever. His tongue is a little furred, but only very little; he is said to have had a restless night; he does not eat, but he has had no vomiting.

November 1.—He has now very decidedly the aspect of pneumonia. He is lying with his shoulders elevated; his breathing is short and quick, and his aspect flushed and dusky. There is comparative dulness over the base of right lung, and small crepitation is heard at the end of the inspiratory murmur. Respiration on the other side is quite clear; he is flushed; his lips are blue, mottled, and dry; respiration rapid and short. His mother, who is staying with him, states that he has had several attacks of what she calls "inward convulsions" during the morning, which appear to have been a minor form of rigor. Her description is that "his nose and ears get quite cold, and he looks very pale, but with spots of red here and there; he looks very bad, grins and shudders a little, does not shiver;" as these pass off he gets very hot. His pupils to-day are almost equal in size; the right a little larger than the left; both of them contract well on exposure; but, when fully contracted, the right is still a little the larger. He has a short troublesome cough; skin very hot and, at present, dry; pulse 140, large, sharp, compressible; he is perfectly conscious; he has no degree of paralysis, and can move both arms; he does not complain of pain.

He is reported to vary much at different times in the day. He takes only his milk and beef-tea.

The discovery of the local signs of pneumonia, to-day, is strongly confirmatory of the opinion that rigors denote the occurrence of suppuration in secondary deposits. It is only three days since he first shivered. Had we examined the lungs earlier, perhaps we should have discovered the pneumonia even at an earlier date.

2nd (Wednesday).—He seems better than yesterday. Respiration more easy. He still has a short hacking cough, and expectorates a little mucus—very little, and never blood-stained. No further rigors (arterial spasm) have occurred. Pupils of equal size. It would now appear, judging from their present size, that on Monday the right pupil was dilated: the difference on that day was very marked. He lifts both arms easily. There is not the slightest sign of paralytic weakness. The right lung seems to me less dull than yesterday, but small crepitation is still very clearly heard. The left lung is clear (at the base at least). He passed a fairly comfortable night. Doubts have been expressed as to whether this boy is

or is not the subject of pyæmia. His tongue is very slightly furred. He looks comfortable, excepting the blueness of lips, which is less than yesterday. That he is suffering from pneumonia all must admit, and that the pneumonia does not produce the usual train of symptoms (no rust-coloured sputum; no great dyspnœa; tongue almost clear, etc.). He has had a series of rigors of the most marked character. If there had been but a single rigor, it is very possible that it might have been indicative only of pneumonia; but their occurrence seems to me to denote pyæmia. This diagnosis is also favoured by the fact of his apparent improvement at times and great variations in condition.

We must note, as to the condition of his wound, that it is secreting a very fair quantity of healthy cream-like pus. Its granulations are much better than they were, and fairly florid.

During the last three days of this week, he continued much in the same condition; his thoracic symptoms being on the increase. He had pleuritic friction-sound on the right side. He emaciated rapidly. There was a circumscribed patch of redness on each cheek. His consciousness was perfect up to the last, and he had neither paralysis nor convulsions. The edges of the wound shrivelled, and all trace of granulations disappeared. Rigors occurred several times each day, but were not of great severity.

He died on November 7, and the post-mortem took place on the following day. There were soft, recent pleuritic adhesions on both sides. Both lungs contained very numerous pyæmic deposits in all stages of progress, some of them containing from half a drachm to a drachm of purulent fluid. The liver also contained many abscesses; and there were patches of pyæmic thrombosis, not yet softened, in the spleen. The kidneys were healthy. Beneath the wound of the scalp was a portion of bone the size of a crown-piece, which was quite bare and of a greenish colour.

The edges of the wound were thin and quite loose. On removing the scalp, the pericranium was found to be loose over a surface as large as the palm of the hand, and comprising, in fact, almost the whole of the parietal bone. The bone, thus exposed, was white, tinted with green, and here and there mottled with red. There was a recent cicatrix in the scalp, crossing the vertex transversely just above the parieto-occipital suture.

When the scalp was taken up at this part, the pericranium, which was thickened and inflamed, came with it, and a little pus exuded from some torn vessels entering the sagittal suture. The bone on both sides the sagittal suture at this part was green and discoloured. On subsequently applying the trephine at this spot, dirty green pus was made to exude on the inner surface of the bone. This pus had a fetid odour. It must be observed that this portion of inflamed bone extended on each side the sagittal suture, and that it was under, not an open wound, but a soundly healed one. Between the dura mater and the bone, at the parts where the latter was inflamed, patches of pus were found, but there was no large accumulation, merely a thin layer. From these patches, veins, distended with a puriform fluid, might be traced to the superior longitudinal sinus. The sinus itself contained in part a recent black blood-clot, and in part a dirty puriform thrombus.

The thrombus tailed off and ended at the torcular Herophili. It was very much increased in size at the positions where the distended veins entered the sinus. There was no thrombus in the anterior third of the sinus, that is, in front of the inflamed tracts of bone; nor was there any in the right half of the sinus until we passed back to the part where the inflammation of the bone extended on each side of the sagittal suture.(a)

The parietal arachnoid presented, immediately beneath the inflamed portions of dura mater, some very slight evidences of inflammation. There was no lymph whatever on the visceral arachnoid, nor any discoloration of the cortical substance of the hemispheres.

The ventricles of the brain contained a little serum. The lateral sinuses and the cavernous sinuses contained only recent dark blood-clot. The middle of the bone at the inflamed part was green and contained no blood. It had been noticed that the boy's scrotum and left thigh and leg had become œdematous on the day before his death. In the left common iliac vein we found a blood-clot which completely plugged it. The greater part of the clot was evidently recent, but embedded in its inner side was a long piece of pale fibrine, much like the fragment of a tapeworm, which was very easily separated from the rest. In the blood of this clot, the microscope showed numerous cells which exactly resembled those of pus. The blood of the superior longitudinal sinus showed similar cells, but in smaller numbers. The thrombus in the longitudinal sinus contained no blood-cells, but was made up of molecular matter, *débris*, and cells like those of pus.

You will see that the specimens showed clearly, in this instance, that the process going on had been inflammation of bone, and not merely death of an exposed part. The area involved was very large. The effusion of fluid pus into the bone-structure was most free at the sutures; thus, the line of the left half of the coronal suture was marked out on the surface of the dura mater by the yellow purulent effusion. The inflammation, however, did not limit itself by the sutures, for in two or three places it had passed a little beyond both the coronal and the posterior part of the sagittal sutures.

The fact that inflammation of bone had taken place beneath the healed scar, as well as at the open wound, was very interesting. The parts were, however, near together, and it is possible that the process was lighted up, in the first instance, at the open wound. There was, however, no spot more acutely inflamed than that beneath the scar.

In several of the cases which I have read to you, the patient during the first ten days or fortnight had seemed to ail nothing. In that of the boy W., he was up and at his dinner when the first rigor happened. I insist much on this period of immunity as proof that the blood-poisoning is not the first, but the last stage. The period of quiescence is that during which the inflammation of the bone is gradually progressing, and that of the veins extending to the sinuses. In our next case, the man had, after a few days in the hospital, returned home to his occupation, and had for a week believed himself quite well. Then occurred, as usual, rigors and feverishness. One of my reasons for quoting this case is that it illustrates some of the less frequent of pathological processes in pyæmia, multiple thrombotic spots in the brain substance, and also in that of the heart.

The following are the notes:—

Thomas N., aged twenty-eight, was admitted into the hospital for a second time on September 16. He had previously been in the hospital for a short time, on account of a wound over the left parietal region. The wound admitted the little finger, and at the bottom of it the bone was bare. All went on perfectly well, and in a few days he left the hospital at his own request.

When readmitted on the 16th, it was a fortnight after the accident. He stated that on Wednesday, the 14th, he had during the night a succession of rigors, and became very thirsty. He remained in bed the next day, and felt ill, but had no return of shivering. On the evening of the 16th he again shivered, and afterwards perspired very freely; pulse 86, and weak. Tongue yellow and furred in the middle, pale red at the sides. He complains that his eyes feel heavy, and that he has pain in the forehead. The wound is almost healed.

September 18.—He reports that he had a better night last night than the previous one. A rigor occurred at ten yesterday evening; none since. It was only quite a slight one. He does not complain of pain in the head. His tongue is of a light brown colour, and dry in the middle. Pulse 110, very small and feeble. Both pupils act well. To-day he has been sick several times.

20th.—As it was thought the quinine had checked the secretions, it was omitted yesterday. To-day he has been drowsy all day. It is remarked for the first time that he has an icteric tinge over the whole face, which is very marked on the conjunctivæ. His tongue is very dry. Pulse 116, weak, and very compressible. On using the probe, bare bone is still found. He is allowed ten ounces of wine a day, and is taking a mixture containing the nitro-muriatic acid.

22nd.—He is very much worse, and almost moribund. Respirations very quick, 46 in the minute; pulse 126, very feeble; his whole surface is of a sallow yellow colour; he is delirious at times, but when roused becomes quite sensible. On exploring the wound, it is found that the injured portion is in process of exfoliation, being mapped out by a shallow furrow. He complains of tenderness over the liver, and did so yesterday. Double pleuro-pneumonia.

He died during the night.

Post-mortem.—The whole surface is very sallow. The por-

(a) The dura mater from this case, with the sinus laid open, forms the subject of plate xviii. of my Atlas of Clinical Illustrations.

tion of bone in process of exfoliation, and quite denuded of pericardium, was nearly the size of a shilling. On removing the calvaria, the longitudinal sinus was found nearly empty. Beneath the injured part there was a small patch of lymph on the visceral arachnoid. The diploe of the bone near to the injured part was discoloured and greenish. In many parts of the brain were small spots of extravasation (supposed to be the first stage of pyæmic deposits).

Both lungs contained numerous pyæmic abscesses, and both pleuræ showed recent lymph. In the liver were numerous small abscesses. The muscular substance of the heart was studded with small pyæmic deposits, and the spleen also contained many of the same.

(To be continued.)

ABSTRACT OF

THE CROONIAN LECTURES

ON ADDISON'S DISEASE.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS, LONDON.

By E. HEADLAM GREENHOW, M.D., F.R.C.P., F.R.S.,
Physician to, and Lecturer on Medicine at, the Middlesex Hospital.

LECTURE I.—*Concluded.*

BEFORE quitting the description of the constitutional symptoms and discoloration of the skin, Dr. Greenhow said that he must advert to one remarkable feature common to them both—namely, the paroxysmal mode of pregress of the disease. The course of the disease, on the whole, is slow and chronic, but it is subject to alternate exacerbations and remissions, usually dependent in some degree upon favourable and unfavourable circumstances, but sometimes, also, apparently independent of them. During the remissions, strength is in a great degree recovered, appetite is improved, sickness is abated, the discoloration pales, and, above all, the patient's whole aspect betokens that a heavy weight has been lifted from his head. After each fresh exacerbation, however, the patient remains upon a lower level than during the previous remission; the recovery of strength and the abatement of the other symptoms are less marked; the skin, though paler than during the last exacerbation, is visibly darker than before it. The alternations may occur several times before the onset of the fatal paroxysm; but, on each occasion, the patient takes one downward step that he never regains.

But although slow chronic progress, with alternate exacerbations and remissions, is the usual course of the disease, it is by no means the only one. In many cases, especially in young subjects, the disease runs what may be termed a latent course; that is, the constitutional symptoms first appear suddenly in a fully developed form, producing death in a few days.

One other peculiarity in the course of the disease must not be overlooked—the very variable date of the appearance of bronzing of the skin, as compared with that of the constitutional symptoms. In a large proportion of cases, as might be expected in a disease prevailing chiefly among a class of persons who become hospital patients, no notice has been taken of this point; and in a great many other cases it is reported that the appearance of the constitutional symptoms and of the discoloration of the skin were simultaneous, or nearly so. Sometimes the discoloration is mentioned as soon following the characteristic symptoms, and sometimes as slightly preceding them. But in a certain number of cases, chiefly among the few that have occurred in the middle and higher classes, or have been longer than usual under observation, the interval between the appearance of the constitutional symptoms and that of the bronzing of the skin has been more accurately recorded.

Dr. Greenhow next considered the pathological lesion, which Dr. Addison briefly mentions as a diseased condition of the supra-renal capsules. He evidently believed that any diseased condition of these organs might produce the same effects, for he recorded in his monograph other diseased conditions of the supra-renal capsules totally different from the particular diseased condition which he had found in his own cases.

Dr. Greenhow then proceeded to describe the pathological changes in the supra-renal capsules. The capsules are generally enlarged, hard, and nodulated, though in rare cases they are of normal or less than normal size. On section they scarcely ever present any trace of the distinction between the cortex and the medulla, so obvious in the normal condition of the organs. In all the fresh specimens that Dr. Greenhow has seen the cut surfaces have presented a marbled appearance, from the mixture of two materials of different colour and consistency. One of these materials is a semi-transparent tissue of firm consistence, and grey or greenish-grey in colour, at least when fresh cut; but, on being exposed to the air, it assumes a pink hue. The other material is opaque yellow, or cream-coloured, and it assumes the form of irregular roundish masses embedded in the translucent tissue, from which they can often be easily enucleated.

On close examination, intermediate gradations will often be seen between the translucent parts and the opaque cheesy nodules, and sometimes cretaceous granules, or small masses formed by the hardening of the cheesy matter, are felt to grate under the knife. More rarely, the whole of the cheesy material becomes calcareous: and it is in these rare cases that the capsules are smallest. Not unfrequently, on the other hand, the caseous matter becomes a creamy fluid, occupying the larger or smaller cavities in the diseased capsules. In some cases, the whole central part of the organ constitutes one large cavity filled with creamy fluid, but more commonly there are, if any, several small cavities, the fluid in which is of the same character, but of various degrees of thickness.

The proportions of the translucent and opaque materials differ greatly in different cases. In some few cases, the translucent substance constitutes nearly the whole of the mass; in others, the yellow friable matter greatly predominates; whilst in others the normal tissue is almost entirely replaced by calcareous masses or creamy fluid. All these gradations, however, depend solely upon the duration and the more or less acute or chronic course of the disease. The morbid process is identical in them all—a fact which, as Dr. Wilks pointed out, gives a greater definiteness to the disease than Dr. Addison himself conceived it to possess.

On microscopical examination the translucent substance is seen to consist of a fibrillated stroma containing numerous lymphoid corpuscles. The opaque cheesy material is formed of amorphous granular matter, mixed in variable proportions with irregularly shaped shrunken cells, nuclei, and oil. Dr. Sidney Coupland found in one case some masses corresponding with giant-cells. The creamy-looking fluid consists mainly of oily *débris*. In many cases clear evidence of inflammation in the envelopes of the capsules has been afforded by great proliferation of their connective tissue, and also by the existence of firm adhesions to the neighbouring organs. Such extensive overgrowth of connective tissue cannot fail to invest the nerves of both the supra-renal and the solar plexuses with dense indurated tissue, and when these nerves have been examined their fibrous investment has been found to be hypertrophied.

In many cases the connective tissue surrounding the capsules contained some enlarged lymphatic glands. The mesenteric and retro-peritoneal glands in the neighbourhood of the capsules are also generally enlarged. On section, these enlarged glands sometimes present only the normal appearances, but more commonly they are firm, glistening, of a pale colour, and not unfrequently in process of caseation. Another morbid appearance may be ranked among the characteristic, though not, perhaps, quite invariable lesions incident to the disease—viz., enlargement of the solitary glands of the small intestine, sometimes likewise of the large intestine. In many cases also the mucous membrane of the stomach, especially towards the pylorus, has presented a mammillated appearance, and the mucous surface has not unfrequently been covered with tenacious grey mucus. Small ecchymoses, and more rarely superficial abrasions or small ulcers, are also found on the mucous membrane of the stomach, and in a few instances on that of the large intestines. Careful microscopic examination of the mucous membrane of the stomach in two different cases by Dr. Sidney Coupland and Mr. Schäfer have shown that the mammillations are caused by overgrowth of lymphoid tissue. Some of these mammillations presented small depressions in their centres, which were ascertained by Mr. Schäfer to be due to a breaking down and opening into the surface of the summits of the patches. Probably these depressions indicate the first stage of the small ulcers which have been reported by other observers as occurring in the gastric mucous membrane.

Lastly, there is one other morbid organic change often recorded in cases of this disease—viz., enlargement of the spleen, sometimes great, the organ being usually also dark-coloured and soft. It is, however, quite certain that the

disease may run its most typical course without presenting lesion.

In concluding his first lecture, Dr. Greenhow observed that it is only in a certain number even of the typical cases that the striking clinical phenomena are all fully developed. The progressive asthenia, muscular debility, feeble circulation, and low temperature are invariably present; and in his experience neither loss of appetite, nor vomiting, nor dyspnœa, nor faintness on exertion has ever been absent in the later stages; but perhaps there is not another that is invariably present. The same is, however, true with respect to every other organic disease.

ORIGINAL COMMUNICATIONS.

ON UNILOCULAR OVARIAN AND EXTRA-OVARIAN CYSTS.

By J. KNOWSLEY THORNTON, M.B., C.M.,
Surgeon for Out-Patients, Samaritan Free Hospital.

During the past two years, through the kindness of Mr. Spencer Wells and my connexion with the Samaritan Hospital, I have had unusual opportunities of examining the various kinds of ovarian tumours. My attention was early directed by Mr. Wells to the unilocular cysts, and to the varying opinions of pathologists as to some of these being true ovarian cysts, and some of extra-ovarian origin. Mr. Wells was of opinion that, though some of them belonged to the latter class, many of them were truly ovarian. Careful consideration of the subject led me to coincide with this view, and I determined, if possible, to prove its correctness. I venture now to place the results of my observations before the profession, with certain practical deductions drawn from them as to differential diagnosis and treatment.

The commonly expressed opinion was that if an apparently unilocular cyst of undoubted ovarian origin was carefully examined, traces of the union of several cysts to form it would invariably be found; or, in other words, a single Graafian vesicle does not enlarge so as to become a cyst needing surgical interference without other vesicles in the ovary partaking of the morbid state. As it was an undoubted fact that truly unilocular cysts were frequently found in or near the usual situation of the ovary, they were explained as being of extra-ovarian origin.

Accepting an enlarged Graafian vesicle, or several of them, as the common starting-point of simple ovarian tumours, it was easy to see that if a single vesicle did enlarge on the free surface of the ovary, and, from thickening of its walls and non-rupture become a cyst, it might by pressure cause complete atrophy and disappearance of the ovary from which it sprang; or, carrying some of the stroma round its base, so stretch the ovary that it should only be recognisable as a thickened portion of the cyst wall, in which careful microscopic examination would, however, detect all the component structures of the ovary. I first convinced myself by careful dissection (aided by the microscope) of various specimens that both these processes did occur. Thus, a unilocular cyst projecting from the posterior surface of the broad ligament in the usual situation of the ovary, which ovary had disappeared, or was only recognisable as a part of the cyst-wall, was clearly a true ovarian cyst. But could a similar parentage be claimed for any of the unilocular cysts met with between the layers of the broad ligament, and entirely encapsuled by it, and having, not so much at their base as on their upper surface, an almost healthy ovary? In order to see whether the Graafian vesicles were ever found near the hilus of the ovary, and likely, if enlarged into cysts, to occupy such a position, I carefully examined many ovaries, chiefly in early states of morbid growth, or obtained from patients who died subjects of ovarian tumour of the opposite side, and convinced myself that it is by no means uncommon to find a vesicle of considerable size lying deep in the substance of the ovary, and in such a position that it is more easily reached by dissecting down upon it between the separated layers of the broad ligament than through the dense coating of ovarian stroma between it and the free surface of the ovary. Here, then, was a solution of the difficulty. Such a vesicle morbidly enlarging would find it easier to push its way between the layers of the broad ligament in the lax tissue uniting them than to the free surface of the ovary, and might thus leave the ovary but little affected, or at most stretched by separation of the stroma at the hilus.

Careful examination of several of these tumours has proved that this is not only a likely theory, but an actual fact. Are we, then, to regard all unilocular cysts found in this situation as truly ovarian? By no means. And I will proceed to point out how we may distinguish the ovarian from the extra-ovarian,—and not only may, but must, for the treatment of them is very different. I may here remark that I have no proof to offer that the extra-ovarian cysts are parovarian in origin; but from their position, etc., the theory that they are so is very probably correct.

Some specimens I have examined, and one of which I showed to the Pathological Society (December 1, 1874), show that we may have multiple and multilocular extra-ovarian cysts in this situation; and on this subject I shall have more to say in a future paper.

To return to the unilocular cysts—How are we to distinguish the ovarian from the extra-ovarian? We have seen that they often occupy the same position, and may each have an ovary but little altered attached to them by some loose connective tissue and bloodvessels, and a much elongated Fallopian tube stretching over them. Usually the wall of the ovarian cyst is thicker; its lining membrane has granular, rough, or calcareous patches on it, or even distinct papillomatous or villous outgrowths; and its contained fluid is yellow or brown, and more or less viscid,—it may be extremely so. The extra-ovarian cyst has a thin paper-like wall, a perfectly smooth lining membrane, and the contents are like water or slightly opalescent.

Passing from these rough tests to careful microscopical and chemical examination of the fluids, we find in the ovarian certain delicate cells of varying size, containing bright granules. These cells and their granules are little, if at all, altered when treated with acetic acid or ether—*i.e.*, the ovarian granule cells of Drysdale, U.S. We find also large round or oval, brown or yellow, granular aggregations—the inflammatory aggregations of Pflüger; and possibly certain very characteristic groups of cells, which I shall have again to refer to in speaking of the diagnosis and treatment of these cases. The specific gravity of these ovarian fluids varies from 1015 upwards, and they contain more or less albumen or paralbumen. In extra-ovarian fluids we rarely find any microscopic elements, and the fluid is of low specific gravity—1003 to 1010 at the most—and contains occasionally a mere trace of paralbumen.

On examining with the microscope sections of the wall of the ovarian cyst, two layers of connective tissue or fine fibrous tissue may be distinguished, corresponding to the tunica fibrosa and tunica propria of the Graafian vesicle (Henle). Inside there is a lining membrane, composed of a layer or layers of polygonal or columnar epithelium—sometimes with growths from its surface, to be farther described. The extra ovarian cyst-wall consists of a single thin layer of ordinary connective tissue lined with an epithelium of round or oval cells, irregularly packed together, and, so far as I have been able to discover, never giving rise to growths on its internal surface.

The diagnosis of a unilocular cyst is not usually difficult by means of careful inspection, palpation, and percussion. Having determined by these means that we have to deal with a unilocular cyst, careful tapping with a small trocar or aspiration must be the next step, in order that examination of the fluid may decide whether the cyst is ovarian or extra-ovarian. If it is an extra-ovarian cyst, this tapping may effect a cure, or, if it fills again, we may tap with a larger trocar, in hopes that the opening in the cyst-wall may remain patent, and that thus any fresh fluid which forms may escape into the peritoneal cavity, where it is readily absorbed, and the cyst contracts and atrophies. Should this plan fail, a small opening may be made through the abdominal wall, and the cyst having been carefully exposed and emptied, a small piece of its wall may be excised, care being taken to secure any bleeding points before returning it into the peritoneal cavity. Here I would suggest that this operation and the tappings may be made absolutely safe by a careful use of Professor Lister's antiseptic method.

If the examination of the fluid points, on the contrary, to an ovarian cyst, we must perform ovariotomy if the cyst refill. I say "if," for it is possible, though I think improbable, and we have no proof that a single tapping may cure an ovarian cyst.

A second tapping with large trocar or excision of piece of

cyst-wall is not admissible in this case for the following reasons:—

The ovarian fluid, from its more or less viscid nature, is not readily absorbed by the peritoneum, and, as we see in cases of rupture of ovarian cyst, may lead to serious peritonitis or a less serious ascitic condition needing frequent tappings for its relief.

But by far the most important reason is the fact already referred to, that the lining membrane of the ovarian cyst may give rise to papillomatous or villous growths. These seem to grow slowly, and so long as they are confined to the cyst-cavity appear harmless; but cysts containing them are very prone to rupture, the first result of such rupture being a troublesome ascites from constant effusion into the peritoneum of ovarian fluid, and its consequences already mentioned. And when once they grow free in the peritoneal cavity they assume a clinically malignant aspect, partly from the readiness with which they contract adhesions, rendering the removal of the tumour difficult or impossible, but more especially by an actual spreading of the growths over the peritoneum, the proliferating cells rubbed off in the movements of the patient either taking fresh root, or, as my observations lead me to think, causing fresh growths at points where they settle by a process of auto-inoculation. It is even doubtful whether in time distant organs may not become affected, as in cases of true cancer. (See case reported in Wilks's Pathological Lectures, by Moxon, where metastatic deposits of similar growth were found in the liver.) In view of the possible presence of such a growth, and the impossibility of distinguishing, without a preliminary or diagnostic tapping, which form of unilocular cyst we have to deal with, I think the first tapping should always be made with a very small trocar or an aspirator.

That true ovarian cysts have always or even frequently this form of growth in their interior, I do not contend; on the contrary, in more than one hundred ovarian tumours which I have carefully examined, I have only found it a few times, but I have seen it in tumours of apparently recent growth, and in very young subjects. Therefore, I think we cannot be too careful.

In conclusion, I would urge the immediate removal by ovariotomy of any tumour in which this growth is detected by careful examination of the fluid, its presence being always certain when groups of proliferating cells, similar to those in

Fig. 1.

Fig. 1.—The three single cells at the top and the two top groups are from fluid from cyst removed by ovariotomy from a girl aged sixteen. Fresh specimen. The lower groups are from ascitic fluid in a case where it was found impossible to remove the tumour from nature of adhesions, and where the peritoneum was covered with growths. Glycerine specimen.

Fig. 1, are found; these groups being portions of the proliferating epithelium of the lining membrane rubbed off by the movements of the patient, or of the same proliferating epithelium from the fringes of the cauliflower masses at a later stage of growth. Along with these groups of cells will also usually be seen pieces of the lining membrane, or rather of the epithelial covering of the papillæ, which corresponds to the original lining membrane, but is much more easily separated. (See Fig. 2.)

Fig. II.

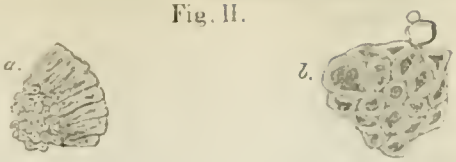

Fig. 2.—*a*, Fragment of papilla from interior of cyst. *b*, Fragment of epithelium from large papilla of the girl aged sixteen. Logwood preparation mounted in Dammar varnish.

The figures are drawn with Powell and Lealand's quarter-inch high eye-piece; outlines with camera.

THE IDENTIFICATION OF THE POISONOUS ALKALOIDS.

By A. WYNTER BLYTH, M.R.C.S., L.S.A., A.K.C.
Analyst for the County of Devon, Medical Officer of Health, etc.

Of all varieties of analytical methods, qualitative or quantitative, the most delicate undoubtedly are those which depend upon the perception of colour. And of colorimetric methods, the measurement and estimation of ammonia by the Nessler test is the one to which chemists have unanimously assigned the palm of utmost accuracy and delicacy. It is this very property that renders it peculiarly applicable to medico-legal investigations. Mr. Wanklyn has pointed out that nitrogenous substances in general, when they do not contain the nitrogen in the nitro state or as urea, evolve it when distilled with an alkaline solution of permanganate of potash as ammonia—some giving up the whole of their nitrogen as ammonia; others only a part. The same observer pointed out that morphine, codeine, papaverine, strychnine, brucine, and nicotine yielded half their nitrogen as ammonia; while narcotine gave up the whole of its nitrogen as ammonia. Following up these observations, I have experimented in a similar manner on solanine, conceine, veratrine, aconitine, and atropine, in order to determine the practical utility of the process as a means of identification of the alkaloids.

I have come to the conclusion that the method is one of great accuracy; that it gives certain and uniform results; and that it will be found of the greatest assistance to the expert.

Now for the process. Let me suppose the question asked—Given an alkaloid separated from the stomach or tissues, fairly pure, how would you proceed to identify it? My answer would be—In three ways. I will suppose two milligrammes have been separated. I would take about one-tenth of a milligramme and apply the usual acid colour-tests. The reactions of the alkaloids with acids are, as is well known, as follows:—

	Sulphuric Acid. Cold.	Warm.	Hot.	Nitric Acid.
Strychnine	0	0	Yellow[1]	Pink[1]
Brucine	0	0	Yellow	Red[3]
Morphine	0	0	Brown	Orange[3]
Atropine	0	0	Brown[3]	0
Aconitine	0	Brown	Black	0
Veratrine	Orange[3]	Scarlet	Claret	0
Solanine	Yellow[3]	Brown[2]	Brown[3]	0(a)

(*The small figures show degrees of intensity.*)

Then, if the alkaloid were solid, I should take a little bit of tin-foil or platinum-foil, weigh it carefully, place a small portion of the alkaloid upon it (a milligramme or less), weigh again, then drop the tin-foil containing the alkaloid—wrapped up in it, as it were—into a small flask furnished with a bilateral tube. About fifty centimetres of a well-boiled alkaline solution of permanganate of potash (containing 200 grammes of potash and eight grammes of permanganate of potash to a litre of water) are poured into the flask, the flask well corked and connected with a small Liebig's condenser, and distilled nearly to dryness by the aid of a spermaceti bath into another flask, in which the resulting ammonia will then be found. The distillate is placed in a Nesslerising cylinder made up to 100 centimetres, and the exact amount of ammonia determined in it in the ordinary way by means of a standard solution and the Nessler test. If the alkaloid be liquid—*e.g.*, conceine—I take a vaccine tube, weigh it, then

(a) Guy's "Forensic Medicine."

let a minute drop ascend into it, weigh again, and drop the tube in the flask.

	NH_3—per cent.
I. Solanine yields half its nitrogen as ammonia	0·98
II. Morphine yields half its nitrogen as ammonia	2·98
Codeine do. do.	2·87
Papaverine do. do.	2·50
Veratrine do. do.	2·87
III. Atropine yields all its nitrogen as ammonia	5·73
Narcotine do. do.	4·11
Strychnine yields half its nitrogen as ammonia	5·09
Brucine do. do.	4·32
Aconitine do. do.	3·5
Conceine do. do.	4·6
IV. Nicotine yields half its nitrogen as ammonia	10·49

By thus making four classes of the poisonous alkaloids which contain nitrogen, and determining by analysis the amount of ammonia they evolve, they may be readily referred to the class they belong to, and many of them absolutely identified; thus, for instance, solanine could never be confused with any of the second class, all of which evolve over 2 per cent., while solanine gives about 1. The numbers of the second class are, however, so close that the amount of ammonia alone could not, even in very skilful hands, be absolutely relied upon as a means of identification, for allowance must be made for experimental error. Yet such is the accuracy of the process, that the experimental numbers invariably approach extremely near the theoretical, certainly quite as nearly as in an ordinary determination of nitrogen by combustion; for example, strychnine gave 5·72 per cent. (theory, 5·09 per cent.); solanine, 1 per cent. (theory, 0·98 per cent.); atropine, 6 per cent. (theory, 5·73 per cent.). The second class could not, except by an unusual error, be confounded with the third class, and several of the third class could be distinguished from each other—for instance, brucine from strychnine and atropine, and aconitine from them all. The alkaloid in the fourth class is the liquid nicotine, and it is easily distinguished from the liquid alkaloid conia by the great difference in the percentage of ammonia—the one evolving about 5 per cent., the other nearly double.

Thirdly, the tests of sublimation as perfected by Dr. Guy (see Guy's "Forensic Medicine").

		Sublime.		Melt.	
		Fahr.	Cent.	Fahr.	Cent.
Morphine	Sublime, melt, & yield carbonaceous residue	330°	165°	340°	171°
Strychnine		345	174	430	224
		Melt.		Sublime.	
		Fahr.	Cent.	Fahr.	Cent.
Aconitine	Melt, change colour, sublime, and deposit carbon	140°	60°	400°	204°
Atropine		150	66	280	138
Veratrine		200	93	360	132
Brucine		240	116	400	204
Solanine		420	215	420	216

I believe, then, that the three tests—viz., (1) the reaction with sulphuric acid, (2) the amount of nitrogen evolved by alkaline permanganate, and (3) the temperature at which the alkaloid sublimes—are the most generally applicable and certain for the identification of the poisonous alkaloids which contain nitrogen.

Barnstaple.

Richmond (Surgical) Hospital, Dublin.—Mr. John Hamilton, Surgeon-in-Ordinary to her Majesty the Queen in Ireland, has sent in his resignation as Surgeon to this Hospital. Many candidates for the vacancy are mentioned, but at this period it would be difficult to surmise the result of the election. Among the more likely names spoken of in connexion with the appointment may be mentioned Dr. Anthony Corley, Surgeon to Jervis-street Hospital; Dr. Theodore Stack, House-Surgeon to the Richmond Hospital; Dr. W. Ireland Wheeler, Surgeon to the City of Dublin Hospital; and Mr. William J. Smyly.

Turf as a Non-conductor of Caloric.—By his recent experiments M. Becquerel has established again—what, indeed, has been long known—that the diminution of the temperature of the soil is impeded by turfing it over. Hence the practical recommendation to turf over the soil after sowing seeds in it before winter, and also after planting trees. It is, in fact, a certain means of prevention from freezing.—*L'Institut*, March 31.

REPORTS OF HOSPITAL PRACTICE
IN
MEDICINE AND SURGERY.

TRIPLICANE DISPENSARY, MADRAS.

EXTRACT FROM THE ANNUAL REPORT OF OUT-PATIENTS FOR THE YEAR 1871.

By Honorary Surgeon MOODEEN SHERIFF.

(*Continued from page* 709, *vol.* ii. 1874.)

IV. Medico-Legal Cases.

Case 18.—*Alleged Rape.*

V. L., aged fourteen, female, Pariah. This is a police case, detained in hospital for examination. The subject of this case is a girl of about fourteen years old, and apparently not yet come to her age. She is sent to the Dispensary by one of the magistrates of the Royapettah Police-court, with a letter, requesting to be informed if she bears any marks of recent violation.

April 5, 1871.—There are no marks of violence, recent or old, on any part of the body, except the hymen. This membrance is slightly but distinctly lacerated in two places, but it still exists, and is of a circular form, and occupies the whole circumference of the vagina near its orifice. The lacerations are not recent, and appear to have occurred many days before the alleged rape is supposed to have been perpetrated upon her. The waist-cloth submitted by the woman for examination is very dirty, old, stinking, and of greenish-blue colour. There are several stains upon it of various size and colour, a few of which bear some resemblance to those of seminal fluid and blood. The latter were examined chemically and microscopically, and were found to be different in every respect from the stains of the above fluids. In fact, they were the stains of menstruation and leucorrhœa, and I accordingly gave this as my opinion in the case. It was found out afterwards that the cloth submitted for examination by the patient in this case was borrowed from another woman who was in her menses and subject to leucorrhœa.

Case 19.—*Rape.*

August 29, 1871, 5 p.m.—R., aged twelve, female, Parlah, has been just brought in by her parents to be examined and treated in the hospital on account of the injury of her genital organs from a rape, which is said to have been committed upon her last evening by a boy. The patient is a short, stunted girl, looking younger than her real age, and is above twelve years old, from the number of the teeth as well as her father's statement. There is some hæmorrhage from the vagina, and the vulva is covered with dry as well as fresh blood. The hymen is ruptured, with a portion of it still attached, sloughing, and hanging through the orifice of the vagina. The fourchette is lacerated, and the nymphæ bruised and inflamed. Two pieces of dirty, old, and coloured cloth were produced by the parents as those worn by the girl at the time of the crime, and they have several marks upon them, which look like those generally produced by blood and semen. As it was rather dark in the evening, I postponed the examination of these spots till next morning. In the meantime the patient was detained in the hospital for treatment of the injury. Apply cold lotion. Fomentation with hot water occasionally.

30th.—I have examined the stains on the pieces of cloth chemically and microscopically to-day, and they are undoubtedly those of blood and seminal discharge. The girl is much better to-day, there being less hæmorrhage and inflammation. Continue remedies.

October 2.—The ulcerated parts are healing. Syringe the vagina with zinc lotion, and apply simple dressing over the fourchette.

6th.—Nearly well, except the fourchette, which is still ulcerating and not healed.

12th.—The fourchette is still not healed. As the patient is fit to become an out-patient she is discharged, and directed to present herself at the Dispensary occasionally to receive dressing.

15th.—Re-admitted. This girl was seized last night with hysterical convulsions, for which she is brought again to the hospital to be treated as an in-patient. The convulsions are slight and confined to the upper extremities, particularly the head, which is moved in rapid succession from side to side.

The patient is quite conscious during the fit, with the eyes open, but not able to speak. The wounds on her genital organs are just healed. As she was never subject to any kind of fits before this, her present illness is attributable to the recent occurrence of rape. ℞. Ol. ricini ℥j., ol. terebinth. ℥ss., stat.

16th.—Four or five fits yesterday and last night, of the same kind as before. ℞. Assafœtidæ gr. xij., valerianate of zinc gr. vj., ft. pil. vj.; one three times a day.

19th.—No fits since yesterday. Continue.

23rd.—Discharged, well.

Remarks.—As serious as the fraud in Case 18 is, it is not of very rare occurence. During the last four or five years a few such cases of alleged rape came under my observation, in which the cloths submitted for examination bore the marks of menstruation, leucorrhœa, or gonorrhœa, but not of blood and seminal discharge. The patients in all these cases were Pariah girls in a poor condition, and appeared to have been used to sexual intercourse much more frequently than once. They had no signs of rape upon their person, except the rupture of hymen, and this was not recent. Their chief object for the imposition was to extort money. Case 19 is just of the opposite nature. This was not only a case of real rape, but also the one in which the crime was perpetrated with greater force than I have ever seen. The bleeding from the vagina continued for five or six days, and the wounds or bruises of the fourchette and nymphæ were not quite healed before a fortnight. The next point worth mentioning in this case is the seizure of the patient with hysterical fits on the sixteenth day after the commission of the rape, when she was just cured of the injuries on her genital organs. This was the first time, I believe, she ever became subject to hysteria, and the disease is therefore directly attributable to the rape committed upon her. She recovered very rapidly from hysteria under the use of the medicines I have given her, which are generally attended with the same result in other cases of that disease. With respect to the examination of stains, there is one circumstance which renders it more difficult in this country than in Europe. In India—or, at least, in Southern India—the waistcloth of women is, as a rule, a coloured one, whereas, in Europe, I believe, the shift or petticoat is generally white. On account of the colour, there is a great difference between the character of seminal spots on the white and coloured cloths; and, as far as my knowledge extends, there is no work on jurisprudence in which any allusion is made to this difference. The physical and chemical examination of the spots of seminal fluid which are generally in use are those described in Guy and Taylor's works on Medical Jurisprudence; and those examinations are chiefly, if not wholly, applicable to the stains on the white clothes or linen. Under these circumstances, I felt much difficulty in examining the cases of rape some years ago, and was obliged, therefore, to make some experiments to find out the character of the stains of the spermatic fluid on the coloured cloths, in order that they might render my examination more easy and satisfactory. The following are the characters I have found out after several experiments; and they have been very useful to me since their discovery, as expected:—(*a.*) If the cloth is green, yellow, or red, the stains are more or less distinct, and of brown or pale brown colour; but if it is black or blue, they are not distinct. If held between the eye and light, there is generally no difference between them and the surrounding cloth. (*b.*) The stains are distinctly felt to the touch, and are stiff as if thinly starched. If the cloth happens to be wrinkled where it is stained, and dries in that condition, the stains retain the wrinkles, which are rough and stiff. (*c.*) If recent, the stains have a distinct smell of semen, which is peculiar and very characteristic of the fluid, and can be easily recognised by anyone who is acquainted with it. If they are old, the smell is not distinct until they are heated over the fire, or moistened with warm distilled water. The smell is sometimes masked by the odour of the cloth, if it is new and contains indigo in its colour; but by heating the stains over the fire, this difficulty is generally overcome. (*d.*) If heated over the fire for some minutes, the stains on green and yellow cloth, particularly if the latter be thin and clean, assume a reddish hue to a more or less extent. This change of colour cannot be observed in black and blue cloths, and very indistinctly in red. (*e.*) If placed in a watch-glass with cold distilled water for some minutes, the stains become moistened evenly to their whole extent, and feel soft and slightly gummy to the touch. (*f.*) If the spots be cut into small slips or bits, steeped in distilled water, and pressed carefully, the resulting liquid is clear and transparent, though sometimes tinged with the colour of the cloth; it has also a smell of seminal discharge, and gummy feel to the touch. If the wet pieces are allowed to dry together, they will stick to each other very firmly. (*g.*) The reaction of the liquid is slightly acid (not alkaline, as mentioned in some books); it is not coagulated by heat and nitric acid, separately or combined; and alcohol generally renders it slightly flaky. (*h.*) If a thin and clean piece of white cloth is soaked in the liquid (or soaked together with the seminal spots with a small quantity of distilled water in a watch-glass) for half an hour or so, the piece will, when it is dry, acquire some of the characters of the original spots to some extent, particularly the stiffness, smell, and alteration of the colour when heated over the fire. The above are the characters of the seminal spots in their pure state; but if they are mixed with another fluid, as blood, menstrual or gonorrhœal discharge, there will be, of course, some alteration in them, according to the nature of the latter. Whatever the nature of the impurity may be, if the greater part of any spot consists of the spermatic fluid, it will correspond with most of the above characters. When carrying on the above experiments I have also examined the stains of seminal fluid on white cloths on a few occasions. There is one point connected with this subject which it is necessary to bear in mind in examining the spots of long duration in this country. It is this: that in Europe and other cold countries the seminal spots, on linen, I believe, do not assume a fawn colour until they are held near the fire; but here they undergo this change spontaneously, if kept more than three or four months. The change takes place much sooner in the hot than in the cold and wet weathers, and is more distinct on thin and clean than on coarse and dirty cloths. The high temperature in this country is apparently the cause of this change. The examination of seminal spots under any circumstance, whether on coloured or white cloths, cannot be relied upon entirely until they have been examined under the microscope. If the stains are fresh, or not older than eight or ten days, and not rubbed, the detection of spermatozoa is very easy under the microscope, on account of their movement. I have always detected them with a glass of 400 power. The seminal corpuscles or cells in which the spermatozoa are developed are not alluded to in works on medical jurisprudence which are in general use, such as those I have already mentioned. These corpuscles, with their minute and numerous granules, are quite as peculiar to, and characteristic of, seminal fluid as spermatozoa are. They are more readily detected than the spermatozoa under the microscope if the spots are fresh or of not more than twelve hours' duration. The knowledge of these corpuscles is therefore very important in making a microscopical examination of seminal stains. The seminal corpuscles and animalcules are more correctly figured and described in Kirkes' "Handbook of Physiology," fifth edition, pp. 669 and 670, than in any other work I am acquainted with. This book is therefore very useful for reference during the examination of seminal spots under the microscope. Some care is necessary in preparing a solution from seminal spots for the microscopical examinations. The stains should be cut into small pieces and put into a watch-glass with distilled water, which must be just sufficient to soak them without a surplus. After ten or twelve minutes one drop of the solution should be pressed out with a glass rod. Obtained in this manner, the solution displays the seminal corpuscles and animalcules under the microscope without difficulty.

Statistics of Births in Massachusetts.—Dr. F. W. Draper, who has been looking these up for the last quarter of a century, states that he finds that most children have been born in the latter half of the year, and the majority of these in the last quarter. The proportion of males to females has been 106 to 105. The births of children of American parentage has decreased from 63·02 per cent. in 1849 to 39·98 in 1873. Those of foreign parentage have increased from 35·96 to 48·24; while those of mixed parentage—one parent being American and the other foreign—have increased during the same period from 1·02 per cent. to 11·78 per cent. Still-born males have been greatly in excess of stillborn females. Of plural births the proportion is constantly 1 per cent. In 1873 there were six cases of triplets.—*Boston Medical Journal*, January 28.

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Medical Times and Gazette.

SATURDAY, APRIL 10, 1875.

THE PATHOLOGICAL SOCIETY.

On Tuesday last, Dr. Charlton Bastian opened a debate on "The Germ Theory of Disease." In an address of very considerable length (which, however, he did not deliver in full) he described his own opinions, and discussed those of other pathologists, concerning the relation of bacteria and allied organisms to the virulent inflammations and to the specific contagious fevers. He commenced by pointing out (1) that the feature common to all these diseases was "contagiousness," that a belief in the analogy between these diseases and fermentation had through generations been prevalent, and that the supposed relationship between them had received the assent of the profession; (2) that twenty years after the discovery of the yeast plant and the foundation of the "germ theory of disease," Pasteur announced, as a fact established by his own researches, that low organisms were the invariable cause of fermentation and putrefaction, which, though chemical processes, were never initiated but by means of living units. Two questions, says Dr. Bastian, now requiring consideration bear directly on these two points. In the first place, Are we justified in relying so strongly upon the analogy between fermentation and zymosis? Secondly, Are Pasteur's conclusions warranted by the results of his researches?

We cannot follow Dr. Bastian in his examination of these questions, but must content ourselves by saying, in answer to the first, that he thinks the analogy is so strong that in all probability it will continue to exercise a very considerable influence upon medical opinion; and that, with regard to the second, he has been obliged to refuse his assent to Pasteur's exclusive doctrines concerning the nature of ferments, since others have shown that "units of living matter are not sole ferments." He then passes on to consider the relation of the lower organisms to disease, leaving on one side any general theory of fermentation, and asks what evidence there is in favour of the notion that contagia are low organisms rather than dead particles of tissue elements, or alkaloidal chemical compounds engendered in the tissues or fluids of the body; and he concludes that the evidence is not more favourable to a vital or germ theory than to a physico-chemical theory as regards the nature and action of contagia.

At this point he states the distinction between the two different "germ theories" as held by Dr. Sanderson and by Dr. Beale respectively. That held by the former, and those pathologists who think with him, regards the contagious particles as *organised beings* capable of producing disease through possessing an *organic development*. It is with this doctrine that we are especially concerned; and here Dr. Bastian commences to grapple with the special subject of this debate—viz., the truth of this theory as applied to virulent inflammations and their sequelæ on the one hand, and to specific contagious fevers on the other. He enumerates under four heads the arguments against the probability of the existence of any causal relationship between the lower organisms and the former group of diseases, including gonorrhœa, purulent ophthalmia, erysipelas, hospital gangrene, puerperal fever, pyæmia, etc.; and at the same time summarises the principal facts in support of the position that the bacteria met with in diseased tissues and fluids are "actual pathological products."

For an enumeration of these facts and arguments, as well as for an account of those upon which Dr. Bastian builds his own doctrine, we must refer our readers to the report of the address itself. Suffice it to say that Dr. Bastian produces some very strong evidence to show that "bacteria are pathological products capable of being engendered in the body after death" (a position which he thinks is fairly established), and that their "very existence in the fluids and tissues of diseased persons is for the most part referable to the fact that certain changes have previously taken place (by deviations from healthy nutrition) in the constitution and vitality of such fluids and tissues." The origin of these widespread bacteria is by heterogenesis and by archebiosis, though when once produced they multiply rapidly in the ordinary way.

The applicability of the germ theory to artificial tuberculosis, syphilis, typhoid, typhus, relapsing fever, cholera, measles, scarlet fever, small-pox, and other contagious fevers, is much weaker, Dr. Bastian considers, than it is to the virulent inflammations and their sequelæ, since, "although such contagious fevers have always been regarded as general and essentially *blood diseases*, in only one of those occurring at all commonly in the human subject does it appear that anything like an independent living organism is to be met with in the blood." As the theory, as applied to these diseases, rests, Dr. Bastian considers, upon *à priori*, and not upon positive evidence, we are at once led on to the enumeration of the facts which tell against the causal relationship between organic germs and specific fevers.

The address concludes with some observations on (1) Pasteur's modification of his germ theory of fermentation, by which he now supports the view that fermentation and putrefaction may be initiated, as well as in the manner before referred to, by chemical processes occurring in the tissue-elements of certain fruits and vegetables when placed in certain abnormal conditions; (2) on the degree of relationship between fermentation and zymotic processes, between which a hitherto almost unrecognised difference exists—viz., that fermentation occurs in a mere isolated organic mixture, whereas zymotic changes occur in the fluids and tissues of a complex living body. Finally, it is asserted that the facts already known suffice to displace the narrow and exclusive vital theory, and to establish a broader physico-chemical theory of fermentation.

Dr. Burdon-Sanderson commenced the discussion upon Dr. Bastian's address, in a speech admirable alike for its lucidity of expression, its truly philosophic spirit, and the good sense

with which he counselled the pursuit of the inductive scientific method in dealing with this subject. It cannot be said, however, that the address itself shows any want of the due appreciation of the value of facts, and of the futility of *à priori* arguments. Of course we must all admit that the facts must be collected first, and the theories built up afterwards. Nor must the halting-point be found here, but before any of the theories can be accepted they must be tested by fresh experience, and be seen to fit into all previously ascertained facts. It is easy enough to make a theory upon a few crumbs of facts, but such is, after all, in plain English, only a guess. It will never advance us in our pursuit of knowledge to cultivate the theory more than the facts, or to ignore the facts when they do not assist the theory. Nevertheless, if Dr. Sanderson's wise advice is strictly followed in the matter now before the Pathological Society, and attention is kept directed to facts alone, we think, after the exhaustive treatise by Dr. Bastian, and the able reply to it, that discussion cannot at present be carried much further.

SECRET POISONING IN INDIA.

Reading the interesting details of the examination of the various experts and others as to the attempt to poison Colonel Phayre, we seem to be carried back to the middle ages, to the days of the Borgias, and of the Aqua Tofana. Nothing, to our mind, is more interesting than seeking into the real truth as regards the secret poisons of the middle ages, and the ascertaining of the exact nature of their effects; but, alas! such inquiries only lead, as all others of a like nature do, to the belief that these poisons were only secret, in any sense of the word, from the way they were given,—not as to their effects, which were speedy enough. In nearly all cases the poison used was some preparation of arsenic, or the metal itself in the crudest form. Here, then, we have in India at the present day an attempt to get rid of an obnoxious individual by means exactly similar to those which might have been adopted at the Papal Court in the time of Alexander VI. Then, as now, some harmless or only slightly noxious ingredient which might symbolise great qualities, such as diamond-dust, some carefully distilled essence, or the like,—this would be mixed with some truly poisonous substance, as arsenic in the shape of orpiment, or realgar, or even as arsenious acid. Such mixtures, with or without other ingredients, would be added to the food or drink of the fated individual; and though no effect would follow diamond-dust or the liquid constituents of Aqua Tofana, yet the arsenic would do its duty. Repeated doses would have to be given to produce anything like slow poisoning; for the tales of victims dying six months or more after a single exhibition of the poison hardly take into account that men and women could be purchased to administer the deadly potion more readily then than they can be now, even in India, and that the requisite quantity of poison is not a bulky article. In short, the whole mystery disappears in the face of investigation, especially by means of chemical science, for in these days no such thing could be said to exist. Even centuries later, when Madame Brinvilliers used corrosive sublimate so freely, the chemical knowledge of the time barely enabled the experts concerned to satisfy themselves of the nature of the poison she habitually used.

Turning to the case of Colonel Phayre, we find, in the accounts which have reached us, certain little discrepancies which are not, with our scanty knowledge, easily understood. Thus it is said that the poison packets contained diamond-dust, arsenic in the form of arsenious acid, and some form of copper. Whether this last supposed constituent was really present, is a question,—the source of the information was bad; at all events it would not be a very active one, and was not essential to the action of the others. Again, as regards the quantities, the matter found in the bottom of the glass used by Colonel Phayre amounted to, it is said, one grain and a half, and Dr. Gray describes this as yielding one grain and a quarter of arsenic. The matters are described as brown or fawn coloured (probably the former when wet, the latter when dry), so that there must have been a certain proportion of colouring matter, and surely some organic matter the remains of the sherbet; but all these being removed, and one grain and a quarter of arsenious acid still remaining, certainly astonishes us. The poison must have been as nearly as possible altogether composed of arsenic. How far the details of Rowjee's evidence as to the appearance of the poison given or sent to him for administration are reliable, we can hardly say. According to his story, two powders were given to him, one rose-coloured, the other white. What the nature of the first one was, is not easy to say; it probably contained the substances already alluded to as being only potent from some metaphysical ideas attached to them apart from their physical characteristics,—diamond-dust, for instance; but the white powder was evidently pure arsenic. Of this he retained a supply, when all was over, amounting to as much as seven grains—a quantity quite enough to destroy more than one life.

In this attempt on the life of Colonel Phayre, the poisoner seems to have departed from the ordinary Indian plan. In the Upper Provinces, and probably in most others, though mineral substances are sometimes used, vegetable matters are much more frequently employed for this purpose. Minerals can only be obtained in the bazaars, and might be traced; but vegetable poisons grow everywhere, and may be had for the plucking. Hemp, in its various forms, can hardly, perhaps, be called a poison; but the white *dhatoora* grows plentifully, and the *Aconitum ferox*, or some other form of the poisonous aconite, can easily be procured. These are the substances mainly employed; and for their effects, and the cunning plans by which the natives contrive to give them to their victims, we would refer our readers to the exceedingly interesting work by Dr. Norman Chevers on the "Medical Jurisprudence of India." Some years ago, when the work first appeared, we made certain extracts from it on this very subject; but the remembrance of these may have passed away from the minds of our readers.

AN ABORTION-MONGER SENTENCED TO DEATH.

A case of great interest and importance was tried at the Liverpool Assizes on the 2nd inst. Alfred Thomas Heap, of Manchester, was charged with the wilful murder of Margaret M'Knivett, on March 16 last, by procuring her miscarriage. The deceased, a single young woman, finding herself pregnant, went, on March 12, to consult the prisoner, who kept a druggist's shop in Gorton-lane, Manchester, and held himself out as a "surgeon." It appeared from the evidence that some operation was performed by him on the deceased, which caused her to faint, and that it was some time before she was able to return home; and when she did leave, the prisoner assured her mother, who, aware of her daughter's condition, and alarmed at her long absence from home, had come to the shop to inquire after her, that she would be all right in a short time. The girl, however, continued very unwell, suffering from much, and increasing, abdominal pain. On the 14th she miscarried, and on the 15th the prisoner was sent for to see her. He had been paid, it appeared, a sovereign for his services on the 12th, and he now demanded half a crown, but as that was not forthcoming, he refused his "patient" any more medicine, and left her. As she grew rapidly worse, Dr. Fletcher was asked to see her, and found her dying. The cause of her illness was, it seems, concealed from him; and when on her death, on the 16th, he asked for a post-mortem examination, this was refused. It was made, however, on the

17th by Dr. Jones, and revealed the fact that two punctured wounds had been made in the womb, causing peritonitis and death. The counsel for the prisoner contended that the indictment for murder could not be sustained, even could it be proved that he had used instruments for the purpose alleged; but the Judge (Mr. Baron Pollock) said he should direct the jury that if they believed the prisoner intended to procure abortion, and that the deceased died in consequence thereof, that was murder. The jury found the prisoner guilty, but recommended him to mercy. Mr. Baron Pollock, however, passed sentence of death upon the prisoner in the usual form; and told the prisoner that he could not hold out any hope that his life would be spared, though the recommendation to mercy would be forwarded to the proper quarter. He remarked, also, that when the jury recommended the prisoner to mercy, they were probably ignorant of the fact that he had been previously convicted of a similar offence, and sentenced to five years' penal servitude. And to this we will add that, from the evidence and the behaviour of the poor girl's mother, it may be held for certain that the man was well known in the neighbourhood as one to whom women might apply when they wished to abort.

Whether capital punishment be or be not inflicted in this case—and we can see no reason why the sentence should not be carried out,—the result of the trial is a matter for congratulation. There can be little doubt that the crime of procuring abortion has become fearfully common in our cities, and that it forms a lucrative and not inconsiderable part of the "practice" of many irregular and unqualified practitioners,—men sometimes of a more skilled and less uneducated type than the criminal Heap; but it is very difficult to obtain such clear legal evidence of the crime as will secure, or even encourage the attempt to obtain, a conviction. The boast is not seldom heard that "the sacredness of life" is more highly considered in this than in any other country; but from some points of view the boast seems rather a vain and empty one. What is its worth in face of the fact that such a man as Heap—ignorant and utterly unqualified, and who had been convicted of and punished for procuring abortion—could set up as a druggist, and "hold himself out as a surgeon"; and in face of the facility with which persons without any, or with only the most worthless, medical qualification or education can play with life and health, as "Drs.," "herbalists," and the like, without infringing the Medical Act, or bringing themselves within the reach of the law?

It is to be hoped that the conviction of Alfred Thomas Heap and the sentence passed upon him may have some effect in restraining those wretches who traffic in crime of the same kind, but we rather fear that they will only look upon him as a rude and clumsy "practitioner," whose greatest crime was that he had allowed himself to be found out; and we incline to look more for benefit through the effects that the revelations made at such trials must have on the public. And there were during the late Spring Assizes on the Northern Circuit two trials, with convictions, which may be expected to teach the general public something of the necessity there is for their better protection in sickness and bodily distress against the incompetency, or worse, of unqualified and uneducated "practitioners," and the ignorance of untrained midwives. The case of Alfred Thomas Heap and his victim is a fresh proof of the facility and impunity with which the most ignorant pretenders may assume the character and functions of medical men; and the conviction, recorded in our number of March 27, of the midwife Elizabeth Marsden, of the crime of manslaughter for having imparted puerperal fever to a patient after she had been warned by medical men to desist for a time from practice, ought to help forward the demand that all women who wish to practise midwifery shall be required to have been more or less specially educated for that purpose. Let it not be supposed that, in speaking of these two trials together, we at all intend to bracket Alfred Thomas Heap and Elizabeth Marsden as in any degree equals in criminality; in that sense the cases are anything but parallel. The former was secretly doing a deed of darkness that he perfectly well knew to be an atrocious crime; while the latter was openly and honestly following a legitimate calling, when an obstinate confidence born of ignorance brought her within the grasp of the law for the punishment of criminal and wilful negligence.

THE WEEK.

TOPICS OF THE DAY.

At the annual meeting of the governors of the Newcastle Infirmary on the 1st inst., a gratifying presentation was made to Dr. Page, in acknowledgment of services rendered to the institution during the three years and a half he had filled the post of house-surgeon. The gift consisted of a beautiful illuminated address, signed by the members of the committee, and bearing the following inscription:—"Presented to Frederick Page, Esq., M.D. Edin., M.R.C.S. Eng. Infirmary, Newcastle-on-Tyne. At a meeting of the Committee of Governors of this institution, held on October 1, 1874, the following resolution was proposed by the Hon. and Rev. Francis R. Grey, seconded by Mr. Alderman Thomas Wilson, and unanimously carried—'That this Committee desire to express their complete satisfaction with the way in which Dr. Page has discharged his duties of House-Surgeon at Newcastle Infirmary during the time he has held that office, from May 1, 1870, to October 30, 1874. They also rejoice to learn that although he retires from the Infirmary, his great professional skill and knowledge will not be lost to Newcastle.'" A medallion portrait of Dr. Page is placed in the centre of the top of the address, and at each of the upper corners are views of St. Nicholas Church and the old Castle, and at the bottom is a view of the south front of the Infirmary.

At the last meeting of the Islington Board of Guardians, a letter from the Local Government Board was read, directing their attention to a communication they had received from Dr. Ducat and Mr. Gardner, district medical officers, with regard to the extent of the duties discharged by them and the amount of their remuneration. The Board requested that the matter might receive the attention of the guardians, and suggested the desirability of rectifying the inequalities complained of by slightly altering the boundaries of the Highbury and Canonbury districts on the one hand, and St. Peter's and St. Mary's districts on the other. After a short discussion it was decided to postpone the consideration of the question for a month, in order that the members of the new Board might deal with it. It is singular that the easy solution of the difficulty proposed by the Local Government Board did not suggest itself to the guardians when Dr. Ducat and Mr. Gardner first complained to them of the inequalities of the work and remuneration in the various districts.

There is no doubt that inoculation is secretly practised to a considerable extent in some parts of Ireland, especially in the counties of Galway and Mayo. We should hope the recent detection and prosecution to conviction of a defendant in a case in that part of Ireland, and his sentence to six months' imprisonment with hard labour, will have a deterrent effect. We trust the authorities in all similar cases will, without hesitation, and in its full rigour, enforce the law, that these illegal practices may be put a stop to.

The Adulteration Act appears to have been worked in Warwickshire with very satisfactory results. Dr. Alfred Hill, the county analyst, reported to the Quarter Sessions on Tuesday that cases of adulteration had decreased in one yea

from 57 to 10 per cent. He pointed out the defects of the Act as to the omission of a standard of strength for distilled spirits, by which no legal action could be taken in the adulteration of spirits with water. The samples of brandy, gin, and whisky submitted to him were from 17° to 44° under proof, principally adulterated with water.

The adulterant known as "hop substitute," now so extensively used in the brewing of beer, should not, no doubt, be permitted to remain, as now, a "trade secret." The hop-growers and traders in hops of Worcestershire have appointed a committee, to endeavour to obtain the insertion of a clause in the Adulteration Act, to prevent the use of a substitute for hops being used, without the users of such substitute declaring what substitute they use.

The recognition of laborious efforts in the cause of humanity and charity, such as those undertaken by Mr. Roper in promoting the Croydon General Hospital, is a matter of congratulation. He has now been presented with a testimonial in some way worthy of his acceptance. It consists of a rosewood oblique grand pianoforte by Collard and Collard, and rosewood music cabinet; a silver tea and coffee service, with tray and salver; a handsome drawing-room clock, and a pair of vases to match. The salver exhibits the following inscription:—"This salver, with a tea and coffee service, was presented to G. A. Roper, Esq., F.R.C.S., by the friends of the Croydon General Hospital, in acknowledgment of invaluable services rendered by him as Honorary Secretary to that institution. March 11, 1875."

Dr. C. Theodore Williams, F.R.C.P., has been appointed by the Council of the Medical Society of London to deliver the Lettsomian Lectures in January, 1876

THE OBSTETRICAL SOCIETY.

The debate "On the Relations of Puerperal Fever to the Infectious Diseases and Pyæmia," opened at this Society on Wednesday night by Mr. Spencer Wells, promises to rival or equal the debate at the Pathological Society, and those at the various societies in past years—not only in the rank and number of the members of the profession who attended or took part in the discussion, but also in the permanent benefit to science and humanity which, we believe, is likely to arise from the recorded experience by numerous competent observers of facts, which but for debates of this kind would many of them perish with those who had made them. Mr. Spencer Wells commenced his paper by saying that it was intended rather to elicit than impart knowledge. He referred to the foundation of the Obstetrical Society, and the part which he took in causing the debates as well as the papers to be recorded in the *Transactions*, and asked if the *Transactions* of the Society, in whose rooms his audience then were, would not have been immensely more valuable had the debates carried on in former years been recorded in them. Passing to his paper, he took questions one, two, and three together, and briefly supported the views shadowed forth in the questions, asking members to answer them from their experience. He adopted the same plan with the last three heads, and appealed especially to country Fellows of the Society for records of isolated cases, which he considered chiefly valuable in connexion with the methods of infection, as in such cases the source could more often be traced. He referred to the advantages conferred on surgical hospitals by the application of Professor Lister's antiseptic system, and to the results of isolation, scrupulous cleanliness, and care, as illustrated in the statistics of ovariotomy; and appealed to the profession to produce like results by similar means in lying-in hospitals. As a full report of the paper and the debate will shortly appear in this journal, we need not now dwell farther on the able and temperate paper of Mr. Wells. At its conclusion, letters of apology and regret for non-attendance were mentioned as having been received from many leading members of the profession in London, Edinburgh, and Dublin. The President then requested Dr. Leishman, of Glasgow, to open the debate. He spoke generally in support of the view of pyæmic or septicæmic infection, and also considered that specific diseases, local lesions, and decomposing animal tissues, from whatever source, were potent causes of the disease. He complimented Mr. Wells on the able and dispassionate manner in which he had introduced the subject, and predicted abiding good from the debate. Dr. Newman, of Stamford, followed, and, as the result of twenty years' experience in general practice, supported the view that there is no definite disease which we can call puerperal fever. He believed in most if not all cases a source of infection could be traced. Parturient women are much more susceptible to infection from their peculiar mental and physical condition. Dr. Braxton Hicks agreed with Mr. Wells in the advantage of these discussions in bringing out latent opinions, and gave a general support to the views already expressed. He believed the exanthemata and zymotic diseases were commoner causes of puerperal fever than local lesions. Mr. Jonathan Hutchinson dwelt chiefly on the analogy between puerperal fever and the kindred surgical diseases. He defined erysipelas, septicæmia, and pyæmia, and gave expression to his views on these diseases very decidedly; but it would be beyond the purpose of a short summary like the present to follow him. Dr. Richardson followed, taking up Mr. Wells's questions one by one. He defined various forms of the disease which he had seen, and dwelt strongly on the views which he has previously given to the profession, attributing a physical mode of causation to all this class of diseases as opposed to a germ theory. Dr. Barnes moved the adjournment of the debate. In conclusion, we may say that the debate was most ably sustained by the various speakers, and listened to with the closest attention by the large audience.

MR. HARDY AND THE ARMY MEDICAL DEPARTMENT.

In succeeding to the mantle which fell from the shoulders of Lord Cardwell, Mr. Gathorne Hardy inherited a portfolio full of troublous questions which could not be got rid of, and which had not even emanated from his own party; and amongst the most knotty of these was the condition of the Army Medical Service, throughout the whole of which the late Secretary for War had succeeded in raising a spirit of discontent by nominally granting reforms which were not actually allowed to come into effect. On Monday last, when the vote for medical establishments was taken in the Army Estimates for the current year, a Member appealed to Mr. Hardy for some assurance to be given that the grievances of the medical officers of the army should be redressed as soon as possible, by the issue of a new warrant, or in any other way which might be considered the best. Thereupon Mr. Hardy propounded the difficulty under which he has been labouring; he replied that the case of the medical officers of the army had been constantly under his consideration since he had assumed office, but amongst these gentlemen themselves there was a considerable difference of opinion as to the measures which should be adopted to render the service popular. He had been inundated with pamphlets from all quarters,—each one detailing a different grievance, with full instructions how the same should be remedied, until it became a matter of some difficulty to decide what the most popular grievances to be remedied really were. In conclusion, however, the Secretary for War remarked that there were certain points in respect to which he hoped before long to be able to grant some of the advantages which he wished to see conferred upon them.

The matter having been thus definitely referred to, it would perhaps now be better to wait patiently for the result of Mr. Hardy's inquiries. If the mass of pamphlets and expressed

opinions which have reached that gentleman only tend to retard his legislation, on account of the very opposite views they contain, it is certainly time that the well-wishers to the Army Medical Department—and their name is legion—refrained from troubling him any further on the subject for the present, trusting that "before long" (to use Mr. Hardy's own words) a great and lasting improvement may be announced, which will satisfactorily settle this vexed question for a long time to come.

THE DEPUTATION ON THE WATER-SUPPLY OF THE COUNTRY.

A DEPUTATION from the Social Science Association, introduced by Dr. Lyon Playfair, M.P., has lately waited upon the President of the Local Government Board with the view of obtaining the appointment of a Royal Commission to inquire into the question of an improved water-supply throughout the country generally. Mr. Michael, in explaining the object of the deputation, referred to the Government measure on the subject now before Parliament, but he represented that to deal thoroughly with the question an exhaustive inquiry by a Royal Commission was absolutely necessary to determine the best sources of supply and the best plans for distribution. As regarded the first point, there was no subject on which there was greater real ignorance; whilst, in reference to the latter, it was notorious that the existing water companies were a great hindrance to local authorities, whose efforts were hampered, if not entirely neutralised, by the powers delegated to those companies. Mr. Bailey Denton imagined that the best evidence that something was required to be done in the matter was to be found in the fact that already no less than thirty water Bills were before Parliament, most of which were based on the aggressive principle of helping themselves from other watersheds than their own, leaving the districts so robbed without any water at all. He suggested that some provision ought to be made under which landed proprietors might, by storage or other means, supply water to villages, and recoup themselves for the cost. Drs. Farr and Guy supported the appointment of a Royal Commission. Dr. Sandwith commented upon the polluted state of the water-supply of London, human excrement having been found in the cisterns of one of the clubs in Pall-mall. He contended that what was wanted was more wholesome relations between the rivers and the consumers, whilst the evil of an intermittent supply could not be too strongly dwelt upon. Mr. Sclater-Booth, who listened with much attention to the arguments of the different speakers, admitted that there were certain subjects on which a full inquiry would be of use, but he pointed out that there had already been a Royal Commission on the water-supply of the metropolis; whilst, therefore, he should be most willing to represent to the Government the suggestions of the present deputation, it would be as well if they were supplemented by a statement from the Social Science Association of the points on which it was imagined a further inquiry would be found to be useful. Dr. Lyon Playfair, in closing the interview, undertook that this should be done.

ARMY MEDICAL SCHOOL.

THE summer session of the Army Medical School was opened on April 1, by an introductory address by Professor Aitken, F.R.S. Thirty-eight candidates for the three services, and all the staff of the Hospital, and several gentlemen from the neighbourhood, were present. Dr. Fayrer, the successor to Sir Ranald Martin, came down from London specially to hear the lecture. After a few words explanatory of the object aimed at in the original establishment of the school, Dr. Aitken gave a most practical and admirable account of the three great public Medical Services—viz., of the Army, of the Navy, and of India. He contrasted their various conditions of service; pointed out the merits of each; and, while not refraining from making suggestions for improvements, expressed his conviction that all the services offered great advantages to young medical men. He referred to Dr. De Chaumont's calculations as showing exactly what the Army Medical Service offered in a pecuniary point of view, and as therefore affording for the first time a reliable basis on which a young man could determine his future course. One point in the Army Medical Service on which he specially dwelt was the necessity of rewarding professional merit in the Service more completely than is now done, and by so doing stimulating individual exertion, and lessening the chances of that professional deterioration which is always to be apprehended when men believe that seniority and not merit is the sole portal to advancement. After Dr. Aitken's useful address, Dr. Fraser, the Surgeon-General, introduced Dr. Fayrer, the Physician to the Indian Council, who addressed the candidates, and especially those for the Indian Service, on various points of interest connected with their services. His remarks were very practical and interesting, though there were not a few among his audience who would have been glad to have heard him describe more particularly his own eventful career, which has probably been more filled with service and vicissitudes than that of any medical officer in these later days. Dr. Fayrer has served as assistant-surgeon in the Royal Navy, the Royal Artillery, and the Indian Medical Service, and therefore may be claimed as a brother by all three. He seems to be equally familiar with sieges and serpents, for, we believe, he has served in no less than five sieges, and in every case has distinguished himself. He made, however, no reference to himself, though there is no better pattern we should desire to place before Indian medical officers than that of this distinguished surgeon.

NEGLECT OF DUTY AND ITS RESULT.

ONE of the duties of a medical man when called to a case of suspected poisoning is to secure and take away with him any substance that is supposed to contain the poison. The object of doing this is twofold—Firstly, that it may be submitted to analysis, to decide whether poisonous or not; and, secondly, that, if poisonous, it may be placed beyond the possibility of doing further mischief. To many it will appear unnecessary to make this statement, but the facts elicited at a recent inquest at Plymouth show that the rule is not always recognised or practised. About three weeks ago a woman named Willcocks and a portion of her family, four in number, residing in King-street, Plymouth, exhibited symptoms of poisoning shortly after drinking some tea that she had purchased at a little shop in the same street. A surgeon—Mr. Thomas Pearse—was sent for, who merely looked at some of the tea that remained undrunk, and then told Mrs. Willcocks to pour it back into the teapot and put it aside. Accordingly, she put it on the top shelf of a cupboard behind some other crockeryware, where it remained from Sunday, March 21, to the following Friday, on which day, during Mrs. Willcocks's temporary absence, one of her children—a little boy, seven years of age—took down the teapot, drank a portion of the contents himself, and gave some to his little sister, three years of age. Both children were seized with sickness shortly after, from which the little boy soon recovered, but the little girl died the next morning. Mr. Whipple, surgeon, stated at the inquest that he had made a post-mortem examination, and believed death was caused by an irritant poison, most probably oxalic acid, but he could not decide positively, as there was such a minute quantity left in the teapot. The Coroner said that it was clear the death of the child could have been prevented if some proper person had taken charge of the teapot containing the poison. He did not think there had been criminal neglect, but he should have thought Mr. Pearse would have taken possession of the teapot when he was first called in, and it was his duty to have done so. The jury concurred

in the opinion of the coroner, and returned a verdict to the effect that the child was accidentally poisoned.

THE MINUTE ANATOMY OF THE PROCESS OF HEALING OF THE SKIN BY GRANULATION.

Professor Thiersch has investigated this subject by studying the development of portions of skin grafted on wounds by Reverdin's process.(a) Selecting a patient who was to have his leg amputated, Thiersch grafted portions of skin on to the limb from time to time, the last occasion being eighteen hours before the amputation. The vessels of the leg were injected after its removal, and a number of important points were then determined. It was found that union occurs without a layer of structureless cementing substance, not more than a leucocyte or two separating the united parts. Successful union is accompanied with the inosculation of the vessels, which can be fully injected from the side of the vessels of the granulating surface as early as eighteen hours after grafting. The connexion between the two sets of vessels is established by intercellular passages, which become developed into regular vessels in a few days. Nevertheless, the vessels of the graft undergo a secondary change: they become wide, dilated, shoot out buds and processes, and, in short, assume quite an embryonal character. Should the primary inosculation fail, it is possible that true development of vessels may occur. Under these circumstances the epidermis and papillary layer of the graft fall off, and the transplantation appears to have failed. This, however, is not the case, for the subcutaneous tissue with the remains of the sweat-glands continues the healing process. By-and-by an epithelium makes its appearance in the situation of the supposed unsuccessful graft, which is probably derived from the remains of the sudoriparous glands. Thiersch states that in many cases it is advisable to modify M. Reverdin's method of grafting, and to first remove the granulations of the wound by a horizontal cut, and then, after a few hours, when inflammation has begun, to perform the transplantation with skin which has previously been contused or inflamed.

SURGICAL SOCIETY OF IRELAND.

The last meeting of the Society for the present session was held in the Albert Hall, Royal College of Surgeons, Stephen's-green, on Friday evening, the 2nd inst. The chair was taken by Mr. Joliffe Tufnell, the President. Mr. Barton exhibited the bones surrounding a hip-joint which he had excised some years previously. There was firm ligamentous union between the femur and innominate bone, constituting a serviceable joint. Mr. H. G. Croly detailed a case of popliteal aneurism cured by digital and instrumental pressure. The tumour closely simulated a large popliteal abscess, owing to the discoloration of the integument and the soft fluctuating feel of the swelling. An animated discussion followed, in which the President, Messrs. Wharton, Richardson, Barton, Stapleton, etc., took part. Mr. A. H. Corley reported an interesting case of necrosis. The President then gave his valedictory address. He referred to the work of the past session, and complimented the Society on the valuable papers which had been read by members. He expressed his regret that country members had not come forward to make communications, and in conclusion he paid a fitting tribute of respect to the memory of three distinguished members who had died during the session - Robert Adams, William Jameson, and Francis L'Estrange. We believe it is the intention of the Council to hold a *conversazione* shortly, to which his Grace the Lord Lieutenant will be invited.

HEALTH OF LONDON.

The deaths registered in the metropolis last week amounted to 1873—exceeding by 207 the average. The annual death-rate from all causes, which in the three preceding weeks had been 28, 26, and 25 per 1000, rose again to 28. It was 27 per 1000 in the West and North, 26 in the Central, 31 in the East, and 29 in the South groups of districts. Twenty-four deaths occurred from measles, 1 from small-pox, 32 from scarlet fever, and 92 from whooping-cough. To the seven principal diseases of the zymotic class 219 deaths were referred, against 180 and 152 in the two previous weeks. These deaths were 25 below the average from the same diseases. The fatalities referred to diseases of the respiratory organs, which in the two previous weeks had been 498 and 508, rose last week to 534, and exceeded the weekly average by 142; 328 resulted from bronchitis, 133 from pneumonia, and 13 from asthma. The Asylum District Fever and Small-pox Hospitals at Homerton and Stockwell contained 133 patients on the 3rd inst., of which 56 were under treatment for scarlet fever, 53 for fever, and 12 for small-pox. In the outer ring, 9 deaths were referred to fever—showing a considerably higher death-rate from this cause than that which prevailed in inner London. Two occurred in Bromley sub-district.

LOCALISATION OF THE FUNCTIONS OF THE BRAIN.

Fresh contributions continue to make their appearance on the subject of the electrical irritability of the cerebral convolutions. Dr. Soltmann, of Breslau, has just published a few conclusions at which he has arrived (*Centralblatt*, March 20). No muscular movements are excited by electrical stimulation of the cerebral convolutions in new-born animals (dogs). A few days after birth such movements begin to be observed; and the extent and form of the motor region of the cerebral surface vary, being different in young animals from what they are in adults. Meanwhile, Professor Schiff (*ibid.*) adduces several reasons why the so-called motor centres of the cerebral surface should be considered reflex centres. In spite of the arguments which previous investigators have brought forward, Schiff believes that, from his own experiments, it must be granted that "motor apparatus for the muscles of animal life" do not exist in the cerebral convolutions. At the same time, he states that centres for the cardiac movements must exist in this situation, for by stimulation of portions of the surface of the hemispheres which have not yet been precisely localised, the motion of the heart has been influenced in such a way as to show that this effect was the expression of a direct, and not of a reflex, irritability.

FATAL ACCIDENT FROM SUBSTITUTION OF BLACK ANTIMONY FOR PEROXIDE OF MANGANESE IN PREPARING OXYGEN.

On March 18, Mr. James Marsden, of Irishtown, near Dublin, was engaged in preparing oxygen gas from a mixture (it was supposed) of peroxide of manganese and chlorate of potash. He had scarcely placed the retort containing the ingredients on the fire, when a violent explosion took place, from the effects of which the unfortunate man shortly died. On Saturday, April 3, the coroner's jury, after a very brief deliberation, found the following verdict:—"That the deceased, James Marsden, aged forty years, came by his death on March 20, in consequence of injuries accidentally received on March 18, from manufacturing oxygen gas, and that the explosion was caused by sulphide of antimony having been supplied from the Apothecaries' Hall in mistake for peroxide of manganese."

DEGREES IN ABSENTIA.

Trade must be bad—horribly bad,—or our worthy Jersey friend, with his Yankee diplomas, would hardly be driven to such an unlikely locality as Asia Minor. Nevertheless, we have received a Smyrna paper—the *Impartial*—by the kindness of a resident surgeon, containing the well-known advertising trap. It is really too bad, but, nevertheless, if the advertiser would solely confine his exertions to those remote localities, poor people here at home might be safer.

(a) *Centralblatt*, 1875, No. 17; and *V. Langenbeck's Archiv*, 1874, No. 17.

GLASGOW HOSPITAL FOR INCURABLES.

On Tuesday, the 6th inst., was brought to a termination the largest and most successful bazaar ever held in Scotland, the object of which was to raise funds towards the establishment and maintenance of a hospital and cottage homes for the relief of persons in the West of Scotland labouring under incurable diseases. The bazaar was formally opened on Tuesday, March 30, in the Kibble Art Palace, Botanic Gardens, Glasgow. In the unavoidable absence of Royalty, the Lord Provost presided. The attendance of visitors each day was very large, the total number during the seven days amounting to upwards of 35,000. The proceeds derived from the sales have exceeded even the most sanguine expectations, and amount to the large sum of £14,000. In addition to this sum, private subscriptions to an equal amount have been announced, thus raising the fund for the incurables to £28,000. The present bazaar has been promoted by Miss Clugston, whose name has been associated with other similar benevolent objects. It is proposed to erect a large centre hospital, capable of containing 200 patients, with eight subsidiary or cottage homes, each capable of containing thirty patients.

THE MIDDLESEX HOSPITAL.

The second year's students of this Hospital have just shown their high appreciation of the talented and assidnous Demonstrator of Anatomy and Lecturer, Arthur Hensman, Esq., M.R.C.S., by presenting him with a valuable set of silver salt-cellars and spoons, in a handsome case. Their sentiments of gratitude for his invaluable services, with the signatures of the subscribers to the testimonial, were duly set forth on an artistically illuminated scroll, the work of Mr. R. C. Thomas. "It is," they observe, "a very inadequate expression of the profound respect, esteem, and regard in which we all hold you." This substantial evidence of the kind feelings of the students appeared to afford their demonstrator and teacher, Mr. Hensman, great satisfaction.

A NEW TEMPERANCE HOSPITAL.

In consequence of the success of the London Temperance Hospital, the Board of Management have taken steps to erect a larger building. They have for this purpose purchased a site for £3300 in the Hampstead-road, adjoining St. James's Chapel, and, of course, close to a graveyard.

PARLIAMENTARY.—SANITARY CONDITION OF FOLKESTONE; ALSO OF BEGOAR'S-BUSH BARRACKS, DUBLIN—SMALL-POX IN CONNAUGHT.

In the House of Commons, on Tuesday, April 6,

Sir E. Watkin asked the President of the Local Government the Board for information respecting the sanitary condition of the town of Folkestone, as, in consequence of the statements of Lord Robert Montagu, a public meeting of the inhabitants had been held, at which certain resolutions were passed to the effect that no cases of fever had occurred this year, and the average mortality was under 17 per 1400.

Lord R. Montagu explained that in Committee on the Artisans' Dwellings Bill he was anxious to extend the measure to towns with a population of less than 25,000. His argument was that in the smaller towns there were worse evils and more fever-dens than were to be found in the large towns, and he gave as an example a town in which he had lived for many years, and with which he was well acquainted—the town of Folkestone. That assertion he repeated now. One of those dens belonged to a town councillor named Robinson, who, when he read it, went round for signatures calling upon the Mayor to convene a meeting, because he was anxious that those dens of fever should not be inquired into, while all the gentry were on his (Lord R. Montagu's) side. The argument this man used was that if the people of Folkestone said a word against its sanitary condition, strangers would not come to it in the summer, and so the town would suffer. According to the Registrar-General's reports for August last, the mortality of Folkestone, owing to the high death-rate of the fever-dens, was 23, not 17, per 1000.

Mr. Sclater-Booth said he had received only that morning a letter containing the resolutions referred to, accompanied by a report from the medical officer of health of the place, from which it appeared that the information of the hon. gentleman was in accordance with the facts. There was no information in the office of the Local Government Board which would lead him to doubt its accuracy.

Mr. Hardy, replying to Sir L. Palk, said that in December, 1873, the officers of the Royal Engineers asked permission to remove certain cesspits from the Beggar's Bush Barracks, and accordingly they were done away with, and the privies in the rear of the mess premises and barrack sergeant's quarters were converted into water-closets by March, 1874. He was sorry to say that there were several deaths in 1873, especially of children. The medical officer in charge of the 2nd Battalion of Scots Fusilier Guards thus reports as to the year 1873:—"Zymotic diseases have furnished a larger number of admissions than usual, owing to the occurrence of enteric and scarlet fevers when the battalion was quartered in Beggar's Bush Barracks, Dublin. These diseases could not be traced to any sanitary defects existing in those barracks. There were seven cases of enteric fever of mild form; with the exception of two, all recovered. Among the men there were ten admissions from scarlet fever of a mild type; all did well. There were twenty-one cases of scarlet fever among the children, seven of whom died." Four cases of typhoid fever occurred in 1874, in connexion with these barracks. Whether they were attributable or not to insanitary conditions within the barracks is, however, open to question. The first case was that of a soldier admitted into hospital with typhoid fever after confinement in prison cells. He stated that he had been employed in cleaning a drain near the officers' kitchen. The next case was that of Captain Langham, who resided in barracks, but who was absent in Glasgow from October 29 to November 3. About a fortnight after his return he appears to have been attacked. Being married, he resided at some distance from the officers' mess, from which, however, his meals were procured. The third case is that of Captain Van de Weyer. The Surgeon-Major stated that this officer was from November 20 to 23 on a visit to a country house, in which, it is believed, a case of typhoid fever had occurred some time before. On November 24 and 25 he was in barracks, apparently quite well, and on the 26th he left Kingstown for England. About a fortnight afterwards, at a country seat where he had gone to shoot, he was taken ill with symptoms of fever, of which he died near Windsor. The fourth case was that of a mess cook, a civilian, who was employed in the kitchen during the day, sleeping outside. He died out of barracks. The Principal Medical Officer in Ireland, in his report, January 2, 1875, states:—"The general health of the troops has been good during the period specified. The Grenadier Guards have not been so healthy for the past twenty years."

Sir M. H. Beach, replying to Capt. Nolan's inquiry respecting the prevalence of small-pox in the counties of Galway and Mayo, said that the practice of inoculation being illegal would, of course, be kept a secret, so that it would only be in rare instances that the authorities would become acquainted with it. He regretted that he had reason to believe the practice had to some extent prevailed in that part of Ireland to which the hon. member referred. A case had been lately detected, and prosecuted to conviction, the defendant having been sentenced to six months' imprisonment with hard labour. He trusted that conviction would have a salutary effect. As to the prevalence of small-pox in the two counties named, he had to say that the cases last year had been very few and trivial as compared with those of the previous year.

The Ledwich School of Medicine, Dublin.—At a meeting of the proprietors of this School, held on Tuesday, March 30, Mr. W. Handsel Griffiths, Ph.D., Librarian, Royal College of Surgeons Ireland, was elected Lecturer on Chemistry, in room of Dr. Charles A. Cameron, appointed Professor of Chemistry in the School of Surgery, Royal College of Surgeons, Ireland.

Health of Brighton. — Brighton maintains its high reputation as one of the healthiest of our provincial towns. Dr. R. R. B. Taaffe, the Medical Officer of Health, in his first annual report, shows that the annual death-rate of residents has been 15·5 per 1000; and, deducting infantile diseases from the zymotic class, the fatalities of the latter are very few indeed.

DR. SEDGWICK SAUNDERS'S PRESIDENTIAL ADDRESS AT THE HUNTERIAN SOCIETY.

THE greater part of Dr. Sedgwick Saunders's address, on taking the Presidential Chair at the Hunterian Society, was devoted to preventive medicine and the use of disinfectants, on which subject he observed—

The study of practical hygiene embraces, *inter alia*, the investigation of the origin, nature, and characters of the microzymes or organic germs, which under certain undefined conditions are imported from without into the bodies of human beings; and although neither the chemist nor the microscopist can individualise these organisms or point to any special *contagium* as the source of a given malady, I am not without the hope that by patient perseverance and careful elimination of known sources of error this grand and final consummation of medical knowledge will be achieved.

Nature's great purifiers—earth, air, fire, and water—were sufficient in a primitive state of existence to maintain the balance of health in small communities; but as the human family increased and herded together, sources of disease were discovered which were unknown to our first parents; and as each element became polluted by the neglect of sanitary precautions, mankind in self-defence was driven to seek relief from the consequences of its own misconduct, and the aid of chemical science was invoked to neutralise the baneful results which followed.

Of all the subjects which have exercised the minds of hygeists of late years, that of disinfection has been the most uncertain and unsatisfactory; and, what with the contention of rival patentees and the hazy notions of those who have presumed to offer us instruction, I fear that little real progress has been made as to the best and surest mode of accomplishing what all desire—namely, the prevention of the spread of zymotic and other diseases by the absolute destruction of the organisms they spring from; the arrest of putrefaction by the coagulation of albumen, of which such germs chiefly consist; the oxidation of decaying and living organic matter; and the deodorising and neutralising of foul and deleterious gases given off during the process of disintegration. I consider heat, if properly applied in a suitable apparatus, is the most powerful of that series of disinfectants which entirely destroy all organic bodies. Next in power are certain mineral and corrosive acids. These are very destructive to organic life, but can rarely be used to disinfect a sick-chamber during the presence of the patient, since the only strength at which the vapours of chlorine, hypochlorous acid, sulphurous acid, and carbolic acid are serviceable—viz., 1 to 1000 of common air—are too irritating to respiration to be endured. Of the *organic acids* which have been recommended as disinfectants, *carbolic acid* has been the most popular; and this preference arose from the belief that it would utterly destroy all organisms—a theory which was generally accepted until the researches of Pettenkofer, of Münich, proved that although a strong solution of carbolic acid will destroy some of the *higher* germs, it will only arrest the development or paralyse for a time the growth of the *lower* germs; thus used, of the strength of 1 to 267 of water, all vital processes are suspended for several weeks, only to start again into activity when the solution is diluted with more water. Pettenkofer's experiments have been corroborated by Dougal in Scotland, by Day in Victoria, and also by a high medical authority in New Orleans.

Carbolic acid, then, cannot be called a true disinfectant, and its disgusting odour must ever be a potent objection to its use with sensitive people, especially in the sick-chamber; in addition to which many fatal accidents have happened from its highly poisonous qualities.

McDougall's powder, used at railway stations, is a weak preparation of carbolic acid, mixed, in the proportion of 15 per cent. of carbolate, with sulphate of lime, the latter being used only as a vehicle. Following in order of public estimation, we come to the commercial chlorides.

1. Chloride of Lime or Bleaching Powder.—This has great chemical activity, and acts as a corrosive. When mixed with mineral acid it evolves free chlorine and hypochlorous acid, which are perfect disinfectants when they can be used, but this is, unfortunately, very rarely possible.

2. Chloride of Zinc Solution, such as Burnett's and Crew's fluids, which are also effective, but too dangerous for general use, and have frequently caused fatal results by being taken internally.

3. Chloralum.—This is a hydrated chloride of aluminium, and is prepared by decomposing sulphate of alumina with chloride of calcium. It is sold as a *powder*, said to contain 20 per cent. of active agent, and as a *solution* of about equal strength. It is very effective and safe as a disinfectant when applied in a moderately concentrated form, but is not free from the objection that it attacks metals, and renders textile fabrics rotten. In a dilute form it is harmless, but I fear not very efficient. It has the merit of being odourless.

4. Cooper's Salts.—Of late years a very economical and efficient disinfectant has been extensively used and favourably reported upon by medical officers of health, sanitary engineers, and others, consisting of the chlorides of calcium, sodium, and magnesium, which was first introduced by the late Mr. Cooper, and is now known as Cooper's salts. The deliquescent character of these salts originally suggested their use for the purpose of economising water and labour in street watering, but it was subsequently found that their use was capable of wider extension, and that they formed a valuable and effective disinfectant. Cooper's salts contain 80 per cent. of active material, and in this respect compare favourably with other agents, with the additional merit of being cheaper than most of them; they possess also the advantage of being perfectly innocuous and free from smell. During the last summer I used these salts somewhat extensively in the worst and most filthy parts of the City, and have formed a very favourable opinion of their merits.

Permanganates of Potash and Soda.—Solutions of these salts under the name of *Condy's Fluid* are well known, and much used in the sick-chamber. They act by oxidation of organic matter, but are soon exhausted; they are so sparingly soluble that the deep crimson or green fluids contain only a small percentage of active material; their action upon organic matter is very irregular, and dilute solutions do not disintegrate albumen when used cold. Considered as a chemical corrosive they are very costly, but they have the virtue of being comparatively harmless and odourless; nevertheless, the deep brown stains which they leave are very objectionable. A remedy has been recently discovered for this defect by M. Tessié du Motay, who removed these stains by means of sulphurous acid.

Mangozone is a very ingenious method of using permanganates by simply reducing them to a fine powder and adding water when required; it has the merit of being very portable and cheap.

The mineral sulphates of iron, zinc, copper, and alumina are all useful disinfectants, but, with the exception of the first, they are too expensive to be employed on a large scale.

ABSTRACT OF

CLINICAL LECTURES ON DISEASES OF THE HEART.

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(*Continued from page* 265.)

THE pulse of simple aortic regurgitation is, as was first described by Sir Dominic Corrigan, something entirely *sui generis*. In its most typical form it is large and full, quickly projected against the finger, and falling off rapidly. Sometimes it communicates a vibratile jar to the fingers. Scarcely has the shock of the impulse been perceived than the arterial tension sinks to a minimum, from the aortic reflux, and the sensation vanishes. This pulse—*pulsus celer et infrequens*—has been likened to the successive propulsion of shot against the finger, or to the jarring shock of the toy called a water-hammer. It is always regular, and its characteristics are increased by raising the extremity (arm or leg) in which we feel it perpendicular to the body as it lies horizontal, or by raising the arm above the head in the erect posture. But these characteristic peculiarities of this form of pulse vary with each case, and may be greatly modified. Thus great obstruction, which also diminishes regurgitation, may lessen the distinctness of the jar very considerably, while a certain amount of anæmia often increases it; and consecutive or coexisting mitral disease frequently impresses upon it the mitral characters of smallness, feebleness, and irregularity so strongly, that its own peculiarities are entirely lost. Occasionally in these circumstances elevation of the arm brings out with tolerable distinctness the collapse of aortic regurgitation; but this is not always easily detected,

and cannot be relied upon unless well marked. When it is distinctly recognisable, we are, however, justified by the twofold nature of the pulse character in assuming the existence of a double lesion—aortic and mitral.

If we feel the apex beat of the heart and either of the radial pulses simultaneously in a perfectly healthy individual, it will be found that they do not beat simultaneously, but that the radial pulsation lags behind that of the heart by a distinctly appreciable interval of time, which may vary slightly in each individual, with special relation to the rapidity of the beart's action; but the pulse in health always precedes the second sound. This delay of the pulse is due to the fact that the arteries are elastic and not rigid, and that the blood moves along them as a wave, and not merely as a mass, one end of which is extruded as the other intrudes. So long as the arteries are fairly distended, trifling variations exert no marked influence on the state of the arteries, or on the rapidity of the blood-wave; and the same is the case in regard to the force of the heart's contraction. When, however, the heart's impulse is greatly increased, and especially if the blood-wave is enlarged, then the elastic arteries both lengthen and dilate. As in aortic regurgitation the left ventricle is both hypertrophied and dilated, the impulse is greater and the blood-wave larger than in health. The arteries are therefore longer (more tortuous) and more dilated than in health, so that the pulse is more visible, and attended by more arterial movement than usual (locomotive pulse). But as these phenomena may be due, though in a less degree, to other causes than aortic regurgitation, they are not distinctive of it, though their presence certainly leads us to suspect its possible existence. In aortic regurgitation, however, the arteries are not only longer and more dilated than usual, but, from the reflux into the ventricle, they are also less distended; the blood-wave is therefore longer of reaching its maximum, and the pulse is delayed. This delay of the pulse in aortic reflux is invariable, as was first pointed out by the late Dr. Henderson nearly forty years ago, the only apparent exceptions being those cases in which the delay is so great that the radial pulse coincides with the ventricular systole immediately succeeding that which has produced it; but any possible mistake in such a case may be corrected by tracing the pulse-wave from the ventricle through the carotid and brachial arteries to the radial artery, which may be fairly enough done by the hand, but may be quite accurately determined by the electric methods devised by Dr. M'Kendrick and Dr. Landois.

Whsnever, therefore, we have a visible locomotive pulse, which is delayed beyond the commencement of the relaxation of that ventricular systole which has originated it—as marked by the occurrence of the pulmonary second sound,—then we have to do with an aortic regurgitation which is probably great in proportion to the delay of the pulse.

The comparative longevity and comparative frequency of sudden deaths in aortic and mitral incompetence have been the subject of much debate and of much variance of opinion. In regard to the comparative longevity, accurate data, involving the life-history of many such patients, are unquestionably wanting, and we can only fall back with certainty upon hospital experience; and this enables us to say that, in regard to those affected with aortic incompetence from disease, who come under treatment on account of serious disturbance of compensation, the case is very much the same as with those suffering from aortic incompetence the result of traumatic rupture—four years, reckoned from the date of admission, will include the day of death in by far the larger proportion; while this is by no means the case in mitral incompetence. We must remember, however, that many of these cases of aortic incompetence have, from their history, evidently laboured for very many years under their valvular defect, which has only at last asserted itself as a disease when, from defective nutrition of the cardiac walls (into the causes of which I have already entered), efficient compensation could be no longer maintained. This hypothetical persistance of aortic incompetence, mute for many years, is confirmed by those comparatively few cases in which compensation, accidentally ruptured, has been restored by efficient treatment, and has remained perfect for long, certainly for several years. It is also confirmed by those cases of not infrequent occurrence in private practice, and sometimes met with in hospitals, in which a lesion of the aortic valves is detected, which is perfectly mute, the past and future duration of which are alike unknown. On the other hand, very similar statements may be made in regard to cases of mitral incompetence. To this we have to add the well-known fact, that aortic incompetence is always the result of a valvular lesion which can only be rehabilitated in the rarest instances, and then only imperfectly; while mitral incompetence is very commonly the result of perfectly curable disease. A due consideration of all these facts enables us to say certainly that though as yet we have no sufficient data to enable us to decide as to the comparative longevity in aortic and mitral incompetence, yet that, inasmuch as the former is always accompanied by serious valvular lesion, while the latter is not, the probability of life is very greatly in favour of a mitral lesion. Further, though we cannot estimate with certainty the value of life in any given case of aortic lesion, we may with tolerable accuracy fix the limits of vitality as lying within three months in cases of unfavourable rupture of the aortic valves, and twenty-five years in cases of disease occurring under favourable circumstances, which may vary much in character; while within these limits our prognosis must be determined entirely by the circumstances of the patient, including the necessity or not of manual exertion for procuring his livelihood, the many prospective conditions which may influence the nutrition of his body, among which his habits—temperate or otherwise, etc,—are of the greatest importance, as well as the past history of his family, as affording a probable clue to what these habits may become; and lastly, the family longevity of the patient, which affords an indication of the greater or less tendency to muscular degeneration—an indication which can never be wholly vitiated, though it may be much modified by the accidental position of the coronary arteries, or the greater or less destruction of the corresponding segments of the aortic semilunar valve—facts which can never be definitely ascertained before death. Further, the length of time during which the disease has probably already existed, and the present condition of the cardiac muscle, form most important elements in the prognosis. Nor must we forget, especially in the early stages of the disease, to give due prominence to the temperament of the patient, nervous excitability, whether evinced in sudden bursts of passion, or in a tendency to irregular spurts of violent exercise, being specially unfavourable—whatever conduces to irregular action of the heart being injurious in all forms of cardiac disease, but infinitely more frequently fatal in aortic incompetence than in any other. And this leads me to consider that other *quæstio vexata*, the cause of death in aortic regurgitation, and especially the frequency of sudden death in this form of cardiac lesion compared with others. Death, whether it arises from the loosening of the silver cord or the breaking of the golden bowl, is always a momentary and therefore sudden act; but we only so regard it when it appears sudden or unexpected relative to the apparent previous condition of the patient. When an individual, therefore, drops dead upon the street, or in a public meeting, or is found dead in his bed after retiring to rest in his usual health, he is popularly said to have died suddenly, though the sword of Damocles, in the shape of an inevitably fatal disease, has for years hung over his head ready to drop at any moment, and though his death relative to his actual state of health has been by no means so sudden as that of another hurried off by a fever or other acute disease of a few weeks' or days' duration. From this, the popular point of view, it is by no means difficult to say which of all the cardiac lesions is most likely to prove suddenly fatal. Death from any cardiac lesion occurs from syncope, and this is brought about in two ways—first, by gradually increasing asthenia, in which the aortic blood-pressure slowly falls from day to day, till at last it drops below what is compatible with life, and death ensues; second, by asystole, in which the aortic blood-pressure suddenly falls below that necessary for the maintenance of life, because the left ventricle ceases to act. No statistics are required to prove to us which of these accidents is most likely to happen in any given cardiac lesion.

When the muscular walls are enfeebled from inflammatory infiltration, fatty or fibrous degeneration, they may suddenly cease to act at any moment, either with the heart in systole or diastole—more often the latter,—and with this cessation of action life comes to an end. Death from this cause may occur with or without the presence of valvular lesion; if the former, there are, as we have seen, both anatomical and physiological reasons why it should be incomparably more frequent in connexion with aortic incompetence than with any other valvular lesion. In the most extreme form of mitral constriction, enough of blood always reaches the ventricle to enable life to be maintained, if only in a feeble fashion, while no obstacle is presented to the free action of the ventricle; in the greatest mitral regurgitation there is no want of blood in the ventricle, and, provided the contraction of that organ is powerful enough, a sufficient quantity is always sent on to provide for the maintenance of life; and as the blood has in such cases always two ways of escape, ventricular systole, though it may be difficult, is always possible, except in the presence of muscular degeneration. In these two forms of disease, therefore, sudden death from asystole must be and is a somewhat rare affection, the more usual mode of death being syncope from asthenia, brought about by secondary diseases, such as pulmonary apoplexy, or more slowly by dropsy, with or without jaundice or albuminuria; or suffocation suddenly induced by pulmonary œdema. On the other hand, in aortic incompetence the constant and continually increasing dilating pressure of the blood-column acts as a permanent obstacle to ventricular contraction; and we can readily understand why comparatively trifling exertions, which tend to increase the aortic blood-pressure, and also why emotional excitement, which interferes with the nervous supply of the ventricle, and consequently with its regular action, should in very many cases be instantly followed by death. The pause of a second, even with a comparatively healthy ventricle, permits the dilating power, already barely compensated, to turn the scale, and after a few feeble attempts to overcome the obstacle—the primary syncope passes into death from asystole, the heart remaining in a permanent diastole. And if this be the case, even with a comparatively healthy ventricle, how much more likely is this to take place when its muscular tissue is diseased, as is so frequently the case. When the mitral valve becomes incompetent from secondary dilatation, death from asystole is not so readily brought about, but it is not altogether prevented. The cavity which must then be filled to overflowing is no longer represented by the ventricle alone, but includes also the lungs, the terminus being shifted from the mitral to the pulmonary valve. When, in such circumstances, the pulmonary capillaries are fully congested, any accidental interference with the regularity of ventricular action must be followed by asystole, or by artificial relief within the closed circuit, rupture of the heart or pulmonary capillaries; the latter being the *pars minoris resistentiæ*, we have, next to asystole, pulmonary apoplexy as the most frequent cause of death in aortic incompetence. From the mechanical cause, always present in aortic insufficiency, and always acting with increasing efficiency in the production of these two modes of death, and from the readiness with which the pulmonary capillaries may be ruptured, we can easily understand that those cases of aortic incompetence which escape death from asystole mostly die from pulmonary apoplexy, or from a combination of the two; and it is only comparatively rarely that dropsy and other secondary diseases of a serious character are established in such cases, death then occurring from asthenia. This you will see is entirely a question of animal mechanics, which statistics may confirm, but can never disprove. The mode of production and morbid appearances after death from asystole are precisely the same, whether that death has been on the street, in a public meeting, in the midst of apparent health, or after a longer or shorter period of more evident illness.

In aortic incompetence we have seen that the most injurious effect is produced by the dilating force of the column of arterial blood, which, according to Pascal's law, acts in proportion to its height and the area of its basis, and our primary object is to reduce as far as possible both of these elements. First of all, therefore, we put the patient to bed, and endeavour to get him as nearly recumbent as possible, so as to diminish the height, and consequently the distending power, of the arterial column. With this view we also deaden his sensibility by the administration of chloroform, chloral, or morphia, either by the mouth or subcutaneously. The orthopnœa, which is so distressing a feature in this disease, has reference solely to the congested and œdematous condition of the lungs, and is established by Nature to give the patient's respiratory muscles a better purchase in elevating the chest-walls. A wise physician knows that, however dangerous the condition of the respiration may be, the patient runs much more risk from the state of his heart. He does not argue the point with Nature, but he calms her instinctive fears with the means at his command, and he feels that he has gained a victory for science when he has got the patient fairly recumbent. The inexorable mechanics of the circulation are then appeased, and we have leisure to attend to the physiological part of the difficulty. So intricately involved, however, are all our vital actions, that as we cannot appease the mechanical part of the difficulty without advantage to the physiological part; so, also, we cannot remedy the physiological portion without also benefiting the mechanical portion. It is advantageous, therefore, to carry out both parts of our treatment at once; and though to the superficial thinker such a plan has the appearance of an empirical treatment of symptoms, a deeper knowledge of mechanics and of physiology, and of their mutual interdependence, will show that we are really employing scientific means according to scientific method, and that we apparently thwart Nature only the better to secure the ends she aims at; thus conclusively proving the superiority of scientific art to empirical Nature. While we therefore attempt, by getting the patient down, to lower the height of the distending column, thus at once

relieving the cardiac circulation and diminishing the pulmonary congestion, we simultaneously endeavour to produce a similar relief by dimiaishing the area of the base of the arterial column; and this, so far as our present therapeutical armamentarium extends, we can only do by means of one drug—digitalis. It is not so long since this drug was regarded as a pure sedative to the heart: the "opium of the heart" it was euphemistically termed. Now, thanks to experimental physiology, we certainly know that its action is widely different from that of opium, and greatly superior to it so far as preservation of life in this disease is concerned. It is still regarded by many as not merely useless, but positively dangerous, in the disease of which I speak—aortic regurgitation; and yet there is no other disease in which this drug is of more value, and no other in which its curative action can be more efficiently demonstrated than in this. In very large doses digitalis is employed as a sedative in many diseases, such as delirium tremens, pneumonia, etc.; but experimental physiology has shown us that such a method of inducing what our American cousins call "sedation" is an extremely dangerous one, as it depends upon the fact that the stimulating blood-supply is cut off by an extreme degree of ventricular contraction, which falls just short of the ordinary fatal result of digitalis-poisoning—death with the heart in systole. A full dose of digitalis maintains, however, its sedative action for some time without by any means proving fatal. The almost fatally contracted condition of the ventricle is not, therefore, the result merely of one or two energetic contractions which again relax, but is the result of a tonic contraction of the ventricle, which is excited only to a certain pitch by a certain dose of the drug, and beyond this it does not pass unless the dose is increased, nor does it greatly relax for some time, till the effect of the drug passes off. The ordinary employment of digitalis teaches us the same thing. If we gradually increase the dose at regular intervals, or if, employing a large dose at first, we persist in its use, similar phenomena occur. First we have a gradually increasing fulness and firmness of the pulse-beat and of the ventricular systole, and then a falling off of both; smallness of pulse, feebleness of heart-beat, irregularity, and finally, fatal syncope with the heart in systole. There is a regular gradation between these two extremes. So long as we employ small doses we may go on administering them daily for years—as is often done in mitral disease—without any fear of untoward result, without any dread of cumulative action. But the instant we employ large and powerful doses, the difficulty of regulating the action of the drug becomes extreme, and we require to watch its action very carefully, and suspend it on the very earliest indication of its poisonous action. The useful employment of digitalis in aortic incompetence is purely a question of dosage; in a few months or a few years we shall be able to regulate it with much greater nicety than at present, with more comfort to ourselves and more safety to our patient; at present we must risk something for the sake of an otherwise unattainable benefit. What we desire to produce in each case is just such an amount of tonic contraction of the ventricle as shall rather more than counterbalance the dilating power of the arterial column. If our patient is obliged to be upright, a larger dose will be required than if we can lay him flat; and the larger the dose required, the more carefully it must be watched. The dose must be accommodated to the circumstances of the patient, and regulated by them, as well as by his idiosyncrasy—for some are more susceptible to the action of the drug than others. In the employment of a drug where accurate dosage is of so much consequence as in this, it is of importance to have a preparation of uniform strength, and in this respect I have found the ordinary tincture all that can be desired. The ordinary infusion is not so uniform, nor is the crystallised digitaline so reliable. The latter is very convenient for subcutaneous injection when rapid and immediate action is necessary, but it cannot be so certainly relied upon as the tincture. In the cases already related, the doses of the tincture have varied from five to ten minims every four hours; but I have frequently doubled or tripled these doses, and sometimes even gone beyond that with benefit—in fact, though commencing, as you have seen, with small doses (five minims) of this drug, and trusting somewhat to other tonics, I now trust mainly to digitalis, giving fifteen minims up to half a drachm of the tincture every four hours; and in one very remarkable case of persistent threatening of complete asystole I was only enabled to get the patient out of the Infirmary and sent home, a distance of a hundred miles, by the continuous use of half-drachm doses of tincture of digitalis every two hours for several days. The use of digitalis is always accompanied by greater or less increase of the flow of urine. So long as this keeps up we are—I speak from experience—quite safe to continue its use. When employing moderate doses of digitalis, the flow of urine may halt or diminish without fear of untoward result; but in using large doses we must look upon the mere halting of the flow of urine as an indication to us to watch the pulse with great care several times a day, and if at any time it commences to thump or to falter, or if nausea be induced on movement, we ought at once to pretermit the use of the drug. With this precaution I have never found the use of the drug in this disease, even in these large doses, productive of anything but relief, a relief unattainable by any other means I know of. Tincture of the perchloride of iron is in many cases a useful adjunct, as it helps to improve the blood and assist in the nourishment of the cardiac muscle; but now and then it disturbs the stomach, and must be omitted. It never is of so much consequence as digitalis, and a good supply of animal food may fairly enough replace it. The liquor arsenicalis stands in a different category; it is not only a hæmic tonic, but it is a special tonic to the cardiac muscle, and in moderate doses rarely disturbs digestion. In aortic incompetence the compression to which the ventricular muscle and its vessels are subjected give rise, as we have seen, to malnutrition. Neuralgia is said to be the prayer of the nerves for better blood; hence neuralgic pain is a frequent accompaniment of this disease. In all forms of cardiac angina, arsenic is almost a specific, and in this form it certainly acts with great benefit. At present we can only employ it empirically; but it is not so long since digitalis was only employed for a similar reason, and we confidently look forward to a time when the use of arsenic in cardiac neuralgia shall be justified by accurate physiological reasons. Of course it is occasionally advisable to conjoin the use of these remedies with that of others possessing certain other specific actions, such as diuretics, purgatives, etc.; but these are to be used *pro re nata*, with reference to the individual case, and not to the disease generally. All such patients require to be nutritiously yet moderately fed, because the defective aortic pressure reacts injuriously on both the gastric and hepatic secretions, and limits both their supply and their efficiency. Ordinary alcoholic stimulants are of great use in such cases, moderately supplied, but their employment must be watched and regulated. They are only of temporary value to tide over a weakly period, and by no means possess the permanent value of such special cardiac stimulants as digitalis, arsenic, or even iron.

FROM ABROAD.

Dr. Ewald's Case of an Ether-Breather.

At a recent meeting of the Berlin Medical Society, Dr. Ewald gave an account (since published in the *Wochenschrift* for March 15) under the above appellation of an extraordinary and, as he believes, unique case, which he has met with in Geh.-Rath. Frerich's Clinic, wherein he is assistant-physician.

A man, thirty-two years of age, was brought to the clinic complaining of general debility, loss of appetite, and muscular tremors. No internal disease was detected on examination beyond a slight enlargement of the liver; but the filthy and abject appearance of the patient was curiously in contrast with his educated speech, when he explained that what at first was supposed to be the strong alcoholic smell of his breath was really due to ether. It turned out, in fact, that this unfortunate wretch, in the endeavours which he had been making for years past to cultivate his emotions by means of ether, had succeeded in reducing himself from a honourable position to his present deplorable state. Formerly, he was a man of temperate habits, free from excess of any kind, and much engaged in philosophical and æsthetic studies, with a too great tendency to theologico-mystical speculations. He had gone through his university examinations with honour, and his future prospects were encouraging, when a work of Dieffenbach's on the employment of ether fell into his hands, in which the phenomena of narcosis were depicted in such glowing colours as to arouse the expectations of one gifted with an imaginative disposition. He resolved to try its effects, and in December, 1865, first inhaled from two ounces to two ounces and a half of sulphuric ether, which he poured on to his pocket-handkerchief while lying on a sofa alone in his room. He soon became unconscious, and a series of vivid illusory pictures, chiefly of a mystical character, succeeded each other, in utter defiance of all ideas of time and space; so that, while he had seemed to have lived through interminable ages, he found on awaking that he had scarcely slept a quarter of an hour. No ill effects whatever resulted from the trial, and from his subsequent employment of the ether he never experienced any physical inconvenience. The remarkable and unique circumstance in this person's case is that he did not resort to the ether for the relief of any bodily pain, but induced narcosis purely as a means of enjoyment. Unfortunately, he could not rest content with his first experiment, the insensibility becoming interrupted just as he seemed to be on the point of attaining his desires. This was repeated, therefore, but he found the dreamland which he conjured up was by no means so rich in pictorial effect as that produced by his first narcosis, however large and repeated the doses of ether might be. The inhalation soon became a mere habit, and from being sparingly indulged in was transformed into an irresistible propensity, all the original aspirations after the lofty and eternal having given way to the craving for a merely sensuous stimulus. At first only etherising himself in his own room, this soon ceased to satisfy him, and, with his handkerchief saturated with ether applied to his mouth and nose, he staggered through the streets from one apothecary to another, in order to purchase small quantities of ether, as the large quantities which he at last found requisite to produce complete narcosis were not permitted to be sold. In fact, he had reached the point of consuming from two to two and a half pounds of ether daily. Driven from his abode through the disgust given to other lodgers by the smell of the ether, and refused supplies by the apothecaries, he became a wandering wretch, seeking shelter where he could, until at last his exhausted power compelled him to accept the aid of the hospital.

Admitted there, he was found to be a man of medium stature, with relaxed muscular tissue, a small pulse, and some tremor of the limbs, but otherwise (beyond a slight enlargement of the liver) in what seemed a normal condition. Nothing betrayed any aberration of the intellect: his memory was good, his ideas were lucid, and his style of speech fluent, or even elegant. Several experiments were tried on this man in order to ascertain whether the solution of some of the problems concerning the action of ether might be facilitated. For these we have not space, but may remark that the results were mostly negative and of little importance. Of course much less ether was employed than during the wasteful procedures adopted by the man himself: but even then 207 grammes inhaled in thirty-three minutes produced a merely temporary

effect. Even eight days after the last experiment, the expired air continued to give evidence of the presence of ether, so slow was the elimination. The patient was put upon a course of tonic treatment with cold baths, small doses of cannabis being given to compensate at first for the withdrawal of the ether; but the time is at present too short to allow of the effects of these remedies being judged of.

Babies' Sore Eyes.

Infantile ophthalmia having been of late of somewhat frequent occurrence in Boston, Dr. Williams, Professor of Ophthalmology at Harvard University, contributes a useful paper under the above title to the number of the *Boston Medical and Surgical Journal* for January 28.

No case of this kind, he observes, should be neglected. A mild form of conjunctivitis, however, is often met with, attended by a little redness inside the lids and a little mucous secretion, which only requires frequent cleansing of the eyes with tepid water and the application of a little ointment to prevent the adhesion of the lids at night, or at most putting into the eyes three times a day a few drops of a solution of two grains of alum or four of borax to the ounce of water. This condition is apparently often caused by strong soap or other acrid substances rubbed into the eyes at the first washing of the child or by exposure to cold or damp. The same causes may also induce the more serious affection which is the object of this paper; but this is probably more often due to the infection of the eyes during birth with urethral or vaginal secretions. After describing the well-known appearances of the ophthalmia of new-born infants (of which a slight red streak on the skin along the middle of the upper lid is sometimes a premonitory symptom) Dr. Williams goes on to say—

"Of all curative means *the most important is constant cleansing of the eyes.* This should be repeated, according to the amount of the discharge, every two hours, every hour, or even half-hour during the day, and once or twice at least at night, until the diminished secretion and lessened thickness of the lids allow of a less frequent repetition. The lids may be opened with the fingers of both hands by the nurse, whilst another person pours in tepid water from a sponge or spoon. If the lids are greatly swollen, this becomes impossible, and a syringe must be used, which should be perfectly clean, and have a smooth and not too sharp a point. Its nozzle is to be gently passed under the edge of the upper lid, and its contents injected so as to thoroughly wash out the palpebral cavity. This must be done often, for it must be borne in mind that the continuous soaking of the cornea in the copious purulent discharge seems often to soften its texture and prepare the way for ulceration. Special care should be taken in cold weather to make the water so warm that the child may have no shock, and thus avoid its crying, as the thickened lids are often everted when it cries. Should this eversion occur, the lids are to be replaced as gently as possible by the fingers. A little simple ointment should be passed along their edges, when the child sleeps, to prevent agglutination, and to give opportunity for the free escape of the discharges, as also to protect the external skin from excoriation. If these means are gently used, the child is not much disturbed, and soon falls asleep after them. These measures for securing cleanliness seem sufficient for the cure of many, even severe, cases; but I think it safer, when the symptoms are formidable, to alternate with the injections of water the use of a mild astringent—as, for instance, five grains of alum to the ounce. This should be applied in the same way, and should be warmed if necessary. A solution of borax of the same strength may also be used; and these are the best collyria, although a solution of a fourth or half a grain of sulphate of zinc to the ounce may sometimes be serviceable. *Strong* astringent solutions, or *any* solutions of nitrate of silver, acetate of lead, or corrosive sublimate, the introduction beneath the lids of mercurial or nitrate of silver ointments, the application of a crayon of nitrate of silver, pure or mitigated by nitrate of potash, or of a crayon of sulphate of copper—*all these should be avoided.* Cases may perhaps do well where these have been employed, especially if great care has at the same time been taken as to cleanliness; but they are dangerous remedies. Moreover, they sometimes evidently cause agonising pain; and there is great risk that the mother, unable to bear the dreadful sight of her infant's suffering, may refuse to carry out so harsh a treatment.

"The condition of the cornea must be closely watched, and the lids must be raised by an elevator. If unprovided with this, the physician may form one by bending the end of the handle of a spoon, with which he can draw up the lid; or he may effect this by bending the rounded end of a hair-pin. Any central cloudiness or ulceration of the cornea would indicate the use of a drop of a solution of sulphate of atropia—two grains to the ounce—put into the eye once daily, or oftener, and continued while any cloudiness remained. Should perforation take place, hernia of the iris may perhaps be prevented by its use; and if the opening is small and is promptly healed, good vision may be preserved. The physician should not relax his vigilance until the symptoms are much improved, as the cornea sometimes yields unexpectedly under the influence of the long continuance of the disease, even in its later stages, and after its force is apparently spent.

"Every pains should be taken to secure good nutrition for the child. Without exposing it to cold, the air of the room should be renewed. The light should be moderated, so that the child may open its lids when they are not too much swollen, and thus permit the discharge of the secretions. The child will not open its eyes if the room is too light or too dark. The prognosis is favourable, even in the severest cases, if treated promptly and diligently from the outset; and I once more urge the use of the simpler remedies as unquestionably the best. But if ulceration or a sloughy state of the cornea is already present when treatment is begun, the result is often unfavourable, whatever means be employed. Yet we need not wholly despair, even where these conditions exist, as the eye will sometimes recover with at least partial vision. A most important part of the physician's duty is to take every precaution against contagion. A minute particle of the morbid secretion may convey the disease to the eye of a healthy person. He should, therefore, direct the thorough cleansing or destruction of all articles soiled with the purulent discharge; great care in using the syringe, so that no drop of the injection may be thrown back from beneath the lids into the eye of the nurse; and immediate washing of the hands whenever they have touched the sore eyes or anything contaminated by them."

The Paris Faculté de Médecine.

The following is the programme of the various courses of lectures which commenced on March 15:—1. M. Baillon, Medical Natural History (special examination of the plants employed in medicine). 2. M. Béclard, Physiology (respiration, blood, and animal heat; the functions of the liver, the kidney, the skin, and the organs of the senses). 3. M. Charcot, Pathological Anatomy (of the encephalon, the liver, and the biliary canals). 4. M. Trélat, Surgical Pathology (diseases of the vessels and bones). 5. M. Bergeron, in lieu of M. Tardieu, Legal Medicine (abortion, rape, and violent death by suffocation, strangulation, hanging, and submersion). 6. M. Regnauld, Pharmacology. 7. M. Pajot, Accouchements and the Diseases of Women and Children (the phenomena of gestation and normal parturition, dangerous labours, and the operations they require). 8. M. Vulpian, Experimental and Comparative Pathology (experimental pathology in poisonous substances). 9. M. Hardy, Medical Pathology (Diseases of the Muscular System). 10. M. Bouchardat, Hygiene (Modifiers of the Nervous System—regimen, sun, air, light, heat, destitution, famine; General Hygiene). 11. M. Gubler, Therapeutics and Materia Medica (treatment of dyspepsia, anæmia, neuroses, diabetes, and gout; treatment by emaciation and fattening). 12. Clinical Medicine, by MM. Hayem, Sée, Behier, and Laségue. 13. Clinical Surgery, by MM. Richet, Gosselin, Verneuil, and Broca. 14. Clinical Midwifery, by M. Depaul. 15. Diseases of Children, M. Blachez. 16. Ophthalmology, M. Pauas. 17. Syphilitic Diseases, M. Fournier.

A cottage infirmary is to be built at Mold. The Duke of Westminster, Mr. P. B. D. Cooke, and Mr. W. Buddicom have each subscribed £100, and others smaller amounts, making in the aggregate about £500.

Dr. Minter, Inspector of Hospitals and Fleets, has, on his retirement, been appointed by the Queen Honorary Physician to her Majesty, as an expression of her personal sense of his long and faithful services.

Sir John Gray, Knt., M.D., M.P.—We regret to learn that this gentleman, who is one of the few medical representatives of the sister country in the Imperial Parliament, and proprietor of one of the leading Dublin newspapers—the *Freeman's Journal*,—is lying seriously ill at York House, Bath. He is said to be suffering from general nervous break-down.

REPORTS OF SOCIETIES.

EPIDEMIOLOGICAL SOCIETY.

WEDNESDAY, MARCH 10.

Dr. W. R. E. SMART, C.B., President, in the Chair.

ON CERTAIN ARITHMETICAL QUESTIONS INVOLVED IN THE RISE AND PROGRESS OF EPIDEMICS.

A PAPER was read by Dr. GEORGE HENRY EVANS on the above subject. The author had been led to interest himself in the mathematical expression of the course of epidemics by observing the success with which Dr. Farr had, in January, 1866, foretold that the epidemic of cattle-plague, then increasing in the country, might be expected shortly to decline. The prediction, which was very closely justified by the event, was based on the observation that the increase in the disease up to January had not been at a uniform rate, but had occurred at a rate which was itself decreasing; in such a way that the weekly number of attacks must, in the same progression, soon reach a maximum and thenceforth decline. Dr. Evans explained the process by which, from a given portion of a series, further members of the series might be calculated. He went on to consider how far the method applied to ordinary human epidemics might be available for the purposes of the practical sanitarian. By way of illustration, he had examined the behaviour of cholera and scarlatina in London, and on charts showed diagramatically the actual weekly course of an epidemic from its beginning to its end, along with the hypothetical course reckoned for the several weeks from the data afforded by the earlier portion of the outbreak. On several of these charts there was a noticeable correspondence between the actual and the calculated progress of the disease investigated; and it was evident that, at some period during the rise of most epidemics, there was to be found a rate of progress from which might be deduced a series conforming very fairly to the actual numbers that were about to follow. Dr. Evans showed, however, in the course of his elaborate illustrations, that the rate of progress during an increasing epidemic altered very materially within short spaces of time; so that a forecast made from the facts of a particular group of weeks might be fallacious, the error being on the side of excess if the calculation were made from the earlier weeks, on the side of defect if too late a period were chosen; but from certain weeks in the course of an epidemic a calculation could be made which would be fairly justified by the facts. The illustrations showed that the data yielding the best forecasts of an epidemic were from the weeks when the epidemic was tending to its culminating point; but hitherto no indications for the selection of this particular period were demonstrable. Hence, while admitting the value of the method for the particular purpose to which Dr. Farr had applied it, at present it did not appear how it was to be adapted to general use as a means of predicting the course of an epidemic at those periods of its course when such knowledge would be of most practical value.

Dr. BUCHANAN, in proposing the Society's thanks to Dr. Evans, referred to the great expenditure of time and skill that had been given to the establishment of the epidemic "curves" by which the paper was illustrated, and to the careful reasoning characterising its conclusions. The results, though instructive, were disappointing so far as immediate practical application was concerned. He had hoped that, from the earlier course of a given epidemic, it might have been found possible to predicate what the further course of the epidemic would be; so that, by comparison of the actually observed course with the computed subsequent course, the presence or absence of a disturbing influence upon the epidemic would be evident. Sanitary workers sought to exercise such an influence; and it would be a great advantage for them to know for certain the fact of their success or failure, and to have a measure of the degree of any success that, by the use of this or that preventive means, they might gain. From Dr. Evans's calculations it appeared that one particular period of a rising epidemic must be taken, if the estimated further progress were to agree with the actual further progress; that this period could not begin a week earlier or a week later without large discrepancy between the calculated and the actual; and that at present there was no sufficient indication, during the rise of an epidemic, of when the safe time for prediction was reached.

Mr. J. NETTEN RADCLIFFE seconded the proposition; he was impressed with a much more hopeful and favourable view of the results attainable by this arithmetical method. Dr. Evans's calculated curves for these epidemics agreed very closely with their after-course, when the right part of their progress was taken; now, if a definite series for one part of an epidemic can be found, we are near to the discovery of a law for the whole; the present difficulty seemed to be in defining when a disease became epidemic. He wished to express his intense gratification in the interests of scientific epidemiology that Dr. Evans had favoured the Society with so valuable a paper, embodying the results of his mathematical calculations.

Inspector-General LAWSON would differ from Dr. Evans on one point: the results obtained were not unimportant or of little value because they were negative. The author represents the progress of an epidemic (as shown by the deaths from it) by a curve; finding a formula representing part of that curve, from the examination of the numerical relations of the numbers of deaths in the early weeks of its prevalence, he expects by this formula to complete the curve, and so anticipate the progress of the disease both as to intensity and duration. If the forces concerned in developing the epidemic remained the same, and acted in the same directions throughout its continuance, he would have succeeded, but the negative results show that other factors acting irregularly are at work. The value of this method where the forces are regular and act in definite directions is seen in the precision with which the orbit of a new planet or comet may be calculated. Can we anticipate an equally satisfactory result in applying it to delineate the course of epidemics? Dr. Farr happily took a part of the cattle-plague epidemic favourable to this calculation; had he taken a different period, the result would have been much further from agreeing with the facts. As it was, the disease declined earlier than Dr. Farr's curve indicated, for an element of disturbance had been introduced —viz., killing all cattle suspected of the disease,—which was not included among the data he had to work upon, and but for which he thinks his forecast might have been verified; a conclusion many may hesitate to accept. If, however, we go from cattle-plague to diseases in which there is no stamping-out—cholera and scarlatina,—we see, from the diagrams put before us by Dr. Evans, that curves obtained from the observed course of the disease in its early weeks represent its subsequent progress very imperfectly. There was not only a difference for different epidemics, but for different parts of the same epidemic. In some the duration of the epidemic falls short of that indicated by the curve; in others the course of the disease deviates suddenly from the calculated curve, and subsequently approaches it more or less closely. In one instance the curve agreed very well with the commencement and termination of the epidemic, but for many weeks between went beyond the facts. The inference is that there may be more causes concerned in generating epidemics than we usually reckon; that these either come into operation at different times, or act with varying force, or have their action interfered with or suspended by the intrusion of others we have not yet recognised; and that, until we be much better acquainted with these points, there is little prospect of our being able to avail ourselves to any great extent of mathematical formulæ to predict the course of epidemics, or to facilitate the arrangement of the information we now possess regarding them.

Dr. EVANS, in reply, acknowledged the kind reception accorded to his paper. Many of the remarks were of great interest to him. Mr. Radcliffe's observations exactly applied to the great difficulty he had felt throughout the inquiry—viz., that of finding out when a disease really became epidemic. If the point could be determined from which epidemic progress commenced, we could obtain a ratio; it might be one differing by constant differences. An epidemic does not begin with the first rise above average mortality; in taking the mortality of some of the earlier weeks of the late epidemic of scarlet fever, quite impossible results were arrived at, and some other curve had to be sought from the mortality registered a few weeks later. Each of the scarlet fever epidemics investigated culminated between the fortieth and forty-seventh weeks of the year—that is to say, in October or November. The disturbing forces alluded to by Mr. Lawson influence greatly the course of epidemics, and the curve is doubtless modified by three conditions met with in most

epidemics:—First, the more susceptible are first seized; secondly, a previous attack often confers immunity; thirdly, diminution in intensity of the virus by transmission. These increase the difficulty of the inquiry; it may be possible by more pains and labour to arrive at trustworthy and useful results.

THE PATHOLOGICAL SOCIETY.

TUESDAY, APRIL 6.

Mr. CAMPBELL DE MORGAN, F.R.S., Vice-President, in the Chair.

DISCUSSION ON THE GERM THEORY OF DISEASE.

DR. CHARLTON BASTIAN opened a discussion on the germ theory of disease. He said that the one common and distinguishing feature peculiar to all the diseases whose pathology was about to be considered was their "contagiousness." This peculiarity, by means of which such diseases are spread amongst the members of a community, was, even in the time of Hippocrates, compared to the property by which one fermenting mass may communicate its state of change to another mass of fermentable material. Throughout all intervening periods such an analogy had never been lost sight of—it had rather been more and more strongly dwelt upon. Again, in more recent times, it was doubtless under the influence of a belief in the same analogy that the term "zymotic" was proposed by Dr. Wm. Farr, and adopted as a general designation, under which nearly all these diseases might be included. The consequence of the adoption of this nomenclature had been that views as to the nature of the infecting something, or *contagium*, had since been so powerfully influenced as to be actually led by views at the time entertained concerning the nature of *ferments*—the relationship supposed to exist between zymosis and fermentation had, indeed, been stamped and ratified by the very general consent of the profession. The foundations of the "germ theory of disease," in its most commonly accepted form, were laid in 1836 by the discovery of the yeast plant by Schwann and Cagniard-Latour. Twenty years afterwards, Pasteur announced that low organisms acted as the invariable causes of fermentations and putrefactions—that these, in fact, though chemical processes, were only capable of being initiated by the agency of living units. The extension of this doctrine to contagious diseases, in face of the analogy sanctioned by the use of the term "zymotic," became only too easy. It was obviously nothing but the logical outcome of the two sets of views to hold that low organisms were the true contagia, or sole "germs" of the so-called zymotic diseases. It so happened, therefore, that the very exclusive notion just mentioned as to the nature of contagia was at present almost as deeply rooted in the minds of the majority of writers on epidemic diseases and contagious fevers as was the opposite notion, founded upon the physico-chemical doctrine of Liebig, some twenty years ago. Then a ferment was regarded as a portion of organic matter (not necessarily living) in a state of molecular change ("motor decay"), which, by virtue of its own unstable nature, was capable of communicating molecular movement (chemical change) to other unstable, or fermentable, mixtures. This broader notion was promulgated by Liebig at a time when less was known than at present as to the constant association of low organisms with the processes of fermentation and putrefaction. The nature of this relationship was, in fact, never adequately grappled with by him. Still, views of the kind promulgated by Liebig would not give anything like the same support to the germ theory of disease as that afforded by the doctrines of Pasteur. Those who had adopted and developed Liebig's views now held that living organisms, though they might operate as ferments, act in this capacity merely by virtue of the chemical changes which the carrying on of their growth necessitates; and that other chemical changes taking place during the decay of organic matter might make fragments of it (in the dead state) almost equally capable of initiating fermentative changes in suitable media; whilst in either case bacteria or allied organisms are prone to be engendered as correlative products. In the present day, therefore, two questions seemed to need the serious consideration of medical men. In the first place, it might be asked, Are we justified in relying so strongly upon the analogy between fermentation and zymosis? Secondly, we might inquire whether the researches of Pasteur are perfectly conclusive? In reply to the first question, it might be at once admitted that the analogy was very strong. It was therefore necessary to look to the foundations of Pasteur's doctrine. A few years ago Dr. Bastian undertook a series of investigations bearing upon this subject. In consequence of this work he was compelled to refuse assent to the exclusive doctrines of Pasteur. His investigations and those of others showed that units of living matter are not sole ferments—since fermentation and putrefaction might be initiated in their absence, and since it could be shown that mere particles of organic matter might act in this capacity. Meanwhile, we were free to look into the question of the relation of the lower organisms to disease on its own merits—apart, that is, from the overweening influence of any general theory of fermentation. Proceeding to inquire what was the evidence in favour of the notion that contagia are low organisms, Dr. Bastian quoted a statement of Dr. Burdon Sanderson's in 1870, which was, in his opinion, about as strong a statement as could be made, from an *à priori* point of view, against the mere chemical action of contagium and in favour of a germ theory. He would say, in reply, (1) that proof was altogether wanting of the "multiplication of contagium" in the body in the same sense that a living unit multiplied; and that there were physico-chemical processes which might illustrate what occurs when contagium increases within the system: for example, the growth of crystals. And (2) that we had no reason to believe that the more complex combinations of which living matter was composed were capable of resisting influences which would prove destructive to less highly complex not-living substances—such as snake poison, etc. The general evidence was therefore certainly not more favourable to a vital or germ theory than to a physico-chemical theory as regards the nature and action of contagia. He would here point out, however, that under the term "germ theory" two distinct views were included, each having their advocates amongst distinguished members of this Society. The side to which Dr. Sanderson leaned was sufficiently obvious. The other view was that of Dr. Beale, who said "the material substance which passes from the diseased to the healthy organism in contagious diseases, *grows and multiplies and produces its kind, as all living things do*, and as nothing that does not live has been proved to be capable of doing. We may therefore conclude that it is living matter. . . . A disease germ is probably a particle of living matter derived by direct descent from the living matter of man's organism." Now that the germinal particles found in the tissues in specific contagious diseases were in any direct sense the descendants of the particles which acted as contagia, or, in fact, that the contagious particles really multiplied to any extent in the body,—these were propositions which at present appeared to Dr. Bastian to be wholly devoid of all proof. He would now turn to the special subject of this debate—viz., the truth of the germ theory as it is ordinarily understood, or the relation of the lower organisms to virulent inflammations and their sequelæ on the one hand, and to specific contagious fevers on the other. Dr. Burdon Sanderson, at this Society, in 1871, had said that bacteria afford a characteristic by which we may distinguish the products of infective inflammation from those which are not infective; and he had since in several places expressed nearly similar views as to the causal relationship of such organisms to the infectiousness of the inflammations referred to. Such a doctrine implied that bacteria are essential to a contagious process, though it seemed to Dr. Bastian to introduce certain very striking elements of weakness into the germ theory as thus interpreted. The same thing might be said with reference to a view which Professor Lister seemed to entertain with some favour. Dr. Bastian believed that there was sufficient evidence to disprove the probability of the existence of any causal relationship between the lower organisms and these diseases, and to establish, on the other hand, the position that the bacteria met with in diseased fluids and tissues are for the most part actual pathological products—that they are, in fact, engendered within the body, or are descendants of organisms owning such an origin, rather than of previously existing organisms introduced from without. 1. The experiments of many investigators proved that the alleged causes of diseases might be actually introduced into the bloodvessels of lower animals by thousands without producing any deleterious effects in a large proportion of the cases. 2. Bacteria, if not actually to be found within the bloodvessels of healthy persons, habitually existed in many parts of the body in every human being. 3. It was no answer to these difficulties to say that there are distinct species amongst these lower organisms, some of which are harmless, though others are poisonous (or so-called "germs"

of disease). 4. It had been shown that the virulence of certain contagious mixtures diminished in direct proportion to the increase of bacteria therein; and that fresh and actively contagious menstrua lost scarcely any of their contagious or poisonous properties after they had been subjected for a few minutes, when in the moist state, to a temperature which no living units could be shown to survive (212° Fahr.), or after they had been exposed to the influence of boiling alcohol, which was well known to be equally destructive to all recognised forms of living matter. Such facts had been substantiated by Messrs. Lewis and Cunningham, Sanderson, and others. Now for the construction of an opposite doctrine. Admitting in part the very frequent presence of bacteria in diseased fluids and tissues, Dr. Bastian considered that their presence and import should be differently explained—that the very existence of organisms in the fluids and tissues of diseased persons was for the most part referable to the fact that certain changes had previously taken place (by deviations from healthy nutrition) in the constitution and vitality of such fluids and tissues, and that bacteria and allied organisms had appeared therein as pathological products—either by heterogenesis or by what he had termed archebiosis, or birth direct from a fluid. The evidence for this belief was (1) that bacteria and their allies were found in greatest abundance during the life of the individual in connexion with dying tissue-elements, and apparently were as plentiful within the dying epithelium of the cutaneous ducts, as in parts like the mouth, which were most liable to contamination with organisms from without. (2) The microscopical examination of such epithelial or mucous elements favoured the notion that the contained bacteria were products engendered within such cells rather than mere results of an external contamination and imbibition. Bacteria only appeared within the cell when it was obviously dying, and in the case of epithelium, for instance, they manifested themselves at first as minute motionless particles scattered through the semi-solid substance of the cell, where each particle grew into a distinct bacterium, which still remained motionless, and did not appear to divide for a long time. Mucus corpuscles seemed to undergo the same kind of change, so that bacterial degeneration took place in the same manner, and was almost as typical amongst them as was fatty degeneration amongst pus corpuscles. The two kinds of degeneration, moreover, commonly occurred side by side in epithelial *débris*. Bacterial degeneration took place where the vitality of the unit was lowered, but where it was not sufficiently degraded to permit of the still lower and more obviously destructive process of fatty degeneration. 3. Bacteria were admitted by nearly all pathologists to be absent from the blood of healthy persons during life, and yet to be found in it from eight hours to four or five days after death. 4. Blister fluid was free from organisms in healthy persons; but with a temperature of 102° Fahr., one could determine the presence of bacteria, at will, in any blister-bleb which remained intact for forty-eight hours or more, and this, too, where the patient did not suffer from any specific fever, but merely from pneumonic inflammation. Dr. Bastian was led to ascertain this fact by finding, about eighteen months ago, myriads of bacteria in all the blebs of a patient suffering from acute pemphigus, with a temperature of 103°. 5. Lastly, as Dr. Sanderson had shown, a chemical irritant, such as liquor ammoniæ, introduced beneath the skin of some of the lower animals, within twenty-four hours would induce the presence of swarms of germs in the pathological fluids effused. This constituted an exceedingly strong body of evidence tending to show that bacteria are pathological products capable of being engendered within the body after death. Dr. Bastian contended that the wide distribution of bacteria throughout the human body in connexion with dying tissue-elements and in diseased fluids, was explicable most easily by assigning for many of them an origin by heterogenesis and by archebiosis, and that his position—that bacteria are pathological products—was one which might claim to have been fairly established. Dr. Bastian next passed to the consideration of the germ theory in its relation to another class of diseases—viz., artificial tuberculosis and syphilis, typhus, typhoid, relapsing fever, cholera, measles, scarlet fever, small-pox, and other contagious fevers. Many of the facts and considerations which were advanced in reference to virulent inflammations and their sequelæ, and the presence of independent organisms in the altered fluids and tissues of the body, were also applicable to the question of the relation of such organisms to the more specific contagious fevers. The case to be made out in favour of the germ theory as applied to these fevers was much weaker than in respect to the virulent inflammations and their sequelæ, since, although such contagious fevers had always been regarded as general and essentially "blood diseases," in only one of those occurring at all commonly in the human subject did it appear that anything like an independent living organism is to be met with in the blood. The reasons relied upon in favour of the germ theory, as applied to these diseases, were of a purely *à priori* or theoretical nature, and had already been referred to; they were based upon the assumed nature of contagium, and its assumed mode of increase within the body. But certain facts and considerations told strongly against the existence of any causal relationship between organic germs and these specific contagious fevers. 1.) With two exceptions, no definite organisms were to be met with in the blood of patients suffering from these diseases, during any stage of their progress. (2.) The virus or contagium of some of these diseases, whatever it might be, did not exhibit the properties of living matter. (3.) The virus of most of these contagious diseases was most potent when fresh, whilst its power diminished in intensity as organisms became more abundant. (4.) It was extremely improbable that this whole class of diseases should be caused by organisms known only by their effects. (5.) The sudden cessation, periodical visitations, and many of the other phenomena of epidemics, seemed to be opposed to the belief that living organisms were the causes. Then the properties of such contagium-germs would be different from those of all known germs. They would remain always in the germ stage in media favourable for their multiplication, and would be capable of resisting the influence of agencies which had been proved to be destructive of all known living matter. In only one of the specific fevers commonly met with in the human subject had organisms been found in the blood—namely, relapsing fever. There was, however, an affection occasionally communicated from cattle (*sang de rete*, or splenic fever), in which organisms were also met with in the same situation. But their existence in these cases seemed altogether less significant after the occurrence of archebiosis and heterogenesis in diseased fluids and tissues had been demonstrated. There were three other diseases in which organisms were to be found, not in the blood, but in those parts of the body which are severally the special seats of morbid change—namely, vaccinia, ovine small-pox, and typhoid fever. Dr. Bastian did not think that the organisms of the vaccine vesicle had any significance other than from being possible instances of heterogenesis or archebiosis. And in sheep-pox why might not the morbid processes taking place within the skin engender irritants which might lead to the appearance of products similar to those produced by ammonia? As regards the presence of organisms in Peyer's patches and adjacent parts, in cases of typhoid fever, it seemed to Dr. Bastian at present to be extremely improbable that these newly-discovered organisms had any causal relationship to typhoid fever. Dr. Bastian concluded his address with a few observations concerning Pasteur's recent important modifications of his germ theory of fermentation; the degree of relationship existing between fermentation and zymosis; and the probable mode of action of ferments and contagia.

Mr. De Morgan, in returning the thanks of the Society to Dr. Bastian for his address, remarked that this subject was undoubtedly the most important which they had to deal with as pathologists at the present day. He then called upon Dr. Burdon Sanderson to reply.

Dr. Burdon Sanderson said that the subject had been called the "Germ Theory of Disease; the relation of Bacteria and allied Organisms to the Virulent Inflammations and to the Specific Contagious Fevers." He was himself anxious to limit the subject by eliminating those points on which pathologists might not be so well agreed. In 1870 he had put together the strongest grounds in favour of the germ theory, and had stated that in those processes of disease in which organisms are found the kind of life is not that of the tissues themselves, but of something new. In this respect he was opposed to Dr. Beale, who believed that the one form was derived from the other. He had himself felt that it was not possible for any bit of protoplasm, especially a bit so small as a bacterion, to be separated from the parent mass without losing its vitality. And this seemed to him to be an insurmountable objection to Dr. Beale's view. He had then developed the reasons of most weight in support of the general notion of the germ theory, but he had felt that this was unimportant compared with the pathological facts to which he was anxious

to proceed. In a few years he found that his facts and views were by no means new, and that a germ theory had been advanced by Henle as early as 1840. This observation he wished to make merely to illustrate the fact that if the Pathological Society had then been in existence, and had begun to discuss the germ theory of disease, it would still be discussing it to the present day. The same might be seen in the French Academy at present; and he hoped that the Pathological Society would not follow the example of the French Academy, and discuss theories only. This was not the year 1840; they had now put aside speculations, and turned to facts. This Society had begun as a society for observation—to collect facts of pathological anatomy,—and the results of its labours were to be seen in the splendid *Transactions* which they had published. But lately the Society had seemed inclined to leave the bare record of conditions, and to turn its attention to processes. Thus, they had discussed the questions of tuberculosis, cancer, and now contagious poisons; but the Society should not neglect facts. With regard to the germ theory Dr. Sanderson proceeded to say: If one were to ask any of the eminent pathologists of the present day, and especially any of those that had paid special attention to the subject, what their opinion was of the germ theory,—say Recklinghausen, Kühne, Chauveau, or Paget,—they would reply that they could not offer an opinion; that one must read what others have done, and proceed to investigate for one's self. If pressed for an opinion they would shrug their shoulders. With regard to the mere theories—whether these organisms are the cause or the effect—whether they are the result of the process, or whether they are spontaneously developed, and so on—all such questions were beside the mark. What Dr. Sanderson wanted to consider, then, was—Did anything else remain to be discussed? Certainly there did. He wished first of all to draw the attention of the Society to a few facts that had a pathological bearing. The first of these might be called the series of negative facts. Some of these had just been mentioned by Dr. Bastian: he had remarked that bacteria in different conditions of health seemed to be identical, and could be introduced into the circulation without producing any pathological result. This was a fact of Dr. Sanderson's own showing, and it was now generally admitted; but it did not prove that the bacteria in pathological conditions were not active. Again, there were certain facts about fever. It was known that there are substances which can produce a paroxysm of fever (a period of latency, a shiver, a rise of temperature, etc., in succession), and that these are of an albuminous nature. It was known also that these substances contain bacteria; and that after these have been either separated or destroyed by boiling, the medium is infective. These were the negative facts. The positive facts were various. The first of these referred to inflammation. In all destructive inflammations bacteria were present in the destructively inflamed parts. This was not the observation of one man, but of many independent workers. An illustration of the truth of this was afforded in the variety of names given to identical organisms—"spheroids," "microzymes," "micrococci," "coccobacteria septica," etc.—which were all one and the same. Of the truth of this observation there could therefore be no doubt. Then there was the other fact, that all these forms of inflammation were spreading—destructive—inflammations. As regards particular diseases in this relation, he was not able to go much further than he had done when he last spoke on the subject before the Society. But there were the important researches of Heiberg on puerperal fever, and of Recklinghausen on the erysipelatous process. Recklinghausen's researches showed that in spreading erysipelas, bacteria—*i.e.*, micrococci—are found in the lymphatic spaces and vessels of the skin, and that not in the advanced stage of the process, but at the beginning; that they characterise the progressive zone, and may there be found. This served not only to illustrate the relations of the organisms to the process, but to prove that they cannot be considered as the effect of the destructive process. The other fact was the relation of these organisms to the specific diseases. Dr. Sanderson said that he could not but consider Dr. Bastian's position here as an extremely difficult one. He (Dr. Bastian) had referred to two diseases. First, relapsing fever: in regard to this, everybody knew the history of the discovery of the spirilla by Obermeier, who saw the organism in a number of cases, and established the fact that it co-existed with the paroxysm only. How was this to be explained by the theory of spontaneous generation? Were they to believe that there was a spontaneous annihilation also between the paroxysms? Then the form of the organism was quite specific, and quite different from any form occurring in the tissues of the body of an animal, living or dead. Nor was this Obermeier's observation only. The observation had been confirmed by German botanists and by clinical men. In a hundred consecutive cases the organism had been found during one epidemic at Breslau. In the presence of such facts it appeared to him to be absolutely impossible for them to entertain Dr. Bastian's explanation of the origin of the organism. Secondly, sheep-pox: here two processes went on simultaneously—(1.) One was able to observe the development of the pustules in the skin of the sheep with all completeness; consequently, all the anatomical changes could be studied in a complete series. (2.) One had a complete series of the development of organisms; this began in a certain place—in the superficial layer of the corium,—extended to the rete Malpighii, and there had a definite relation to the tissues, following the lymphatics. Then as the vesicle formed there was a definite series of morbid changes in the vesicle. Thus there was a complete double series—development of pustules, and development of organisms. It was impossible to deny that these had a definite relation to each other. Dr. Sanderson did not think it worth while to speculate which was the cause and which the effect. We were accustomed to think of an organised being as depending upon its environment, but it should not be forgotten that the environment was influenced by it. The question of which was cause and which effect they might leave to the future. The point that they had to satisfy themselves upon was that these organic forms did have a definite relation to the morbid process. Such were, Dr. Sanderson said, a few of the facts of this subject. In presence of these facts they ought not to shrug their shoulders. He did think it was irrational to pass by the facts that had been determined by good observers, and about which there could be no reasonable doubt. Let them not be disregarded, but reserved for substantiation or refutation.

The PRESIDENT proposed that the discussion should be continued at the next meeting.

NEW INVENTIONS.

TAMAR INDIEN.

THIS very palatable and pleasant-looking laxative, which we suppose to be a sort of conserve of tamarind, is prepared by Grillon, of Paris, and 34, Coleman-street, London. It has been much approved of by patients to whom we have recommended it, and could not be objected to, we imagine, by the most fastidious of ladies, nor refused by the most medicine-hating of children. It is most conveniently portable.

NEW FOOD FOR INFANTS, CHILDREN, AND INVALIDS.

DR. ARTHUR HILL HASSALL'S knowledge and experience regarding dietetics are so well known that it is hardly necessary to say more in recommendation of this new food than that it is manufactured, by Messrs. Goodall, Backhouse, and Co., of Leeds, in accordance with his directions. Like the two most perfect types of food, milk and bread, this food contains all the necessary elements for sustenance and growth—viz., nitrogenous, fatty, farinaceous, saccharine, and mineral matters, combined in due proportions. Moreover, it has been already partially cooked, and contains diastase, which helps greatly to make it easily digestible. When prepared according to the directions given it has an agreeable smell and a very pleasant taste.

CIGARS DE JOY.

THESE are very useful little agents for inhaling the smoke of stramonium, of which herb and others they are composed. They are useful in bad cases of asthma and in spasmodic affections of the respiratory organs generally.

PAINFUL DENTAL CARIES.—M. Magitot recommends the following combination applied to the carious tooth on cotton-wool:—Chloroform five parts, laudanum two parts, and tincture of benzoin ten parts.—*Gaz. Méd.*, April 3.

MEDICAL NEWS.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed their primary examinations in Anatomy and Physiology at a meeting of the Court of Examiners on the 6th inst., and when eligible will be admitted to the pass examinations:—

Anderson, Alexander R., student of St. Bartholomew's Hospital.
Berry, Frederic H., of Guy's Hospital.
Bradford, Cordley, of the Birmingham School.
Cant, William J., of the Birmingham School.
Clark, John G., of the London Hospital.
Cox, William L., of St. Mary's Hospital.
Davy, Henry, of Guy's Hospital.
Fraser, Graeme B., of St. Mary's Hospital.
Gillam, Thomas H., of St. Bartholomew's Hospital.
Greenwood, Major, of the London Hospital.
Griffiths, Gilbert S., of the Middlesex Hospital.
Hartley, Robert N., of the Leeds School.
Hemsted, Arthur, of University College.
Henderson, Cecil, of the Bristol School.
Innes, Henry J. D., of St. George's Hospital.
James, Thomas, of the Middlesex Hospital.
Morgan, Edward S., of University College.
Morris, Clarke K., of St. Thomas's Hospital.
Newmarch, Bernard J., of King's College.
Pratt, Alfred, of the Birmingham School.
Pycock, William J., B.A. Cantab., of the Cambridge School.
Steedman, Percy A., of St. Bartholomew's Hospital.
Tottie, Oscar, B.A. Cantab., of St. George's Hospital.
Walker, Basil W., of the London Hospital.
Walter, Ernest W., of St. Bartholomew's Hospital.
Whitehead, Hayward, of the Charing-cross Hospital.
Wiglesworth, Joseph, of the Liverpool School.
Williams, William L. O., of the Glasgow School.
Williams, Charles L., of the Birmingham School.
Willis, Francis T., of the Manchester School.
Wood, Edward J., B.A. Cantab., of the Cambridge School.

The following gentlemen passed on the 7th instant, viz.:—

Andrew, Albert, student of the Manchester School.
Barber, Walter, of the Liverpool School.
Battye, John H., of St. Thomas's Hospital.
Bellaby, Frederick, of the Middlesex Hospital.
Berdoe, Edward, of the London Hospital.
Borcham, Frank S., of the Charing-cross Hospital.
Ferguson, John, of the Manchester School.
Frankish, William J., of University College.
Giles, Frederick W., of St. Thomas's Hospital.
Gillibrand, William, of the Liverpool School.
Haines, William J., of St. Bartholomew's Hospital.
Hawkins, Cæsar F., of the London Hospital.
Hope, William M., of University College.
Horrocks, Peter, of Guy's Hospital.
Hughes, Edwin, of University College.
Jones, Roger H., of the Liverpool School.
Leah, William, of the Birmingham School.
Lighton, Hamilton, B.A. Cantab., of St. George's Hospital.
Meek, John W., of Guy's Hospital.
Milles, Walter J., of King's College.
Rose, James, of the Liverpool School.
Schofield, Robert H., A., of St. Bartholomew's Hospital.
Sidebotham, George W., of the Manchester School.
Thurston, Edgar, of King's College.
Turner, George R., of St. George's Hospital.
Uhthoff, John C., of Guy's Hospital.
Worgan, Thomas E., of St. George's Hospital.

The following gentlemen passed on the 8th inst., viz.:—

Benham, Frederick L., student of University College.
Bennett, Arthur, of the London Hospital.
Blomfield, Arthur G., of King's College.
Browne, James W., of University College.
Clarke, William B., of St. Bartholomew's Hospital.
Clinton, Samuel A., M.D. New York, of the Middlesex Hospital.
Cripps, Edward C., of St. Bartholomew's Hospital.
Davis, Arthur R., of the Middlesex Hospital.
De Caux, Frederick, of King's College.
Dunstan, William, of Guy's Hospital.
Goodchild, Francis, of St. George's Hospital.
Greene, Edward C., of Guy's Hospital.
Hammersley, Joseph, of Guy's Hospital.
Howlett, Edmund H., of King's College.
Inman, Robert E., of the London Hospital.
Jones, James T., of University College.
Kidd, Percy, B.A. Oxon., of St. Bartholomew's Hospital.
Lane, William, of Guy's Hospital.
Le Cronier, Hardwick, of St. George's Hospital.
Ling, Charles A. S., of the London Hospital.
Luscombe, William E., of St. Mary's Hospital.
MacGeagh, Thomas E. F., of University College.
Mills, Robert J., of St. Thomas's Hospital.
Morgan, John, of Guy's Hospital.
Owen, Charles J. R., of St. Mary's Hospital.
Robinson, George W., of St. Thomas's Hospital.
Sheppard, Charles E., of St. Thomas's Hospital.
Taylor, Harold G., of King's College.
Webb, Henry L., of St. Mary's Hospital.
Weekes, Francis H., of St. Thomas's Hospital.
Wilmot, Thomas, of St. Bartholomew's Hospital.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, April 1:—

Hales, Robert Turner, Holt, Norfolk.
Hopkins, John White, Handsworth, Birmingham.
Maine, Walter, Francis-street, Bedford-square.
Moore, Chas. John, Royal Dockyard, Devonport.
Sykes, John Frederick Joseph, 20, Fitzroy-square.

The following gentlemen also on the same day passed their primary professional examination:—

De Brent, Mortimer John, Westminster Hospital.
Popert, Adolphe Joseph, London Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that place.

CARTER, CHARLES H., M.D., M.R.C.P.—Physician to the Hospital for Women, Soho-square.

HAY, FREDERICK, M.D., M.S.—Visiting-Surgeon to the Hull Dispensary *vice* S. S. Shackles, M.R.C.S., resigned.

HOLLAND, EDMUND, M.D., F.R.C.S.—Assistant-Physician to the Hospital for Women, Soho-square.

SMITH, RICHARD THOMAS, M.D., M.R.C.S.—Assistant-Physician to the Hospital for Women, Soho-square.

BIRTHS.

CRAN.—On March 31, at 253, Essex-road, Canonbury, N., the wife of John Cran, M.D., of a daughter.

LONG.—On March 31, at 185, Amhurst-road, Hackney, the wife of Mark Long, M.D., of a daughter.

SMITH.—On March 13, at Halifax, N.S., the wife of Philip Broke Smith, M.D., Surgeon-Major 87th Fusiliers, of a son.

MARRIAGES.

ALDRICH—ISAACSON.—On March 31, at Salhouse, Norfolk, Pelham Aldrich, Lieut. Royal Navy, eldest son of Pelham Aldrich, M.R.C.S., of Mildenhall, Suffolk, to Edith Caroline, elder daughter of the late Wotton Isaacson, M.R.C.S., and granddaughter of the late William Ward, M.D., of Huntingdon.

GOWERS—BAINES.—On April 6, at East Parade Chapel, Leeds, W. R. Gowers, M.D., of 50, Queen Anne-street, Cavendish-square, London, to Mary, daughter of Frederick Baines, Esq., of Westwood Lodge, Leeds.

GUNDRY—DAVEY.—On March 24, at Frampton Cotterell, William Gundry, Esq., of Sidcup, Kent, to Florence E. Barwell, seventh daughter of James George Davy, M.D. (formerly of the Ceylon Civil and Medical Service), of Northwoods, Gloucestershire.

HOPKINS—KIRKMAN.—On March 31, at St. Peter's, Catherington, Henry Culliford Hopkins, L.R.C.P. Edin., M.R.C.S. Eng., of Bath, to Georgina Mary, youngest daughter of J. T. Kirkman, F.R.C.S., of Horndean, Hants.

HYDE—HOLFORD.—On March 30, at St. Nicholas Church, Brighton, William Derby Hyde, M.R.C.S. Eng., L.S.A., of Bloxham, third son of Edward Hyde, Esq., late of Witney, Oxon., to Helen Sarah, second daughter of the late Francis Holford, Esq., of The Grove, Burgess Hill, and Brighton.

RIGDEN—FENTON.—On March 31, at the parish church of St. George Doncaster, Walter Rigden, Esq., of Montpelier-square, London, to Cecilia Frances, third daughter of C. D. Fenton, M.D., of Doncaster.

SHEPPARD—GEE.—On April 3, at the parish church, St. Mary's, Islington, Frederick James Sheppard, solicitor, of Towcester, son of the late John Horton Sheppard, Esq., to Amy, youngest daughter of the late Robert Gee, M.D. of Astrop Lodge, Northampton.

WILLAN—MARSHALL.—On March 30, at Woodbridge, Francis Burton Willan, Esq., of Esher, to Jane Emma, youngest daughter of C. G. Marshall, M.R.C.S. Eng., L.S.A., of Woodbridge.

DEATHS.

DALLISTON, Dr. J. J. R., at his residence, at Yokohama, Japan, of typhoid fever, complicated with congestion of the lungs, after ten days' illness, on January 20.

DICKSON, THOMAS, L.R.C.P. Edin., F.R.C.S. Eng., F.R.C.S. Edin., of Hill Side, and Wye House, Buxton, on March 30, aged 70.

EASTWOOD, HAROLD SHORE, son of J. W. Eastwood, M.D., M.R.C.P.L., at Dinsdale Park, Darlington, on April 3, aged 2 years.

FEHRSEN, KATHERINE AGNES, wife of J. M'Call Fehrsen, M.B., and younger daughter of the late Alexander Simpson, M.D., H.M.'s Indian Army, at Cradock, South Africa, on February 17, in her 21st year.

SOUTHAM, GEORGE THOMAS MITCHELL, M.B., only son of Thomas Southam, Esq., of Thorpe-road, Peterborough, at Peterborough, on April 1, aged 35.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

BRADFORD INFIRMARY AND DISPENSARY.—Physician. Candidates must be duly qualified. Applications, with testimonials, to Mr. Charles Woodcock, Secretary, 65, Market-street, Bradford, on or before June 12.

CHELTENHAM GENERAL HOSPITAL AND DISPENSARY.—Honorary Medical Officer to the Branch Dispensary. Candidates must be duly qualified. Applications, with testimonials, to the Board of Governors, on or before April 17.

DUNDEE ROYAL INFIRMARY.—Resident Medical Superintendent. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, D. Gordon Stewart, Esq., Solicitor, Dundee, on or before April 21.

LIVERPOOL ROYAL INFIRMARY.—Resident Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to the Chairman of the Committee, on or before April 10.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, WOLVERHAMPTON.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Chairman of the Medical Committee, on or before May 3.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Nuneaton Union.—The Chilvers Coton District is vacant; area 13,199; population 4814; salary £65 per annum.

West Derby Union.—Mr. E. Hughes has resigned the Walton Workhouses; salary £140 per annum.

APPOINTMENTS.

Central London Sick Asylum District.—Henry A. Lediard, B.M. Edin., M.R.C.S. Eng., to the Cleveland-street Asylum.

Holywell Union.—Hamlet L. Davies, M.B. and C.M. Edin., to the First Division of the Whitford District and the Workhouse.

Poole Union.—Hatton Smyth, B.M. and M.C. Duh., to the Second District.

Ulverstone Union.—John A. Bolton, L.R.C.S. Ire., to the Conistone District.

SUPERANNUATION ALLOWANCE.

Hatfield Union.—Mr. T. Osbaldeston, who has served as a District Medical Officer since the formation of the Union in the year 1735, has been awarded a retiring allowance of £25 a year.

THE Sheffield Board of Guardians have increased the salary of Mr. George H. Shaw, Medical Officer for the Attercliffe District, from £60 to £100 per annum.

ALDERMAN JESSOP, of Sheffield, has given £12,000 towards the building and furnishing of another Hospital for Women, which is much needed in that town.

SEWERAGE.—An injunction has been granted by Vice-Chancellor Hall to restrain the Corporation of Darlington from emptying the sewage of that town into the River Skerne.

ACADÉMIE DE MÉDECINE.—M. Dechambre, principal editor of the *Gazette Hebdomadaire*, has just been elected as "a free associate member" (which we believe means unattached to any of the sections into which the members are distributed) of the Académie de Médecine.

DANGER OF FORCED TAXIS.—M. Mollière, Surgeon of the Hôtel-Dieu, Lyons, relates some cases in proof of the danger of this practice advocated by M. Gosselin and other Parisian surgeons. The taxis, he observes, is a most valuable procedure, which almost always succeeds when employed immediately after strangulation, but only on the condition that it is not forced. If the hernia is susceptible of reduction, force is unnecessary, while this may prove most mischievous when the hernia cannot be reduced. By forced taxis we may succeed in reducing a hernia *en masse*, that should not be so reduced in consequence of the existence of intestinal perforations. Another danger (in exemplification of which M. Mollière relates some cases) arises from the ecchymoses and effusions of blood which ensue upon the manipulation, so that the operation has to be performed on parts that are far from their normal condition, and which, in consequence of the contusion of the tissues that has taken place, may easily pass into a state of gangrene, or be followed by symptoms of putrid infection.—*Lyon Méd.*, April 4.

DEVONSHIRE HOSPITAL AND BUXTON BATH CHARITY.—According to the report of the Committee of Management of this Charity, the work of the Hospital continues to give results that are conclusively satisfactory. The total number of in-patients received during 1874 was 1542; the total number of out-patients was 205, and of these, probably, not fewer than 1400 or 1500 were cases of rheumatism. It would appear that nearly seven-eighths of the number of patients admitted during the last year have been treated beneficially; and that the Buxton waters, the air of Buxton, the comfortable residence, the sufficient food, and the skilled medical treatment, have jointly and severally secured this result. The financial position of the Hospital at the end of the year is shown by the accounts to be satisfactory. It has been signified on the part of the Duke of Devonshire that the location of the baths used by the patients of the institution must be changed, so that the requirements of the general public for bath extension might be met. The interests of the patients of the Hospital must be held to be of primary consequence; and a contribution of £1500 towards the expense that may be incurred has been kindly promised on the part of the Duke of Devonshire.

EXAMINATIONS.—The large number of 180 candidates for the diploma of Membership of the College of Surgeons underwent the written portion of the examination in anatomy and physiology on Saturday last, when Mr. J. Cooper Forster, of Guy's Hospital, the recently elected examiner in the vacancy caused by the resignation of Mr. Hilton, took his seat amidst some applause from the students. The following were the questions (candidates were required to answer four out of the six, including one of the first two), viz.:—1. Describe the coagulation of the blood; and state what is the constitution, physically and chemically, of the component parts into which it is resolved when coagulated. 2. Describe the distribution of the pneumogastric nerve in the thorax; and state what are its functions in regard to the thoracic viscera. 3. Describe the articulations of the atlas with the occipital bone and the axis; and the ligaments connecting these bones. 4. Give the attachments and nervous supply of each of the muscles which flex and extend the thumb. 5. Describe the course, relations, and anastomoses of the branches of the facial artery which arise below the inferior maxilla. 6. In making a longitudinal section of the encephalon in the median line, enumerate the parts divided, in their order, from above downwards.

THE NEW CHAIR OF CHEMISTRY AT THE FACULTE DES SCIENCES.—In addition to the two chairs which exist in the Faculté des Sciences for teaching chemistry (from one of which the principles of the science are taught, and from the other a knowledge of the metals and the metalloids), the Assistance Publique has determined to establish a third, for the teaching of organic chemistry, for which Prof. Wurtz, the present Dean of the Faculty of Medicine, is the destined occupant. The National Assembly has voted 17,000 francs for this purpose, 12,500 of which are for the salary of the Professor, 1500 for that of a *préparateur*, and 3000 for the expenses of the course. This last sum, which corresponds to the sums devoted to this purpose for the other chairs, is, however, entirely inadequate to meet the exigencies of modern science,—a well-organised laboratory being an essential adjunct to a chair of chemistry. Such parsimony goes towards justifying the sneer of a recent German chemist, who declared that the impulse imparted to chemistry by Liebig met with a response throughout the whole of the scientific world in Europe and America, with the sole exception of the country that boasts of its mission as the great civiliser of the globe; for, at the present time, France, and even Paris itself, possesses no establishment for teaching chemistry which can be compared with what exists in the smallest German Universities.—*Révue Scientifique*, March 27.

COMPOSITION AND QUALITY OF THE METROPOLITAN WATERS IN MARCH, 1875.—The following are the returns (by Dr. Letheby) of the Society of Medical Officers of Health:—

Names of Water Companies.	Total Solid Matter per Gallon.	Oxygen required by Organic Matter, &c.	Nitrogen.		Hardness.	
			As Nitrates &c.	As Ammonia.	Before Boiling.	After Boiling.
Thames Water Companies.	Grains.	Grains.	Grains.	Grains.	Degs.	Degs.
Grand Junction .	19·31	0·085	0·165	0·002	14·0	4·2
West Middlesex .	20·06	0·056	0·165	0·001	14·2	4·1
Southwark & Vauxhall . . .	19·89	0·095	0·166	0·002	14·2	4·3
Chelsea . . .	19·71	0·083	0·187	0·001	14·3	4·3
Lambeth . . .	20·12	0·061	0·191	0·001	14·9	4·4
Other Companies.						
Kent	27·89	0·009	0·287	0·000	20·8	6·0
New River . .	20·07	0·016	0·187	0·000	15·2	4·0
East London . .	23·90	0·054	0·221	0·002	16·2	4·4

Note.—The amount of oxygen required to oxidise the organic matter, nitrites, etc., is determined by a standard solution of permanganate of potash acting for three hours; and in the case of the metropolitan waters the quantity of organic matter is about eight times the amount of oxygen required by it.

The water was found to be clear and nearly colourless in all cases but the following, when it was slightly turbid—namely, in those of the Grand Junction, the Southwark and Vauxhall, the Chelsea, and the Lambeth Companies.

The average quantity of water supplied daily to the metropolis during the preceding month was, according to the returns of the Water Companies to the Society of Medical Officers of Health, 109,527,033 gallons; and the number of houses supplied was 515,346. This is at the rate of 32·2 gallons per head of the population daily. The last official return from Paris stated that the average daily supply per head of the population was 31·9 gallons; but this includes the water used for the public fountains, and for the ornamental waters in the Bois de Vincennes and the Bois de Boulogne.

THE DISTURBANCES IN THE RUSSIAN SCHOOLS.—An account of these, which it seems have been going on for years, but have now reached a culminating point, is given in the *Revue Scientifique* for March 27. In the absence of some details, the causes of the various outbreaks of disorders in which professors, students, and the Government are at loggerheads do not seem very intelligible. One of these, however, seems to be that the various schools are placed under the government of the different Ministries, amidst which many jealousies and misrepresentations prevail. This could, indeed, hardly be otherwise when we find the following arrangements, each Minister having, it will be recollected, an amount of autonomic action which does not prevail among ourselves. Thus, the Academy or School of Medicine is governed by the Minister of War, the University of St. Petersburg by the Minister of Public Instruction, the Technological Institute by the Minister of Finance, and the School of Mines by the Minister of the Domains. One Minister favours one plan of teaching, and one another plan, while each criticises the other; and the professors seem to have displayed a woeful want of tact in managing the students. The Czar has appointed a committee for the consideration of the causes of disorder and the remedies; and it has reported that there are great defects in the internal organisation of the various establishments which call for amendment, but recommends that all students making collective complaints or resistance shall be promptly and severely dealt with.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

J. M.—We have not the pleasure of knowing anything of the gentleman in question.

Haverfordwest.—It is high time that the Town Council should appoint a medical officer of health. It is simply disgraceful that this has been so long delayed. Dr. Brown may rest assured that the Council *will* be compelled to put the Act into force. It seems that at this very moment when the Council refuse to do their duty there are thirty cases of typhoid fever in the district.

A Medical Officer of Health.—Dr. Richardson's lecture "On the Action of the Septinous Poisous in the Production of Fever," lately delivered before the Society of Medical Officers of Health, will be published in full in our columns. The first part will appear, we hope, in an early number.

Kempe, jun.—Mr. H. Dundas Morrison, Surgeon, R.N. bequeathed to the Plymouth, Devonport, and Stonehouse Hospital the reversion of £1800 on the death of two legatees, who were to have the life interest. The conditions were that one of the wards was to be named the "Melville Ward," as a token of gratitude for favours conferred on the deceased by Viscount Melville. But should the Hospital be given up, then the bequest was to go to the Dorset County Hospital. Mr. Morrison died on April 4, 1838.

E. W. W., Lichfield.—The pupils of the late Mr. Henry Earle erected a bust in the Museum of St. Bartholomew's Hospital as a tribute to his memory. It bears the inscription "Henry Earle, presented by his pupils and friends, 1838."

P. P., Bradford.—The Coroners' Society was established in London in 1847. The Society's office was at 10, Bartlett's-buildings, Holborn. Mr. Langham was the secretary.

N. W. V., Shrewsbury.—1. September 1871. 2. The subject of cremation was taken up vigorously by the Communal Council of Vienna, and the Council adopted a proposal to establish in the cemetery the necessary apparatus for cremation, the use of which will be optional and open to all.

B. E.— "I wish to die, yet dare not death endure,
Detest the *medicine*, yet desire the cure."—*Dryden.*

Junius.—Abernethy was brought up under Sir Charles Blick, Surgeon to St. Bartholomew's Hospital.

Alan.—Dr. John Aikin became the editor of the *Monthly Magazine* in 1796, which he superintended from its commencement till 1806. He died at his residence in Stoke Newington, December 7, 1822, aged 75.

M., Leicester.—The late Mr. Thomas Paget, of Leicester, was admitted a Member of the Royal College of Surgeons on December 4, 1818, an honorary Fellow on December 11, 1843, and in 1862 was elected a member of the Council of the College, with Mr. John Adams, of the London Hospital.

Dr. Thompson, Manchester.—A memoir of your late distinguished townsman, Mr. Thomas Turner, will shortly appear, accompanied, we believe, with a portrait and autograph. Mr. Turner was a Cornishman. He resigned his seat as a member of the Council of the Royal College of Surgeons.

Dens Sap.—Dr. Sigmond died lately in Paris. In the life of Sir George Jackson, K.C.H., his mother states, "It is a fact I could with difficulty be persuaded of, that Sigmond the dentist invited H.R.H. the Duke of Gloucester (when visiting Bath) to a grand supper. This dentist was a footman in Germany a few years ago. He has lately married a woman he had kept for fifteen years, and they make more dash and live at more expense than almost anybody in Bath. The Duke did not go to Sigmond's supper, but one of the gentlemen of his suite did."

E. R.—It was Milton who said:—

"The mind is its own place, and in itself
Can make a heaven of hell, and hell of heaven."

Dr. Campbell.—That a stone with a hole in it, suspended at the head of the bed, would effectually stop the nightmare, is an old country superstition; hence it was called a "hag-stone," as it prevented the troublesome witches from sitting upon the sleeper's stomach. The same amulet tied to the key of a stable-door deterred witches from riding horses over the country.

Dr. Rawlings, Vienna.—We are much obliged to you for your communication. The facts it contains are now generally known, but more minute particulars as to any special course would be acceptable.

C. E. C., Tamworth.—The most important recent communications on Spontaneous Generation, or rather on the Origin of Germs, have been made by Dr. Burdon-Sanderson, Dr. Bastian, Dr. Beale, and Dr. Roberts of Manchester. A discussion has just commenced at the Pathological Society, involving the subject, which will be reported fully in the present and succeeding numbers of this journal. There is a very good *résumé* of the whole subject, though somewhat one-sided, by Dr. Charlton Bastian, published by Messrs. King and Co., in their valuable International Series.

Inquirer, Derbyshire.—The inquiry you make is one of interest to the whole profession, situated as you are. A library whence books may be borrowed is kept by Mr. Lewis, of Gower-street, to whom all inquiries should be directed. Messrs. Kimpton, High Holborn, have also, we think, commenced such a library, but on this point we are not quite sure. Any further inquiry should be directed to them.

THE MERRYWEATHER FUND.

TO THE EDITOR OF THE MEDICAL TIMES AND GAZETTE.

SIR,—Thanks to the kindness of yourself and others in giving publicity to the case of the late Mr. P. C. Merryweather, I am happy to be able to state that the total amount received by Dr. Atwood and myself already reaches £148 16s. Although to many persons this may not seem a large sum wherewith to recommence the world, it will enable Mrs. Merryweather to open a school, as she proposed, and it gives her good hope and encouragement for the future. She feels very grateful for all that the medical brethren of her late husband and other friends have done for her.

Kindly insert the following list of the donations received, and should Dr. Atwood or I be favoured with any additional contributions we shall gratefully acknowledge them, for, as I mentioned in my letter to you of March 8, we believe this to be especially a case in which help now given will be not only a temporary relief to the widow, but a permanent assistance to the whole family of a deceased medical brother. I am, &c.,

CHARLES J. HARE, M.D. Cantab., F.R.C.P.

57, Brook-street, Grosvenor-square, London, W., March 22.

	£	s.	d.
Donations already acknowledged	63	15	0
Roberts, Major	0	10	0
Roberts, Mrs.	0	10	0
Morton, Mrs.	1	0	0
Miller, Benj., M.R.C.S., Denmark-hill, S.E. ...	0	10	6
Hovel, D. deBerdt, F.R.C.S. Clapton, E.	1	0	0
Thorn, Wm., L.S.A., Harrow-road, W. ...	1	1	0
Braid, James, M.D., Burgess-hill, Sussex ...	1	1	0
Braid, Charles, M.B., Burgess-hill, Sussex ...	1	1	0
Campbell, Dugald, M.D., Tronville House, Codnor-park, Derbyshire ...	1	0	0
Baker, W. Morrant, 26, Wimpole-street, W. ...	2	2	0
Stear, Henry, M.R.C.S., Saffron Walden	2	0	0
Smith, Joseph, M.R.C.S., Notting-hill-terrace ...	2	2	0
Teevan, W. F., F.R.C.S., 10, Portman-square, W.	1	1	0
Lewis, Dr., 15, Ferdinand-strasse, Homburg ...	1	1	0
Westlake, Thos., M.R.C.S., Red Lion-square ...	1	1	0
Lowne, Benj. T., M.R.C.S. Colville-gardens, W. ...	1	1	0
A Surgeon's Four Children	0	10	6
R——, Dr. and Mrs. ...	2	2	0
Jedson, Mrs.	5	0	0
Mallaby, Rev. J. T., Brighton	3	0	0
Bartlett, Mrs., Peverell-court, Aylesbury ...	5	0	0
Prescott, Mrs., Dalton Grange, Wigan	10	0	0
Sheldon, Mrs., Ormskirk	5	0	0
Leach, Robert H., M.R.C.S., Shaw, Oldham	1	0	
A Friend, Yorkshire ...	1	1	0
Brunton, L. B., M.R.C.S., Limehouse, E.	1	1	0
Lyon, Mrs., Johnson Hall, Staffordshire	5	0	0
Bull, Henry G., M.D., Hereford	3	3	0
Sach, Rev. Henry, Lancaster-road, W.	1	1	0
Belcher, Rev. Henry ...	0	10	0
"Lily"	0	10	6
Liddard, W. Esq., Addison-road, W.	0	10	6
Longmore, Fred. G., Esq.	1	0	0
Frost, Dr., Ladbroke-sq.	1	1	0
Coates, Charles, M.D., F.R.C.S., Bath	2	2	0
W. M. K., Taunton ...	2	2	0
"Gloucester"	1	0	0
Martin, William, F.R.C.S., Oriental Club	1	1	0
Harley, George, M.D., F.R.S., Harley-street, W.	2	2	0
Corbett, T., M.R.C.S., Kingston-on-Thames ...	1	1	0
Thorp, Disney, M.D., Cheltenham	2	0	0
E. C., Guernsey	0	10	0
Fennings, A., L.R.C.P.E., 81, Clarendon-road, W.	1	1	0
Bowden, Mrs., Princes-road, W.	0	10	0
"Scotch Medical Student"	1	1	0
Andrew, Miss	0	5	0
Harvey, Alfred, M.D., Kilburn	0	10	0
Copeland, J., L.R.C.P.E., South Hampstead ...	1	1	0
C. T. W.	1	0	0
Seaton, Joseph, M.D., Sunbury	3	3	0
Total	£148	16	0

THE ILLNESS OF THE COMTE DE JARNAC.

TO THE EDITOR OF THE MEDICAL TIMES AND GAZETTE.

SIR,—A report having been spread that the late French Ambassador, the Comte de Jarnac, was bled at the commencement of his illness, has led to the supposition that blood was taken from the arm, and as such was not the case, it may dispel an erroneous idea from the minds of his friends if I briefly state the actual facts. The Count was attacked with pleurisy, supervening upon dry asthma, from which he had been suffering since the beginning of the year without having submitted to any treatment. On my first seeing him I at once applied four leeches to relieve the local pain, which was very considerable, and great relief was afforded by them. The notion that such a small abstraction of blood could be other than beneficial to the patient cannot, I think, be entertained. I count upon your courtesy to insert this rectification in your valuable paper.

April 6. I am, &c., A. VINTRAS, M.D.

COMMUNICATIONS have been received from—

DR. ROBERTSON, Bath; Dr. SCRIVENER, Paris; THE SECRETARY OF THE QUEKETT MICROSCOPICAL SOCIETY; THE REGISTRAR OF THE APOTHECARIES' HALL, London; THE HONORARY SECRETARY OF THE HARVEIAN SOCIETY; THE SECRETARY OF KING'S COLLEGE HOSPITAL; Dr. STEPHEN MACKENZIE, London; THE REGISTRAR-GENERAL, Edinburgh; Dr. A. VINTRAS, London; C. E. C.; T. H. W.; Dr. J. H. RAWLINGS, Vienna; Dr. LETHEBY, London; Mr. T. R. THOMAS, London; Mr. J. W. GROVES, London; Dr. BASTIAN, London; Mr. T. E. AMYOT, Diss; Mr. E. ELWIN, Dover; Dr. SQUIRE, London; Dr. J. D. HEATON, Leeds; Mr. JONATHAN HUTCHINSON, London; Dr. J. KNOWSLEY THORNTON, London; Dr. R. LAWSON, Wakefield; Mr. J. CHATTO, London.

BOOKS AND PAMPHLETS RECEIVED—

The Soul: is it, in its Own Nature, Immortal? an Essay by a Layman—The Year-Book of Pharmacy.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—National Food and Fuel Reformer—Philadelphia Medical Times—Pharmaceutical Journal—Centralblatt für die Medicinischen Wissenschaften—La France Médicale—Iron—Wiener Medizinische Wochenschrift—Edinburgh Medical Journal—Practitioner—Popular Science Review—Science Gossip—Monthly Microscopical Journal—Croydon Chronicle—Liverpool Daily Post—Derby and Chesterfield Reporter—Irish Hospital Gazette—Students' Journal and Hospital Gazette—L'Archives Générales de Médecine—The British Mail.

APPOINTMENTS FOR THE WEEK.

April 10. *Saturday (this day).*

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 9 a.m. and 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

ROYAL INSTITUTION, 3 p.m. Mr. G. Smith, "On the History of Assyria."

12. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

MEDICAL SOCIETY OF LONDON, 8 p.m. Mr. Churton, "A Case of Accumulation in the Ascending Colon, followed by Spasm of Larynx, in an Infant." Dr. Edwards Crisp, "On Croup and Diphtheria, with recent Illustrative Cases." Staff-Surgeon L. H. J. Hayne, R.N. (communicated by the Honorary Secretary), "An Account of an Epidemic of Enteric Fever which occurred on board H.M.S. *Doris*, in the West Indies, in 1873."

13. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

ANTHROPOLOGICAL INSTITUTE, 8 p.m. Meeting.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY (Ballot, 8 p.m.), 8½ p.m. Mr. Acton, "On the Comparative Prevalence and Severity of Syphilis among Troops in London, Paris, and Brussels."

14. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

EPIDEMIOLOGICAL SOCIETY, 8 p.m. Dr. Seaton, "On the International Sanitary Conference at Vienna."

HUNTERIAN SOCIETY (London Institution), (Council Meeting, 7½ p.m.), 8 p.m. Dr. Pye-Smith will introduce the subject of Hodgkin's Disease (Leukæmia).

15. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.

HARVEIAN SOCIETY, 8 p.m. Mr. George Field, "Cases in Aural Surgery."

16. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

MEDICAL MICROSCOPICAL SOCIETY, 8 p.m. Meeting.

VITAL STATISTICS OF LONDON.

Week ending Saturday, April 3.

BIRTHS.

Births of Boys, 1331; Girls, 1162; Total, 2493.
Average of 10 corresponding years 1865-74, 2291·1.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	919	954	1873
Average of the ten years 1865-74	786·9	769·9	1556·8
Average corrected to increased population	...	...	1666
Deaths of people aged 80 and upwards	...	...	87

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric or Typhoid Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	4	1	1	16	...	2	1	2
North	751729	...	3	9	3	13	...	2	1	4
Central ...	334369	...	...	6	1	10	...	2	1	2
East	639111	...	8	4	2	27	...	3	2	5
South	967692	1	9	12	9	26	...	9	7	11
Total	3254260	1	24	32	16	92	...	18	12	24

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	30·190 in.
Mean temperature	45·8°
Highest point of thermometer	56·2°
Lowest point of thermometer	36·2°
Mean dew-point temperature	36·3°
General direction of wind	Variable.
Whole amount of rain in the week	0·00 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, April 3, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1875.)	Births Registered during the week ending April 3.	Deaths Registered during the week ending April 3.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3445160	45·7	2493	1873	56·2	36·2	45·8	7·67	0·00	0·00
Portsmouth ...	122632	27·3	85	53	...	...	...	...	...	...
Norwich	82842	11·1	59	46	55·5	34·5	44·5	6·95	0·04	0·10
Bristol	196186	44·1	161	123	58·7	31·2	44·9	7·17	0·02	0·05
Wolverhampton ...	71718	21·1	69	46	57·5	34·8	44·8	7·12	0·01	0·03
Birmingham ...	366325	43·6	324	231	56·0	34·3	44·5	6·95	0·00	0·00
Leicester	109830	34·3	100	60	...	...	...	...	...	...
Nottingham ...	92251	46·2	58	57	57·7	34·2	45·0	7·22	0·03	0·08
Liverpool	516063	99·1	412	291	59·9	39·8	44·2	6·78	0·03	0·20
Manchester ...	356626	83·1	286	212	58·0	34·0	45·0	7·22	0·37	0·94
Salford	135720	26·3	128	68	57·4	33·0	43·6	6·45	0·28	0·71
Oldham	87437	18·7	60	52	...	...	...	...	...	...
Bradford	168305	23·3	127	104	53·8	35·8	45·4	7·44	0·02	0·05
Leeds	285118	13·2	256	147	55·0	36·0	45·2	7·33	0·01	0·03
Sheffield	267881	13·6	215	147	53·0	35·5	45·4	7·44	0·09	0·23
Hull	133932	36·8	111	62	55·0	32·0	44·7	7·06	0·05	0·13
Sunderland ...	106342	32·2	101	54	61·0	36·0	47·7	8·72	0·00	0·00
Newcastle-on-Tyne	137665	25·6	125	67	54·0	37·0	44·5	6·95	0·00	0·00
Edinburgh	211626	50·5	133	90	57·0	35·5	47·0	8·33	...	...
Glasgow	534564	88·6	428	310	53·7	35·4	45·6	7·56	0·49	1·24
Dublin	314666	31·3	214	182	55·0	36·1	47·3	8·50	0·00	0·00
Total of 21 Towns in United Kingdm	7742889	37·0	5945	4275	61·0	31·2	45·3	7·39	0·09	0·23

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 30·19 in. The highest was 30·39 in. on Wednesday evening, and the lowest 29·56 in. at the end of the week.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

THE LUMLEIAN LECTURES: ON LIFE AND ON VITAL ACTION IN HEALTH AND DISEASE.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS, LONDON.

By LIONEL S. BEALE, M.B., F.R.S.,
Physician to King's College Hospital.

LECTURE II.

Of the Constitution of Living Matter—Question of the Origin of Life—Absolute Distinction between the Living and the Non-living—Of the Construction of the Body by Bioplasm.

OF THE CONSTITUTION OF LIVING MATTER.

THIS most difficult problem has been very little considered, probably because the absolute distinction between the living and the non-living matter of a living body has not been recognised. Indeed, authorities who have written very recently, evidently do not admit that the distinction I have drawn between living matter and formed material exists in nature.

Feeling confident that ere long the remarkable characteristics of living matter, and its distinction from all formed matter will be admitted, I shall venture to speculate upon the constitution of the bioplasm in the living state. In the first place I would remark that all bioplasm contains moisture. Water is necessary to its constitution, and is invariably present in every kind of living matter, and in every state in which living matter can exist. As I have before intimated, movement of particles from centres is involved in my idea of life. Each movement would be impossible in the absence of water. The moment a particle of bioplasm is deprived of its water, it must therefore die. In cases of resuscitation after desiccation, the bioplasm has not been perfectly dead—has not been entirely deprived of its water.

Water must be very intimately associated with the particles of matter that live. These living particles cannot be regarded as dry solids, suspended in water, and moving freely amongst one another in the fluid, for, as already intimated, every particle is composed of smaller particles which are likewise in constant motion.

Now let us, guided by observation, try to realise what must be going on in every centre of the most minute of the multitudes of living centres which constitute the most minute living particle. And in the first place it is necessary to bear in mind that each central point when magnified seems to have circumference as well as centre. We may follow on in our imagination, nevertheless keeping true to the line of observation, and pass into the region of speculation, and still we shall find it impossible to reach in conception a true centre. One may imagine excessively minute compound semi-fluid molecules of pabulum, moving in fluid and coming within the sphere of the operation of molecules of living matter. We may conceive the lifeless passing among the very minute living particles; but to conceive how the atoms of the particles of lifeless pabulum separate from one another, and then become re-arranged and acquire new living powers, like those which existed before them in a living state, is not yet possible. There must be transference of power from the living to the non-living, the latter gaining power from particles which have imparted that power without having lost or created anything. In fact, a vast amount of non-living matter may acquire living property or power in a very short period from an extremely minute particle of matter already in a living state. There seems no limit to the capacity or power of making alive—no loss being occasioned by the repetition of the process—no failure or exhaustion.

Such, then, I believe to be the nature of the wonderful changes which occur in the minute particles of every form of bioplasm in nature, from that of the bacterium to that of man. Not only do they characterise the bioplasm of health, but that of every disease-carrying particle, which has resulted by descent from the normal bioplasm of man or the higher animals, as long as its vitality and active powers exist. Between living particles and globules of oil and fragments of albumen or any non-living matter whatever, there cannot, therefore, be the remotest analogy.

That new centres of living matter appear in pre-existing living matter is a fact that has been proved by observation. The so-called nuclei arise in pre-existing living matter, and nucleoli in the nuclei. In the new centres themselves a second series of new centres may appear, and in these a third series, and so on; and, what is still more remarkable is, that the properties or formative powers of these different series, and of the bioplasts resulting from their division and subdivision, may be different. The new power seems to be acquired by the matter at the time when, or just before, it comes into being as a new centre. The centres in question from which matter inherits vital properties and acquires the power of transmitting these onwards, must be extremely minute. Indeed, as to the real size of the most minute particles that are made to live, one hardly dares offer a suggestion more definite than the following:—That, on the one hand, they must be hundreds of times more minute than the smallest particle visible under an amplification equal to five thousand diameters; and, on the other hand, they must be larger, or at least heavier, than the ultimate atoms of their component non-metallic elements. It is remarkable that those who have spoken of *living atoms* should have thought so little about the matter as to have permitted themselves to suggest an absolute impossibility—for it is obvious that *no single atom can be thought of as alive*. The idea of a living atom of oxygen or hydrogen or carbon or nitrogen is clearly untenable. We might as well talk of a living atom of sulphur or iron or lead. And it is absurd to talk of *dead* carbon, oxygen, or hydrogen atoms, since a living state of the atoms of these and other bodies is thereby implied; but such living state is inconceivable. Every form of matter that is alive is composed of several elements, and it is probable that the most minute particle of matter that lives consists of multitudes of atoms of several different substances in a state of collocation that cannot be compared with any other state of combination that is known.

But it is not merely the power of moving from centres, of progressive movement, of transforming pabulum, of forming new and peculiar chemical compounds, that is acquired, but powers far more wonderful than these, by virtue of which the living matter produces living particles, generation after generation, from which definite organisms and definite and very different tissues in each single organism result. These powers are peculiar to the living world, and there are no forces, no behaviour of non-living matter which can be said in any way to resemble them, or to exhibit the most distant analogy to them. How these powers are acquired it is too soon to speculate, but I should, nevertheless, like to refer now to one or two points. First, I would remark that time exerts an important influence in the transmission of powers from living matter to that which descends. The time required for the production of a given result, though constant within certain limits for forms of life of the same kind, varies greatly with respect to different kinds of living things. Precisely corresponding changes take place within very different periods of time, and the influence of temperature, food, and external conditions is uniform only in the case of the same species. One particle of living matter, much less than the $\frac{1}{5000}$th, may take weeks or months to acquire its full powers, another only a few days. We have not at present the data upon which to found general deductions, and we must withstand the temptation of framing laws and applying them to vital phenomena, until a good deal more shall be known than we have yet been able to discover, or assuredly the exceptions to the laws laid down will multiply faster than the exemplars.

Powers and properties have been attributed to pabulum, and some have said that the organism is only what it feeds upon. But what the organism is, depends far more upon what the organism was that produced it, than upon the particular material that constituted its food.

The pabulum of the tissues of complex animals is undoubtedly peculiar, and must be properly prepared before it can be taken up; but by what means is the preparation effected? The bioplasm of the tissues selects pabulum out of blood. But how is the blood itself formed? By bioplasm. Living matter takes up pabulum of the proper kind, and grows, at last becoming resolved into formed matters, which constitute the pabulum of other bioplasm; and this process occurs several times before our food becomes converted into our tissues. Whatever act of life we investigate, we soon trace the phenomena back to bioplasm; and then we find ourselves face to face with the question of the nature and mode of working of vital power.

If the method by which non-living matter is converted into living matter is understood, by all means let it be explained. If conversion like that effected by living matter can be carried out in the laboratory, let it be done; but if the change can be effected by living matter alone, let this be openly admitted, and let it be clearly stated, and in the most public manner possible, that the phenomena in question are peculiar to living matter, and cannot be shown to be due to physical and chemical changes apart from life.

By admitting vital power I am able to explain results without attributing metabolic influences to cell walls, cell contents, intercellular substance, walls of vessels, and other textures, which in reality are passive. I need not assume hypothetical actions and differentiations, or attribute to some hypothetical force, said to be akin to aggregation and crystallisation, phenomena which have not the faintest analogy with those processes, nor have I need to assume governing powers of which the mind cannot conceive, or matter-guiding forces acting in some unexplained way through all sorts of matter. *Vitality* acts in living centres upon matter only infinitely near the centre. This is all that is demanded by the terms of my hypothesis. I venture to think that few who consider the facts of the case will be indisposed to grant me thus much.

Origin of Life.

The far-fetched conjectures seriously advanced by some physical speculators concerning the origin of life, serve to show what extreme difficulty has been experienced by those who have attempted to construct a plausible hypothesis by which the conversion of the non-living into the living might be reasonably accounted for. One great authority, dissatisfied with every suggestion, and being evidently convinced that no physical explanation of the origin of life upon our globe would ever be discovered, despairingly submits to us the proposition that life did not begin here at all, and that our earth was first peopled by the offspring of germs brought to us upon a fragment broken off from some distant orb that teemed with life. Whether even the simplest living forms would have survived after such a ride through space, unfortunately had not been determined by experiment, so the idea of our fauna and flora being derived from those of another world found little favour; and perhaps all who have considered the subject would now agree that it is probable that life-forms originated upon our globe, though there might be great difference of opinion concerning the precise mode of their origin.

"Evolution" is now supposed to solve the difficulty of life-formation, but this term has had at least two meanings assigned to it. By some it has been restricted to the living world, while others have given to the term evolution a much wider signification, and have maintained that it should include not only the evolution of living forms from pre-existing living forms, but the formation of the living out of the non-living. There is, it is scarcely necessary to point out, the widest possible difference between these two doctrines: for while the one teaches that all living forms came direct from living matter without accounting for the origin of life at all; the other is a tenet of the fiery-cloud philosophy, which teaches as a cardinal point that the evolution of life is but one of that great series of changes in which the evolution of the cosmos is comprised. But surely such an idea may, for the present, be regarded as a conjecture so extravagant as to be unworthy of serious consideration. Facts are wanting, and the arguments advanced in favour of the hypothesis are such as cannot have much weight, since it has been deemed necessary to bring forward, in their support, utterances of a prophetic character.

If, then, evolution is restricted to the living world, the origin of the first living thing will be still unaccounted for. The presence of a very simple living form seems to have been assumed; but whether that being came of itself from the non-living, or arose in consequence of some prior changes, or was formed by an act of creative interference, is not suggested by the terms of the particular form of the hypothesis under consideration. Neither is the precise nature of the first living substance indicated, and we are even left in doubt whether one or two or many forms of living matter came into existence at the first formation of life.

Now, with reference to the origin of the first living matter, several not improbable suggestions present themselves to the mind, in all of which, however, it is assumed that the change from the non-living to the living was sudden and abrupt, and not gradual.

First, we may conceive that one form of living matter was produced direct from the non-living, and that from this all future living was evolved.

Secondly, we may prefer to imagine that more than one form of life originated from the non-living at or about the same time.

Thirdly, we might think it more in accordance with facts to conceive that several different kinds of bioplasm originated in the beginning of an epoch of life, from which all life of that epoch was derived. New forms originating anew in the next epoch, the results of evolution from the first gradually dying out as those of the second epoch increased and became dominant. As life-epoch succeeded epoch, new forms of bioplasm may have appeared as old forms of life died out.

But the above by no means exhaust the list of what I would term the reasonable hypotheses concerning the origin of life that may at once be suggested. All of them involve in some form or other the admission of a remarkable change in capacity or power not to be accounted for by physics. In all, the communication to matter of powers or forces which it did not always possess, and which it is conceivable might never have been communicated at all, is suggested.

Whether this communication of new powers occurred once only or was repeated at many successive periods in the remote past; whether it be reasonable to consider a recurrence of the process in the future as probable or improbable,—I shall not now venture to discuss.

What I particularly wish we should keep before our minds is that facts and arguments render it much more probable that the passage from the non-living to the living is *sudden and abrupt, than that there is a gradual transition or scarcely perceptible gradation from one state to the other*. I should, however, clearly state that this inference is in opposition to the views of many authorities, and in particular is opposed to the clearly expressed opinion of one of the greatest discoverers and most acute thinkers of our time, who maintains that the conversion of physical into vital modes of force is continually taking place. It is suggested that the change from non-living matter to living matter is a transition easily effected and continually occurring. Of the facts in support of so startling a proposition I confess I am ignorant, nor have I succeeded in my efforts to discover any facts in the writings of those who appear to have accepted the conclusion in question, which has never failed to enlist advocates in its support from the time when it was believed that highly complex living forms were produced from earth or dew, to the present day, when the advocates of the doctrine are so terribly restricted in the discovery of parentless living particles.

We have now reached the point where we are brought face to face with the modern developments of the old doctrine of spontaneous generation.

I cannot but remark that the more minutely investigation is carried out—the more thoroughly and intently facts bearing upon the matter are examined—the more improbable, in my judgment, does it appear that any living form should be derived direct from the non-living. Notwithstanding all that has been recently written upon this subject, I cannot but feel surprised that at this time many good reasoners should decide in favour of the *de novo* origin even of bacteria. Whether we consider the matter from the experimental side only, or study the evidence obtained in a general survey of nature, or carefully reflect upon the facts learnt from investigations concerning the properties of living and non-living matter, with the aid of the most perfect instruments of minute research now at command, or from other standpoints, the conclusion seems to me irresistible that the verdict of a jury of well-educated men would be against the direct origin of any form of living from any form of non-living.

Driven from one position to another, the advocates of spontaneous generation have entrenched themselves in the unassailable stronghold of experimental investigation. Here they may hold their own for any length of time, for no one can say what may not be demonstrated by new experiments in the time to come. Nay, although the conflicting results of different skilled experimenters, whose experiments have been conducted upon the same principles and professedly in the same way, even to the minutest details, may shake the confidence of some in the experimental method of inquiry, it is certain that the teachings of experiment will finally prevail over all other information.

But the modern advocate of abiogenesis should be skilled not only in explaining facts, but in explaining facts away.

The fact that bacteria germs exist in all parts of the higher organisms, in the most internal parts as well as upon the surface of man's body, is to be accounted for by their spontaneous origin! Although millions are to be found about the mouth and upon the surface, and it can be shown that it is easy enough for them to get from the outside amongst the tissues within, we are asked to believe that those inside originated there direct from the non-living, or, as an alternative proposition, that they were derived not from parental bacteria, but by transmutation from some of the constituents of the tissues, on the principle that a living fungus comes not from a fungus germ, but from a dying tree. The next suggestion will be that man, after all, is but an aggregation of lower forms, peculiarly conditioned for a time, but which assume their ordinary forms when their environment shall be modified, as it must be at death.

Erroneous conclusions of many kinds have been employed as facts in support of abiogenesis. When one finds that it is believed that fungi may be developed from oil globules, and other living organisms of a much higher type produced without parents out of organic matter, one fails to see any limit to the support that may be gained to the cause. Volumes of facts and arguments hitherto advanced in favour of abiogenesis may be republished without in the slightest degree modifying the real state of the case. What is now required is well-devised experiment, and that is all. No resuscitation of old arguments and doubtful facts, however ably the task is performed, will in the slightest degree increase the cogency of experimental proof; and in the absence of new experiment such facts and arguments will avail nothing.

I think we may be satisfied that before long the advocates of spontaneous generation will have to rely upon the production of the lowest organisms only. The only view in any way tenable at this time is, that such organisms as bacteria are the only ones that can, under any arrangement of conditions possible to an experimental inquirer, be formed anew, and that these alone, at any period of the world's history, sprang direct from the non-living. All are of extreme minuteness, many of the forms being so very small that they could not be identified with a magnifying power of less than eight hundred diameters. These are the smallest, simplest, and probably lowest forms of life known. That multitudes do now spring from pre-existing forms is absolutely certain, for the process can be seen. Whether some spring direct from the non-living is the question. Those that are supposed to be formed anew are very like those that have had a progenitor, and from those supposed to have been produced anew, forms exactly like those derived from undoubtedly pre-existing forms result. It cannot be pretended that new forms of existence are produced anew. No matter how the conditions are varied, the living forms supposed to result resemble known living forms, and give rise to forms of the same kind.

But, as I have before remarked, the question of the origin of bacteria can be only determined by experiment. All irrelevant considerations in favour of abiogenesis ought now to be left in abeyance. The assumed *de novo* origin is contrary to what goes on throughout the whole kingdom of nature, and the only exception which there is the remotest possibility of establishing is the spontaneous origin of some of these lower forms of life. While, therefore, it is allowable to permit ourselves to be influenced by general evidence against a new and exceptional doctrine, which a few observers seem very anxious to establish, we may fairly insist that only evidence of the most convincing and demonstrative kind should be accepted in its support. As regards the validity and reliability of the most recent experiments for and against the doctrine, I offer no opinion. Time must be allowed for others to repeat the experiments; and, for my own part, I could express no opinion unless I had been present, and had carefully watched each experiment in every stage. As far as I can judge, the reports of recent results are not more convincing than were those that were adduced years ago, many of which have been discarded and proved to have been unreliable, from want of care, or from defects in the methods of procedure.

If the formation of a bacterium germ, direct from non-living matter, be possible, three very remarkable series of changes, as it seems to me, will have to be brought about. Whether any means will ever be discovered of effecting these changes is surely most doubtful.

First, the atoms of the non-living substances must be separated from their combinations.

Secondly, the atoms will have to be re-arranged to constitute groups of which the organic matter is made up.

Thirdly, the groups of atoms must be made to live.

What facts known, I would ask, render it likely that air, rarefied or condensed, or pressure of any degree or of any special kind, or any degree of heat or light, or any conceivable modification of physical or chemical conditions, would, at the same time, account for the pulling asunder and joining together of atoms, and for the conference of new and peculiar powers of growth, of movement, of division, and the formation of new substances? In short, it is not easy to conceive, in the imagination, the several steps which result in the formation of a living bacterium even from *organic matter*. But the first germ must have sprung direct from matter that never had lived nor manifested phenomena in any way like those of life. Let us try to imagine a living germ being produced out of non-living matter. Atoms of many substances must be conceived as separating from one another, and then re-combining. Attractions and affinities must, in the first place, be overcome; then the forces that effected the change must cease to operate; and these must, somehow, be exerted again. By what means the separation of atoms is effected cannot be suggested, neither can we conceive how the atoms are caused to re-combine in a definite way. The supposed phenomena would be really more complicated than I have represented. For atoms are not related to one another—atom to atom, but group to group. How the atoms are grouped, and how the groups are related, how the groups act and react upon one another, and new groups are formed—what makes the atoms combine and begin a new course which may continue on and on for ever, cannot be conceived. Upon the whole the production from non-living matter of any living form, however simple, must be regarded as most improbable.

(To be continued.)

ABSTRACT OF THE

LETTSOMIAN LECTURES ON THE SURGERY OF THE ARTERIES.

DELIVERED BEFORE THE MEDICAL SOCIETY OF LONDON, 1875.

By C. F. MAUNDER, F.R.C.S.

Lecture II., Part II.

In this part of the second lecture Mr. Maunder considered the subject of the ligature, especially in reference to the ligation of arteries, on the antiseptic methods, in their continuity. He began by observing that the application of an ordinary ligature —of silk, for instance—as a curative agent inflicts an injury which not unfrequently has a fatal result. To be successful it must give rise both to a *reparative* process in the shape of *adhesion* of the cut surfaces of the divided coats, and to a *destructive* process in the shape of *ulceration*, by which the ligature is to be cast loose, holding sometimes in its grasp a small slough of the constricted outer coat of the vessel. If these processes be imperfect on the one hand or excessive on the other, the operation may be destructive to the patient. The formation of a coagulum in the vessel on both sides of the ligature is a safeguard against hæmorrhage, although not essential to prevent it when firm adhesion has occurred. To encourage coagulation, the surgeon elects to place his ligature at a distance of not less than an inch and a half from a known branch—observation having proved that the rush of blood through a branch artery in proximity to the ligature is inconsistent with clotting. A certain length of vessel is necessary between the branch artery and the ligature, so that the blood in it, while being whipped up, may yet be out of the way of the arterial current.

One reason why secondary hæmorrhage is comparatively rare in the upper extremity is because the deposit of a tolerably firm clot on the distal side of the ligature is generally promoted by means of the agitation of the blood coming into this part of the vessel through the anastomosing channels. This churning process leads to the deposit of fibrine more or less pure in proportion to the disturbance, and thus a firm obstacle to secondary hæmorrhage is presented above the ligature. On the other hand, we cannot ignore the apparent fact that the formation of *blood-clot*, in contradistinction to pure fibrine, is favoured by slowness of movement of the fluid holding it in suspension. Consequently, where the anastomosis is

not very free, as in the lower extremity, the deposit of soft blood-clot rather than of fibrine may be expected on the distal side of the ligature. Supposing, then, from any cause a small aperture to exist in the vessel on the distal side, and before this soft clot shall have become consolidated, the force of the blood propelled against it may be sufficient to wash it away, and so secondary hæmorrhage occurs. The instability of soft clot is recognised in some cases of aneurism cured by the rapid method of compression and by ligature, in which the circulation is re-established after apparent cure. The operation performed by a ligature upon an artery corresponds to a *subcutaneous* operation—the two inner coats being severed under cover of the outer; and possibly this fact it is which often favours adhesion, even though the injury inflicted be a *contused* wound. But added to this concealed injury we have strangulation of the external coat, and its attendant consequence—ulceration. Herein lies the weak point of the ligature. Now and then an artery is cut down upon, and a ligature of silk, gut, wire, or catgut having been applied and cut short, the wound closes by primary union over the foreign body; but this result of the operation cannot be relied upon. With the hope of obviating the casting off of the ligature by ulceration, Dr. J. F. D. Jones, in a work on Hæmorrhage in 1805, advocated the use of what may be called the *momentary* ligature. Webber's forceps, used to sever the inner coats and then to be withdrawn, and the wound closed, though intended to act on the same principle, has the disadvantage of dividing the inner coats at two points, and including and compressing between these about one-sixth of an inch of the calibre of the vessel.

Theoretically, the chief risk which the use of either Jones's momentary ligature or Webber's forceps would entail would be secondary hæmorrhage, supposing the bruised external coat, to slough before the channel of the artery had become obstructed by adhesion. A temporary ligature applied for a few hours only, and then removed, was tried by Sir Astley Cooper and others, and yielded the most unsatisfactory results. Our great aim should be, out of a variety of means to select that which commends itself at first theoretically, and then stands the test of experience.

The lecturer then passed to the consideration of the method last introduced—the antiseptic method. Without inquiring how this antiseptic measure operates, carbolic acid is, we know, used to prevent putrefaction and to excite the rapid closure of wounds; and catgut *properly prepared* is advocated by Mr. Lister to replace the time-honoured silk thread. Since the introduction of the antiseptic ligature, Mr. Maunder has resorted to it eight times, using various materials, sometimes cut short, at others left projecting at the wound. He has also witnessed two other cases in which catgut was employed antiseptically. Some details of each of these cases were given by the lecturer. Of these ten cases two died (one of his own and one of the cases witnessed by him in the practice of a colleague) of causes occasionally associated with the application of a ligature to the third part of the subclavian artery—hæmorrhage and diffuse cellulitis; one died of pyæmia; two died from causes independent of the application of the ligature; two others were a long time before the operation wounds healed; while two cases were examples of rapid healing, the ligature—in the one case silk, in the other catgut—remaining on the artery.

In contemplating this list of cases with a view to determine the value of the antiseptic method of ligature, the question to be asked is—Could an equally or more favourable result have been anticipated had the usual operation with the silk ligature been performed? Mr. Maunder's reply is in the negative.

Lecture III.

The subject of this lecture was—ligature of a main artery to arrest acute traumatic inflammation. This treatment, when first suggested by Mr. Maunder, was a novelty in Europe, though, as he afterwards learnt, it was not so in America. Previous to performing the operation Mr. Maunder had heard of *compression* of arteries being employed as a means to arrest inflammatory action; but if for any reason compression be relinquished too soon, blood would then not only pass through the enlarged smaller vessels, but also through the main channel to the inflamed spot, and thus an injuriously increased quantity would be supplied to it. In May, 1866, Mr. Maunder recommended ligature of the femoral artery in a case of wound of the knee-joint followed by traumatic fever and acute inflammation below, about, within, and above the knee. Mr. L. S. Little, whose case it was, performed the operation on the superficial femoral with immediate and striking relief to symptoms, and the patient made a good recovery. Since that time the writers of certain articles on inflammation published in this country have advocated the ligature as one of the methods of treatment.

The advantages claimed for it by Mr. Maunder are the sudden cessation of pain, and the return of appetite and sleep; the substitution of laudable suppuration for fetid ichorous discharge; the subsidence of inflammatory action, both local and general; and the return of parts to their natural conditions. Another and an important advantage is that no blood is taken from the patient. In other cases besides the one above referred to, the main artery of a limb has been tied at the London Hospital by Mr. Maunder and Mr. Reeves, with a view to arrest inflammation.

But further: in several instances in which the ligature has been used to stop bleeding, existing inflammation has ceased and repair commenced. A case in which Mr. Maunder tied the brachial artery in the middle of the arm to check acute inflammation of the hand, consequent on a poisoned wound, contrasts strongly—in so far as the beneficial effects of the treatment are concerned—with those cases in which the main artery in the lower limb has been ligatured.

In future, should the necessity arise, Mr. Maunder would ligature the brachial artery close to the axilla, in order to get above the origin of the profunda branches, with the view of still further diminishing the supply of blood to the hand. The arterial anastomoses about the elbow are so numerous, that although the brachial be tied about its middle, its effect upon the blood supply to the hand will sometimes be too transitory to check inflammation, though highly conservative with respect to the vitality of the part.

After referring to the practice of American surgeons, and quoting from Velpeau in support of the arrest of the circulation as a remedy for congestions, engorgements, and acute inflammations of all kinds, Mr. Maunder went on to say that however pathologists and physiologists may explain inflammation,—however complex may be the process, whatever share in its production may be ascribed to the vascular system, to the nervous system, and to the tissues themselves the seat of it,—all will admit that an excess of blood is brought to the part. Experience has taught the value of the withdrawal of blood as a remedy for certain inflammations. Thus, we have arteriotomy, venesection, the use of leeches, etc. But all these methods have this disadvantage in common: they *remove* blood from the system, whilst the obstruction of the main channel only *withholds* it from the inflamed parts, and may, therefore, be likened to dry cupping, by which the blood is diverted into other channels *temporarily*, and thus the inflammation, as it were, is starved.

In considering the propriety of placing a ligature on a main artery, with a view to arrest acute traumatic inflammation in the part beyond, we must first decide what may be the possible or probable result of the ordinary and hitherto accepted treatment; and secondly, what are the effects—immediate, intermediate, and remote—of the ligature. It was shown by Mr. Maunder that the probable consequences of traumatic suppurative inflammation of the knee-joint are very discouraging. Attention was specially drawn to three cases (patients were exhibited) which were all under the lecturer's care in the London Hospital at the same time. Each case illustrated a stage in the disease which it is important to recognise during its progress, with a view to prognosis.

With regard to the effect of the ligature, the *possible immediate effect* is gangrene of more or less of the limb, varying from the shrivelling of a toe, to death of the whole limb as high as the ligature. This, however, is scarcely likely to happen, because an excess of blood having been now sent to the part, the collateral circulation may be regarded as already in some measure established.

The *possible remote effect* is a permanent weakening of the limb, rendering it less valuable as an organ of progression, and by lowering its vitality making it less able to bear changes of temperature or to resist or repair injury and disease.

The *possible intermediate effect* is hæmorrhage at the seat of ligature, either from the proximal or distal side. Besides these possible consequences, it is necessary to inquire as to the influence of the operation upon the process of repair necessary to the restitution of the injured limb to health. For as a certain supply of arterial blood is requisite for health, and a larger quantity is necessary to repair an injury, one would

expect either that repair would be slower after ligature than without it, or that the disease would pass from the acute to chronic or perhaps even to the ulcerative or gangrenous condition.

Mr. Maunder is disposed to think that in the case which gave origin to his first operation (and his present remarks) the wounds did heal more slowly than they would have done if the vascular supply of the limb had not been interfered with.

The stage of the disease in which ligature of the main vessel would be contra-indicated would appear to be the suppurative, when of long standing; while profuse suppuration of more recent date will, in all probability, be arrested by the ligature.

The precise moment for the application of the treatment in the lower extremity is when suppuration is only suspected to have occurred, or has only just set in. In the upper extremity, in which arterial anastomosis is more free and repair more easy, the brachial artery might be ligatured at a more advanced stage of suppuration, with every prospect of success.

It seems certain that the sudden obstruction of a main artery is very much less dangerous than is generally supposed, because it has been the practice to draw conclusions from instances in which the vessels were diseased, as in aneurism. Cases were given in support of this opinion, and Wardrop was quoted to show that the enlargement of the anastomosing vessels takes place to a certain extent almost instantly after the trunk has been tied.

At the same time Mr. Maunder would not have it supposed that he for a moment insists on the application of a ligature in all cases where the plan of withholding blood from an inflamed structure is to be tried, provided that a simple method will suffice, whether by compression with a tourniquet, by acupressure needle, or by hand; but it must not be forgotten that these less decided measures require such care and attention to details as can rarely be given. Having witnessed the value of the principle, he does not hesitate to urge upon the profession a trial of it when practicable.

The facts which this, the last of the Lettsomian Lectures, illustrates, and the conclusions which these facts support, are thus summarised by the lecturer:—

That ligature of the superficial femoral artery has arrested acute inflammation consequent on wound of the knee-joint. That ligature of a main artery will quickly diminish profuse suppuration, and prevent death by exhaustion. That, while it arrests profuse suppuration, it will, by allowing the patient to gain strength, afford an opportunity for amputation at a future time. That gangrene and secondary hæmorrhage as the result of ligature should not be anticipated in the healthy subject. That the dread of these has arisen from our knowledge of the consequences of the ligature in instances of known diseased vessels (aneurism for example). That a slough on the heel, caused by the pressure of a splint, was quickly detached, and the wound soon closed, although the superficial femoral had been tied a few days previously. That symptoms of inflamed bone ("starting pains") quickly disappeared. That the arterial tension of the rest of the body will be increased beneficially by the ligature.

THE next meeting of the Society of Medical Officers of Health will be held at the Scottish Corporation Hall, Crane-court, Fleet-street, on Saturday, April 17, at 7.30 p.m. Dr. Alfred Carpenter, of Croydon, will read a paper on "The Practical Power of Soils, Air, and Vegetation to Purify the Sewage of Water-Closet Towns."

ALGERIA IN PHTHISIS.—At the recent meeting of provincial scientific delegates at the Sorbonne, M. De Pietra Santa stated the results of the inquiry which had been instituted by the Algerian Climatological Society, relative to the influence of the Algerian climate on phthisis. This climate is an excellent one for combating predispositions to the disease, whether hereditary or acquired, as also for arresting the progress of the disease during its first stage. But when the disease is more advanced and organic disorganisation is in progress, the climate becomes not only hurtful but fatal. The same committee also reported that in the matter of acclimatisation of Europeans in Algeria, alliances should not be formed with the Arab race, which is in process of deterioration and disappearance; but with the Latin races planted on the shores of the Mediterranean (Spaniards, Italians, and Maltese), which present a high degree of vital resistance and fertility.—*Gaz. Méd.*, April 10.

ORIGINAL COMMUNICATIONS.

A CASE OF OPIUM-POISONING SUCCESSFULLY TREATED BY BELLADONNA;

WITH SOME REMARKS ON THE ACTION OF OPIUM AND BELLADONNA IN COMBINATION.

By J. D. HEATON, M.D., F.R.C.P.,
Senior Physician to the Leeds General Infirmary.

C. E. WADE, a cart-driver, aged twenty-eight, was brought into the Infirmary about half-past twelve o'clock at midnight. He had had a quarrel with his wife in the afternoon, in consequence of which he took two fluid ounces of laudanum at ten o'clock. He had subsequently been taken to a medical man, who gave him an emetic and sent him to the Infirmary in a cab. On his way he had vomited two or three times.

On admission he was in a state of partial insensibility: he could be roused by shouting into his ear, but could not be made to answer any question. The surface was pale; the pupils rather contracted. He vomited again soon after coming into the Infirmary. The stomach-pump withdrew nothing more from the stomach, which was then twice washed out with water, which came away slightly coloured brown. Some strong coffee was then introduced, which was soon rejected, together with some lumps of partially digested food. When not continuously aroused he fell off immediately into a heavy stertorous sleep. Between two assistants he was from time to time dragged along the corridors, making little effort to support himself; and when allowed to sit he was continuously aroused by being flapped on the face with a wet towel, which would cause him to open his eyes momentarily. Cold affusions were also practised, and ammonia applied to the nostrils. In spite of these means, he became more completely narcotised, so that towards the morning he appeared to be in imminent danger. The pupils were contracted to a point, he was almost pulseless, and incapable of being aroused. Brandy-and-water was poured into the mouth, which was swallowed, with some choking when it reached the fauces. Galvanic currents also were passed between the spine and the front of the chest. Subsequently he seemed to acquire more consciousness, and made delirious attempts to resist any treatment, but he soon relapsed into a state of unconsciousness.

The above particulars are furnished to me by the house-physician, Mr. Pickles. I was not informed of the case till between nine and ten the following morning, when I at once went to see him. He was then in an unconscious state, except when momentarily aroused by a loud voice or a slap on the face, when the eyes opened vacantly and gazed for a few seconds, again closing in sleep. He could not be made to speak nor to use any effort to support his own weight. The surface was pale; the pulse small, not slow, being rather over 100; the pupils contracted, but not to so small a point as they had been at one time during the night. The opinion of those about him was that he was gradually getting worse, and was in great danger. No antidote had hitherto been administered except the strong coffee, which he had speedily vomited.

I at once advised the administration of belladonna, in the form of a solution of atropine, hypodermically injected; and, while this was being prepared, I poured some brandy-and-water into his mouth as the head was held backwards, which was swallowed with some spluttering, showing that reflex action could still be aroused. One-sixtieth of a grain of atropine was administered, and the same repeated in a quarter of an hour. After the second dose the pupils began to relax; the pulse also became slower, and acquired more volume. The patient soon showed some returning consciousness; when aroused he started, stared wildly with an alarmed expression, and dropped into sleep again. Soon he began to give signs of displeasure when disturbed, and spoke some angry words demanding to be left alone, and when I shook him and loudly asked his name close to his ear, he had sufficient returning intelligence to state his name in full. As he had been twelve hours without food, and had been subjected to a good deal of fatigue, I ordered some beef-tea to be given him, and that he should be somewhat more gently dealt with, only not to allow him to fall into a state of prolonged stupor, and that the atropine injections should be continued at intervals until the pupils became decidedly dilated. In about an hour (when I saw him again) he was much more easily aroused, and inclined

to quarrel with those who disturbed him. The injections of atropine were continued at intervals, five doses of one-sixtieth of a grain having been administered by noon, making in all only one-twelfth of a grain. The pupils were then fully dilated. The man was returning to a natural state of consciousness: he felt weak and weary, and hungry; he had no headache. He was now put to bed and allowed to rest, after having taken some food. In the afternoon he was quite recovered.

There are differences of opinion as to the antagonistic action of opium and belladonna; but I think the above case fairly illustrates the antidotal value of belladonna to the lethal effect of opium. Every effort had been made by other means to resist the mortal sopor which was creeping over this man, for twelve hours without success; and it was the opinion of those who had watched the progress of the case that he would die, when the administration of atropine commenced. Within a quarter of an hour of his receiving the first small dose he began to revive, and improvement was progressive from that time. Perhaps an earlier recourse to this treatment might have insured a more speedy recovery. The improvement was so directly consequent upon the treatment that it seems fair and necessary to recognise the operation of cause and effect; though cases are recorded of poisoning by similar and larger quantities of laudanum, in which recovery was effected by perseverance in such means only as were adopted in the first instance in this case; and though it is a common opinion that if a case of opium-poisoning survives for twelve hours it will recover.

Whilst in attendance upon this man, the question arose—When would it be safe to discontinue excitation and the use of remedies, and to allow him to take the repose which the prolonged exercise and rough treatment that he had experienced would naturally demand? When his intelligence was restored, the pulse had regained some power, and the pupils were fully dilated, we judged that he might be allowed to take that sleep for which he begged; but a watch was kept over him to see that the sleep did not assume too profound or comatose a character.

Another question was as to the dose of atropine to be administered. Keeping to the side of caution, we gave only small doses, repeating them according to our experience of the effect. In the *Medical Times and Gazette* of 1872,(a) Dr. James Johnson, of Shanghai, advocates the treatment of opium-poisoning by atropine, which he illustrates by sixteen cases in his own practice. The dose of atropine used by him was much larger than that which I adopted. In severe cases he injected one-half of a grain of atropine at once; and one-quarter of a grain in milder cases. Such a dose might be dangerous to a person in his normal condition; and, although ten cases out of sixteen recovered, I think that the flushed face and the convulsions, which occurred in some of the fatal cases, were more likely the effects of atropine than of opium. I am of opinion that small doses, repeated according to the results obtained, is a safer practice, and equally efficient for good.

It must be considered that, although opium and belladonna are antagonistic in some of their effects, in other respects their effects are similar—each intensifying the action of the other. We know that an excessive dose of opium contracts the pupil, constipates the bowels, and enfeebles the heart's action. A moderate dose of belladonna dilates the pupil, relaxes the bowels, and strengthens the cardiac contractions. As to the effects of each upon the cerebral condition occasioned by the other, there is some difference of opinion. Dr. Harley says(b) that the somnolency, stupor, and coma produced by opium are intensified by belladonna. The experiments conducted in the United States Hospital for Diseases of the Nervous System lead to the opposite conclusion, that "the cerebral symptoms caused by either drug are, to a great extent, capable of being overcome by the other." This, I think, is the more correct conclusion, but very much depends upon the dose of either agent which is given. Opium produces stupor intensifying into coma, according to the strength of the dose; belladonna produces delirium, which in lethal doses is succeeded by stupor, convulsions occurring sometimes. Hence I conclude that a moderate dose of belladonna, whose effects would terminate in causing delirium, would be corrective of the stupor of opium-poisoning; but a larger dose of belladonna, developing stupor by its own action, would aggravate the stupor of opium.

(a) Vol. ii., p. 268. (b) "On the Old Vegetable Neurotics."

The experiments of the Committee of the British Medical Association as to the effects of these agents upon dogs and rabbits cannot be regarded as very conclusive of their action upon the human brain; nor are the conclusions of the Committee very satisfactory, that in dogs atropine is antagonistic to morphia, but within a limited area; but in man, "atropine would be too dangerous and uncertain a remedy to depend upon in cases of poisoning by opium." The numerous cases on record, including the one which is the foundation of these remarks, show that the antidotal action of opium is neither dangerous nor uncertain when cautiously employed.

As to the converse question of the antidotal value of opium in poisoning by belladonna, I should conclude theoretically that when belladonna has caused stupor, opium would intensify the stupor and the danger of the patient; but that opium in small doses might quiet the delirium of belladonna which did not tend to pass into the condition of stupor.

A few words, in conclusion, as to the therapeutic effects of the combination of opium and belladonna. Were the action of these two agents simply antagonistic, it might be argued that the not uncommon practice of prescribing a combination of opium and belladonna is irrational. But, inasmuch as some of the effects of either are intensified by the combination, whilst other effects are more or less neutralised, it would seem probable that a judicious combination may serve to eliminate any results which would be undesirable, whilst at the same time giving greater certainty to the particular therapeutic action which it is wished to obtain. Thus, it is not an uncommon practice to combine opium and belladonna for the purpose of an anodyne; and although the United States Hospital Report, which I have before quoted, arrives at the remarkable conclusion that belladonna has no power to lessen pain, my own experience, and I think that of the profession generally, distinctly affirms its anodyne property.

M. Abeille, in the *Bulletin de l'Académie*, August 27, 1872,(c) reports a case of sciatica which had been treated ineffectually for four months by every remedy, including morphia injections, which was then treated by atropine injections so freely as to induce symptoms of of poisoning, which latter were relieved by an injection of morphia, and thereby a complete and permanent cure of the sciatica was effected.

May we not, then, hope to secure a more decided relief of pain by combining the two, whilst at the same time the stupefying effect of the opium upon the brain is corrected by the belladonna?

All clinical experience of the action of narcotics is valuable and worthy of record; the more so because the action of drugs of this class upon inferior animals differs so much in degree, and also in kind, from that upon the human subject, that no certain or reliable conclusions can be derived from our experiments on animals to guide us in the treatment of our human patients.

ON THE VARIED USES OF TURPENTINE.

By F. R. HOGG, M.D.,
Surgeon-Major, Army Medical Department.

In the reign of Charles II., a Plymouth practitioner praised the varied virtues of the oil of turpentine—the best, if not the only, styptic in the time of John Hunter. To-day, valuable in hæmorrhage from the nose, lungs, bladder, uterus, kidney, stomach, skin, or bowel; anthelmintic, diuretic, diaphoretic, stimulant, rubefacient, counter-irritant, sedative,—this remedy (passing rapidly into the blood, and easily detected in the breath, sweat, or urine) is, unfortunately, extremely unpalatable unless combined with creasote, rosemary, or oil of almonds; may induce nausea, perhaps cause cerebral irritation when given in excess, or even strangury. Fatal cases are rare. A child, aged eighteen months, recovered after swallowing a tablespoonful, the alarming symptoms including stertorous breathing, insensibility, contracted pupil, weak rapid pulse, cold skin, pale face, relaxed muscles, convulsions. When the pulse is full, the skin hot, the strength vigorous, it is expedient to give turpentine. Dr. Richardson, who has not found time yet to extend his valuable researches into the therapeutic action, states, in a paper on embalming, that Mrs. Van Butchell, injected with oils of lavender, rosemary, and turpentine a hundred years ago, appears well preserved at present. Troublesome insects dislike the smell, whilst, on the other hand, lucifer-

(c) See *Medical Times and Gazette*, 1872, vol. ii., p. 342.

match makers, by wearing little smelling-bottles of turpentine around their necks, imagine immunity from phosphorus poisoning. Cholera, it is said, avoids the pine forests of Norway and Sweden, whilst Scotch firs are antagonistic to diphtheria, and in other parts of the world to whooping-cough, hay fever, and phthisis. In North Carolina, according to Dr. Wood, the resiniferous products of the pines are regarded as prophylactic neutralisers of miasma by the inhabitants, who in malarious months fly to the forests; and when quinine ran short the local application of turpentine somehow relieved the paroxysms of ague. In consequence of the American war, six turpentine distilleries were closed from 1861 to 1870, when virulent yellow fever appeared, and, in full confidence of safety, the people burnt barrels of resin day and night. Yellow fever, ague, cholera, malaria being regarded by many as one family, it is very easy to suggest the planting of fir trees in the plains of India; only, unfortunately, the secret is not yet discovered to get them to grow. At the elevated places where firs and cedars flourish, the inhabitants escape not sickness, yet marvellously recover in places where the water-supply and drainage have encouraged enteric fever. In ships, with tar in abundance, sickness is not averted, yet in hospitals and latrines the frequent tarring of beams, joists, spittoons, may prevent the inhalation of the poison of dysentery, scarlet fever, whooping-cough, if not other diseases.

No one disputing the immense value of turpentine fomentations and enemata, the administration by the mouth or conveyance into the blood by inhalation or hypodermically would appear worthy of more extensive trial—for instance, in the commencement of malarial fevers, as adopted by Dr. Jessop. Personally, a few cases have been thus treated with advantage; also about fifty instances of diarrhœa received turpentine a drachm combined with castor oil, followed occasionally by half a drachm of ipecacuanha, with satisfactory results; and about twelve years ago several cases of iritis turned out so well under turpentine treatment, that one is constrained to sing the praises of this old-fashioned remedy. Very possibly there are numerous articles written on the subject scattered about, but very few books or references are at the present time accessible excepting the *Medical Times and Gazette* and certain manuals; quite sufficient, however, to testify to the efficacy of turpentine locally in pleurisy, pleurodynia, phlegmasia dolens, peritonitis, sciatica, burns, scalds, ulcers, maggots, idiopathic erysipelas. By the rectum, so useful in apoplexy, worms, hæmorrhage, tympanites; also per vaginam, may relieve cancerous growths, check hæmorrhage, and has been accused of causing amenorrhœa. By the mouth it will relieve constipation with tympany, and, strangely enough, will check diarrhœa with tympany. Tilt found it useful in abortion; yet Barnes is not enthusiastic in praising this hæmostatic; nor does Moore recommend this anthelmintic in India, where abdominal determination becomes so readily excited; nor in gonorrhœa, cystitis, leucorrhœa, or to prevent the formation of gall-stones, would many advocate its use, one would think. Yet, valuable in collapse after measles—clearing the child's choked-up bronchi,—in various secondary affections of the lungs, and in desperate fever cases, three-drachm doses in whisky-punch have saved many lives—thanks to Graves and Stokes. Praised in epilepsy, in acute affections of the tympanum, in convulsions of children when depending on worms. In country districts, according to Cobbold, it is the most popular remedy for tapeworm, which no treatment cures unless the practitioner knows and expels the head. Recommended in drachm doses every three hours in jaundice from excessive secretion of bile, the nausea combated by blistering the stomach or a hypodermic injection of morphia; also as sedative, styptic, and antiseptic in yellow fever. In my experience, uterine hæmorrhage, when once the child is expelled, has been seldom fatal, nor menorrhagia very intractable until lately, when every medicine excepting turpentine failed to relieve the latter condition, every drop of blood apparently draining out of the body. In 1814, Brennan, with great success, gave table-spoonful doses in puerperal fever; so have many other distinguished practitioners—for instance, Copeman of Norwich records ten good cases, one aged forty, the fever depending on adherent placenta, hæmorrhage, and the retention of putrid chorion. On the other hand, many other practitioners—for instance, Churchill—entertain different views, and consider the nausea of the drug intolerable. The same observation applies to ipecacuanha, which, in dysentery, some patients in perilous jeopardy even flatly refuse to take. Savory and Moore would help us very much by making medicines more palatable, less nauseous. Whilst atonic ulcers and vicarious menstruation may be relieved, certain eruptions—urticaria, eczema, psoriasis—may be provoked by turpentine, which in bronchitis, intestinal hæmorrhage, and tympanites appears commended by Murchison. Dr. Budd, of Bristol, prescribed twenty minims every six hours to a poverty-stricken purpuric widow of sixty-five; the bleeding from all points, the dark purple spots, subsiding in seven days. Dr. Hillier gave two girls enemata as well as drachm doses with great benefit. Dr. Richardson suggests small quantities in glycerine or alcohol combined with iron, or else in capsule, as absolutely specific in particular types of purpura. In the interesting cases of intermittent hæmaturia related by Dr. Druitt in this journal, the fir-wood oil rubbed over the body greatly relieved the kidneys when in pain. Last year, at Simla, an officer, over thirty, was attended by Surgeon-Major Kidd, and for a short time by me, at the commencement of enteric fever. His long, dangerous illness diverted into purpuric hæmaturia, which, by all accounts, was beneficially treated by turpentine.

Enough has now been said in praise. The question remains unanswered regarding the efficacy of the remedy in malarial fevers, which are on the increase in certain localities—some say owing to canals, to the difficulty of combining drainage with irrigation, also to the rise of subsoil water, the increase of phthisis at Bombay is attributed. Fevers, some say, turn intermittent, remittent, continued enteric, typho-malarial, according to season, meteorological conditions, intensity of type, or the medical history of the individual affected. It makes very little difference whether enteric be endemic or introduced in poisoned air or water; when one case occurs the foci of disease go on enlarging, especially in localities where drainage is defective. Conversely, drainage, air, and water may all be bad in hot places, yet no enteric. Ague running on from August to March, sparing no one; the type, irregular, appears influenced by age, complexion, habits, nationality, and previous sickness—specially syphilis, scarlet or rheumatic fever. Between remittent and enteric some draw differences; others contend they are one disease endemic in India, specially affecting the young, and more noticeable since the change of reliefs after the Mutiny. Also the post-mortem examinations, now so carefully made, go to prove that the native suffers from enteric, as well as horses and cattle. It would appear next to impossible to prevent the native pollution of wells, or to keep out dust, *débris*, or the filth of birds and insects. Drainage and removal from malarious localities not being always practicable, it is curious that no medicine excepting quinine appears of special value in the battle with paludal fevers. Opium, iron, arsenic, calomel, candle-snuff, cobwebs, camphor, brandy, beberin, strychnine, salicine, nicotine, ilicin, charcoal, tea, eucalyptus globulus, the blue gum of Australia, carbolic acid, liniments of opium, belladonna, turpentine, diaphoretics, diuretics, podophyllin, jalap, castor oil, nitrate of potash, tartar emetic,—are all very useful in their way; whilst leeches to the splitting head will alone relieve agony when blisters, liniments, cold applications fail. Never forgetting that ugly ulcers and fatal tetanus have occasionally supervened, still, in my limited experience, five grains of the neutral sulphate of quinine dissolved in twenty minims of warm water injected below the scapula (the needle clean, the solution recent) may break the periodicity, and lengthen the interval, if not drive away the fever altogether. One injection only until the next attack, taking care to give depurative remedies also. The saving in quinine represents a large sum of money, but hypodermic syringes too easily, too frequently get out of order, and cannot be locally repaired. Ulcers in August or September, easily provoked, heal very slowly until November; whilst tetanus possibly may happen when the nights are very cold, the days hot, and the injected patient saturated with syphilis. A good helmet protecting neck and temples, suitable clothing and bedding, the avoidance of chill, fatigue, excesses, exposure,—all help to avert fever. In the way of treatment, very anxious to give turpentine a fair trial, I hope to have the pleasure and privilege of recording results in a few months in this journal.

Upper India.

Académie de Médecine.—On the 6th inst., M. Maurice Perrin was elected into the section of Surgical Pathology by the votes of fifty-seven of the seventy-nine members who were present.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

KING'S COLLEGE HOSPITAL.

CASE OF CYNANCHE PAROTIDEA WITH METASTASIS.

(Under the care of Dr. BEALE.)

For the following notes we are indebted to Mr. George Batterbury, Medical Registrar:—

R. H., aged nineteen, copying clerk, was admitted as an in-patient, under the care of Dr. Beale, on January 3, 1875, suffering from pain and swelling of the testicles. Patient states that he has been "delicate" all his life. The present attack began three weeks before admission, with severe headache and sensation of coldness, but he did not shiver. On December 22, a week after the headache began, swelling of the face—in the parotid region—came on. He first noticed the swelling on the right side, but the left very speedily became similarly affected. On December 29 the swelling of the face entirely disappeared. The next day he noticed a slight swelling in the right groin, and at the same time he felt pain of the right testicle, which also began to swell. A day or two after, the left testicle also became painful and swollen.

On admission, patient complained of pain in the back and both testicles. There was considerable swelling of the left testicle, but scarcely any of the right. Suffers severe headache; bowels constipated; tongue coated with thick fur, brown in centre. Urine contains a trace of albumen. Temperature at night 105°.

January 4.—Temperature this morning 103°; pulse 100. In other respects same as when admitted.

7th.—Headache and swelling of testicles continues unaltered. Ordered: ℞. Liq. ammoniæ acetatis ʒiij., sp. ammon. arom. ℥xx., potass nitr. gr. v., aquæ ʒj.—m., ft. haustus ter die s.; ℞. Hyd. cretâ gr. iv., pil. col. co. gr. vj., pulv. capsici gr. j., ext. hyoscy. gr. j., in pil. ij. h. s. s.

8th.—Headache much relieved, and decidedly less swelling of left testicle since the action of the pills. Temperature 97·6°; pulse 72. Urine free from albumen.

From this date the patient gradually improved, and was discharged cured on January 23.

CASE OF RHEUMATOID ARTHRITIS—RELIEVED BY HOT ALKALINE BATHS.

(Under the care of Dr. BEALE.)

For the following notes we are indebted to Mr. George Batterbury, Medical Registrar:—

J. H., a horsekeeper, aged fifty years, was admitted to King's College Hospital, under the care of Dr. Beale, on February 10, 1875, suffering from pains and swelling of various joints. Patient states that previous to present attack he has always been a healthy and temperate man. Has never had syphilis. Has been much exposed to cold and wet. Four months ago he was attacked with pain and swelling of the right ankle-joint. Three or four weeks after, he felt pain of the right knee, then in the right hip-joint, and afterwards in the right shoulder-, elbow-, and wrist-joints successively. Then followed pain in the joints of the left side in the reverse order. Three months ago he had several attacks of shivering, and was obliged to take to his bed. Has had no sweating. Has been losing flesh and getting very weak since onset of illness. On admission, both wrist-joints were found to be much swollen, and the hands abducted; second and third metacarpo-phalangeal joints much thickened; both ankles painful on pressure; and there was slight œdema of the feet; well-marked arcus senilis, and the arteries generally atheromatous. Pulse 68; temperature 98°. Cardiac sounds normal; area of cardiac dulness somewhat lessened. Slightly prolonged expiration; occasional moist sounds at bases of both lungs. Urine acid, specific gravity 1020; no albumen or sugar. To take liq. ammoniæ acet. ʒ ij., sp. ammon. arom. ʒ ss., in an ounce of water three times a day.

February 12th.—Pain of joints remains unaltered. Complains this morning of pain in both temporo-maxillary articulations. To add potassii iodidi gr. iv. to each draught.

19th.—The affected joints remain in the same condition as when admitted. Ordered a hot bath rendered alkaline with soda daily.

23rd.—Patient has had three baths; says that he feels much better. To continue baths.

The patient rapidly improved under the alkaline bath treatment; he lost the pain and swelling of the joints, and recovered their use in a great measure, although some thickening and stiffness remained when he was discharged from the hospital on March 7.

CASE OF CALCULUS DUE TO FOREIGN BODY IN THE BLADDER.

(Under the care of Sir WILLIAM FERGUSSON.)

For the notes of the following case we are indebted to Mr A. B. Barrow, Surgical Registrar:—

S. M., aged twenty-three years, housemaid, was admitted as an in-patient, under the care of Sir William Fergusson, on December 29, 1874, suffering from frequent and painful micturition.

The patient either could not or would not give a clear account of the origin of her present illness; but, after some questioning, she confessed to having, about two months before admission, introduced a hair-pin through the urethra into the bladder, and said that she afterwards experienced pain on passing water, and that the urine flows less freely, and is occasionally mixed with blood.

January 7.—To-day chloroform was administered, and the presence of a calculus in the bladder determined by introducing a sound.

16th.—Patient having been again anæsthetised, Sir William Fergusson made an incision through the urethra on the left side, so as to allow the introduction of his finger. Feeling the point of the hair-pin, he introduced a pair of sequestrum-forceps, and succeeded in extracting it. By further manipulation with a scoop and a small pair of lithotomy-forceps, he succeeded in extracting, piece by piece, a phosphatic stone, which had evidently formed around the hair-pin, as it was marked with a corresponding impression. Temperature after the operation 101°; pulse 140.

17th.—Passed several large clots of blood last night. Passes water voluntarily; no incontinence; urine thick and bloody. Temperature 102°; pulse 132.

18th.—Urine still thick; no incontinence, and very little pain on micturition. Temperature 98·4°; pulse 86.

26th.—Urine perfectly clear, passed voluntarily and not too frequently.

February 3.—Discharged. Incision quite healed.

CASES OF PAPILLOMA OF THE TONGUE.

There is no doubt that the terms "papilloma" and "papillary tumour" are given to several very dissimilar morbid conditions,—conditions dissimilar not only on account of the different characters of the structures on which they are formed, such, for instance, as warts and condylomata of the skin, the papillary growths of mucous membranes, and of serous and synovial membranes; but dissimilar in their clinical and pathological nature. For instance, they have been applied alike to tumours which are occasioned by the overgrowth of normal papillæ, and to formations entirely new to the part in which they occur. It has been proposed, too, to designate by the term papilloma that morbid condition of the tongue which is now pretty generally named ichthyosis, in which there is an overgrowth of the epithelial and sub-epithelial structures of a large area of the tongue, involving the papillæ (but not them alone), and in which the papillæ are not aggregated into a tumour, nor are all the component parts of their structure hypertrophied. Thirdly, these names have been applied to those warty growths, with a tendency to ulcerate, which occur on scars of the extremities and on the lower lip and tongue, and which are very like to, and have even been mistaken for, epithelial cancers. Growths of this kind, when occurring in the skin, have been called by the Germans "destructive papillary tumours." Finally, some epithelial cancers have been styled malignant papillomata, or papillary cancers.

The following case under Mr. Marshall (for notes of which we are indebted to Mr. Godlee, M.S., the Surgical Registrar of University College Hospital) is a typical instance of papilloma of the simple non-malignant kind. Occurring upon a

surface normally covered by a large number of papillæ, it had existed, painless, for many years, without giving rise to lymph-gland enlargement; it grew slowly, and showed no tendency to become ulcerated. It is not unlike, in its clinical history and histology, a case recently exhibitedat the Pathological Society by Mr. Wagstaffe. It also presents characters allied to those described by Mr. Salter, and reported by him in the *Guy's Reports* for 1866, as found in two cases of papillary tumours of the gum.

In all, the essential structure was overgrown papillæ. In Mr. Salter's cases, however, the base of the mass consisted of fibrous tissue (and in one of a small piece of bone as well), while in Mr. Marshall's case the base was made up of muscle; yet this difference is no more than would be expected from the difference of structure, lying immediately beneath the mucous membrane in the gum and in the tongue respectively. In the specimen referred to as shown at the Pathological Society, some bird's-nest arrangement of the epithelial cells was found, but this is by no means sufficient to throw doubt upon its simple papillomatous nature. Mr. Salter found "birds' nests" in some parts of the tumour removed by Sir William Fergusson, but that did not lead him to condemn it as malignant, for he says distinctly, "I do not think it was malignant," and then adds, "The fact that some of the groups of epithelium were rather bird's-nest-like is not a proof of epithelial cancer. I have often seen similar appearances from perfectly healthy gum, especially after maceration, where a cluster of epithelium, coherent together, has 'shelled' from the end of a papilla."

The essential distinction between a simple papilloma and a papillary cancer must be looked for, of course, in the position of the exuberant epithelium. If this only covers or ensheaths the papillæ, whether these are merely hypertrophied or are infiltrated with inflammatory material, the growth is simple; whereas, if the epithelial cells lie not only over, but within, the substance of the papillæ, replacing the natural structures, then we have to deal with a cancerous papilloma. The occasionally rapid recurrence of some of these simple tumours is no doubt attributable to the fact that the extirpation of the original tumour was not quite thoroughly effected.

UNIVERSITY COLLEGE HOSPITAL.

Case 1.—*Papilloma of Tongue—Removal—Relieved.*

(Under the care of Mr. MARSHALL.)

Henry I., aged twenty-one, carpenter, admitted October 23, 1874. *Family History:* Father dead; mother living; five sisters and three brothers living and healthy; one died of consumption. *Previous Health:* Patient suffers from rheumatism in the left knee. Has had quinsy three times; last attack six weeks ago. Sore throat rather frequent. Gonorrhœa twice—first time two years ago, the other six months ago; the latter lasted three months. No history of syphilis. *Present Illness:* About eight or nine years ago patient noticed that he had a swelling as large as a pea on the dorsum of the tongue on left side. There was no pain or tenderness, and it grew very gradually till it reached its present size. Can give no reason for its appearance. About a week ago patient had a sore throat, and noticed that there was a pain of a dull aching character in the tongue. This disappeared in three days, and he has had nothing of it since. Patient is an anæmic, undergrown man, and weakly-looking. The tongue is covered with deep fissures; the edges are serrated with the marks of the teeth. There are, however, no dyspeptic symptoms. On the dorsum, about the middle of the tongue on the left half, and extending from the raphe to within a quarter of an inch of the outer edge, is a growth about the size of a large almond. It is attached by a pedicle to the tongue-structure, so that the edges slightly overlap, and a probe can be passed beneath them. It is slightly firmer in structure than, and has the same appearance as the neighbouring tissues of the tongue, but the papillæ are much hypertrophied, and the surface is cracked and fissured.

October 28.—Temperature 98°; pulse 72. Yesterday afternoon patient was put under chloroform, and the tongue being drawn out by means of a pair of forceps, the growth was excised by means of two elliptical incisions. (The tumour turned out to be principally made up of muscle, but covered with a layer of very overgrown papillæ.) There was some troublesome bleeding, so that four vessels were ligatured. Despite this there was considerable oozing, so that perchloride of iron was freely applied, and afterwards some dry lint. Condy's fluid to wash out tongue and mouth with. ℞. Hyd. subchlor. gr. v. statim. To-day patient feels pretty well. He passed a good night. No headache, rigors, or nausea. Tongue quiet, but rather painful.

29th.—Patient did not pass a very good night. Slight headache. Temperature 98·6°; pulse 96. Tongue not so painful.

31st.—Temperature 98·6°; pulse 84. There was some slight hæmorrhage from the tongue yesterday, which was stopped by the application of dry lint. Patient also had a headache and feeling of nausea, but is however better to-day. Wound granulating.

November 2.—Pulse 80. Patient is doing well. The tongue is less furred around the edges, and the wound is contracting to a linear shape.

3rd.—Patient went out to-day.

The following is a case of small papilloma of the tongue, having origin in hypertrophy of the normal papillæ of the tongue. Its chief interest lies in its great vascularity and tendency to bleed, and also in its having been mistaken for a small cancer.

MIDDLESEX HOSPITAL.

Case 2.—*Papillary Tumour on Dorsum of Tongue.*

(Under the care of Mr. MORRIS.)

Maria J., aged fifty, applied at the cancer out-patient department of the Middlesex Hospital on February 29, 1872. She had enjoyed good health; her catamenia had ceased; there was no history of cancer in her family. Three or four months before Christmas last she noticed a small red pimple, the size of a pin's head, near the apex of the tongue, on the right side of the dorsum. In the middle of December it was more prominent, and the size of a pea: on the day before Christmas it bled fiercely and to a dangerous degree while she was taking food. It has been increasing since. She is in great alarm, having been told she is suffering from cancer of the tongue.

Present Condition.—There is now an upstanding papillary growth of the size, and very much of the shape, of a large incisor tooth on the dorsum of the tongue, near the apex, to the right of the median line. It is of a florid red colour, like the intestinal mucous membrane. It has a considerable tendency to bleed when touched. It is quite superficially attached, being unconnected with the muscular structure of the tongue. There is no hardness about its base. It interferes with speech, but not with eating.

With a pair of curved scissors, Mr. Morris snipped away the growth, and with it a little of the surrounding and underlying tissues, and applied nitrate of silver to the raw surface. A little bleeding occurred, which was soon checked by iced water. She called a few days afterwards at the Hospital to show herself. The tongue had then quite cicatrised.

GUY'S HOSPITAL.

Case 3.—*Epithelioma of Tongue—Removal with Galvanic Cautery—Rapid Recurrence—Actual Cautery—Relieved.*

(Under the care of Mr. BIRKETT.)

[From notes by Mr. R. STEELE, Ward Clerk.]

James R., aged fifty-five, a commission agent, was admitted November 25, 1874. Patient is a widower, with eight children living. No serious previous illness. Thirty-five years ago, he fractured his right femur, and has now slight shortening of the leg; and thirty years back, eruptions appeared on his head, which continued till six weeks ago. He had attended as an out-patient under Mr. Howse, who says that this eruption was syphilitic, and consisted of tubercular nodules infiltrating all the tissues of the scalp. Almost immediately after these disappeared his tongue became sore, and he noticed pimples on it. These were painful, and grew large, discharging now and then.

On admission the patient's tongue is white and smooth. There is an oval-shaped swelling on the right side close to the tip, about an inch and a quarter in length by three-quarters of an inch in width, raised above the level of the mucous membrane, and infiltrating the tissue of the tongue. Its edges are thickened and everted, and the surface ulcerated. The patient cannot speak distinctly, on account of his mouth being constantly full of saliva. Gums much swollen; cannot masticate his food. Glands below lower jaw swollen, especially on the right side.

28th.—Does not feel well to-day. Mouth continually full of saliva. Tongue white and furred.

December 1.—Chloroform given. The tongue was pulled forwards with forceps; pins were passed transversely under the

base of the growth, which was then surrounded and removed by the galvanic cautery écraseur. A little hæmorrhage followed, which was arrested by the cautery.

3rd.—Feels comfortable. Growth under microscope showed appearances characteristic of epithelioma.

8th.—Great difficulty in swallowing all day yesterday, and trouble about breathing. At night several very severe attacks of spasmodic dyspnœa. Fomentations applied, with some relief. Food passes into his larynx. There is now a good deal of fulness on both sides of neck, and tenderness. Breathing moderately well. Pulse 100: temperature 100·8°.

14th.—Throat still sore. Tongue much better. Gums not so much swollen. The patient is not so much troubled with salivation, and feels in himself much better.

15th.—Bowels rather confined; otherwise the patient is progressing favourably.

22nd.—Tongue now nearly healed. Can swallow well. About centre of cicatrix, however, there is a good deal of induration, and infiltration of deeper tissue, as though the growth was recurring.

January 2, 1875.—There is a small granulating surface near centre of cicatrix. No doubt return of growth, infiltrating tissues of tongue.

5th.—Actual cautery applied to the growth, which was thoroughly destroyed.

14th.—Showed himself. Tongue quite healed. Cicatrix rather indurated.

We understand that the galvanic cautery is the instrument almost invariably employed by several of the surgeons of this hospital for removal of parts of the tongue.

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Medical Times and Gazette.

SATURDAY, APRIL 17, 1875.

THE PUBLIC HEALTH BILL, 1875.

The third Bill in the sanitary programme of the Government is "A Bill for Consolidating and Amending the Acts relating to Public Health in England." The effect of the measure if carried will be to sweep away twenty-five out of the sixty sanitary Acts (or Acts which it is necessary for sanitary authorities to consult) at present in force. The "Public Health Act, 1858," "Public Health Act, 1859," "Public Improvements Act, 1860," "Recreation Grounds Act, 1859," "Gardens in Towns Act, 1863," "Bakehouse Regulation Act, 1863," "Local Government Board Act, 1871," remain unrepealed; although, from the comprehensive character of the title of the Bill, we might be led to expect that it would have absorbed all that was essential in the Acts alluded to, without increasing materially the 11 parts, 54 subdivisions, and 333 clauses, besides schedules, of which the Bill consists. The Bill has evidently been very carefully considered, and, although it can only in strictness be looked upon as a revised and amended edition of the Public Health Act of 1872 (combined with some re-enactments), it is certainly a decided improvement on that measure, and an advance in the right direction, however slow and measured the step may be. In the third part of the Bill (containing the sanitary provisions), there are some important improvements. The management of all existing and future sewers is vested in the local authority—a change which was absolutely necessary for their proper control and supervision.

Clause 50 is one of great practical importance, as it gives general powers to the local authorities for supplying their district with water. At present the local authorities have no power to compete with any water company or waterworks able and willing to supply water to their respective districts. But after the passing of this Act "any urban authority may provide their district, or any part thereof, and any rural authority may provide their district, or any contributory place therein, with a supply of water proper and sufficient for public and private purpose, and for those purposes or any of them may—1. Construct and maintain waterworks, dig wells, and do any other necessary acts; 2. Take on lease or hire any waterworks, and purchase any waterwerks or any water, or right to take or convey water, either within or without their district, and any rights, powers, and privileges of any water company; 3. Contract with any person for the supply of water."

By Clause 56 the local authority supplying their own district may, with the sanction of the Local Government Board, supply the adjoining district. Clause 57 is another important sanitary provision. "Where, on report of the surveyor of a local authority, it appears to such authority that any house within their district is without a proper supply of water, and that such a supply of water can be furnished thereto at a rate not exceeding twopence a week, or such other rate as the Local Government Board may, on the application of the local authority, determine under all the circumstances of the case to be reasonable, the local authority shall give notice in writing to the owner, requiring him within a time specified to obtain such supply and do all such works as may be necessary for that purpose. If such notice is not complied with within the time specified, the local authority may do such works, and obtain such supply, and make and levy water-rates on the premises as if the owner or occupier of the premises had demanded a supply of water and was willing to pay water-rates for the same; and the expenses incurred may be recovered in a summary manner from the owner of the premises." The disposal of sewage is left untouched; and, in the present condition of knowledge on the subject, this is not surprising. Notwithstanding the efforts of sewage committees and their reports, little can be relied upon except the fact that sewage irrigation, under certain conditions and in favourable localities, has proved successful to a considerable extent.

The 62nd Section is a re-enactment of the clauses in the Nuisances Removal Act, 1855, and the Public Health Act, 1848, with the addition that the penalties for fouling water by gas manufactories may be recovered by the local authority in case the person whose water is fouled should omit to take proceedings. The power given to a local authority to remedy a nuisance arising in an adjacent district is also a novelty, and is a power that was urgently required. The nuisance must be perceptible in the district of the local authority taking the initiative, and

the proceedings must be taken in the district where the nuisance arises. It is also proposed to give the Local Government Board power to appoint medical officers of health for certain districts. "Where it appears to the Local Government Board, on any representation made to it, that the appointment of a medical officer of health for two or more districts situated in the same county would diminish expense or otherwise be for the advantage of such districts, the Local Government Board may by order unite such districts for the purpose of appointing a medical officer of health, and may make regulations as to the mode of his appointment and removal by representatives of the authorities of the constituent districts, and the proportion in which the expenses of the appointment and of the salary and expenses of such officer are to be borne by such authorities; and there may be assigned by the Local Government Board to the district medical officer of any union comprising or coincident with any constituent districts, such duties in rendering local assistance to the medical officer of health appointed for such constituent districts as the said Board may think fit; and such district medical officer shall receive, in respect of any duties so assigned to him, such additional remuneration as the local authority may, with the approval of the Local Government Board, determine."

We have now noticed some of the most salient sanitary features of the new Bill, and, as we believe that even a few instalments of pressing sanitary requirements are better than stagnation, we must be thankful for what we receive this time, and hope to get more hereafter. The measure before us is progressive, and in that respect is in direct contrast to the first sanitary Bill of the session, the retrogressive nature of which we have pointed out in terms which the occasion fully merited. It is quite clear that the authorities of the Local Government Board, to judge from their present Bill, have much more experience in general sanitary legislation than they have in the nature of food and drugs. The new Public Health Bill is about to be read a second time, and we feel confident that it will not encounter the determined opposition which appears to obstruct the progress of its predecessor.

THE REGISTRAR-GENERAL'S ANNUAL SUMMARY.

Few public documents are of greater interest and import to the sanitarian, the political economist, and the true statesman than the Annual Summary of Births, Deaths, and Causes of Death in London and other large cities," published by the Registrar-General; and the summary for the year 1874 is, as usual, full of instructive, and is by no means wanting in encouraging, information. One or two points in it are especially worthy of note. First, the proof that the rate of mortality for London for the whole year was only 22·5 per 1000, though it was high throughout December, and during two weeks in that month reached 35 and 37 per 1000; and the fact that during the last three years there has been a marked reduction in the rate of mortality. For the ten years 1840-49 the rate was 25·2 per 1000, for the thirty-five years 1840-74 it was 24·2, and for the last three years (1872-74) only 22·2. This reduction in the mortality of 3 per 1000 implies, the Registrar-General observes, "a diminution of 10,000 deaths a year, and of the constant sufferings of double that number, on an average, of sick people." The annual death-rate of 22·5, in London, was 2·9 lower than the average of the twenty-one large towns which are grouped together for registration purposes. Another very interesting part of the summary is taken up with showing how London is now self-sufficing; how it not only sustains its own numbers, but supplies an annual surplus equal to the population of a large city. In the year 1841 the increase of population in London was 36,000, while the excess of births over deaths was only 12,000, so that 24,000 of the increase must have been from immigration; in 1851 the increase was 44,000, and the excess of registered births over deaths 23,000, leaving 21,000 to be supplied from without; in 1861 the difference between the increase of population and the excess of births over deaths had decreased to 13,000; but in 1874 the increase of population was more than provided for by the excess of births over deaths, the estimated increase of numbers being 44,544, while the excess of births over deaths was 44,788. This is, as the Registrar-General observes, "a remarkable result" of his inquiries, and it furnishes a reply to objections which have lately been made to the deductions usually drawn from death-rates, which deductions have been declared to be made fallacious by the movements of the population. "The notion," the Registrar-General remarks, "that the metropolis is a 'drain' on the population of the country, or that like a great monster it devours its children, emerges at intervals, and even quite recently it has been asserted that London should be credited with all the deaths and births in the country, of whom the immigrants into London are the survivors." He remarks that it is true that "in London 1,198,684 persons in the year 1871 were enumerated as born elsewhere, of whom 976,665 were of the age of twenty and upwards." But, he tells us, "in the same year, without going out of England, 436,364 London-born children were enumerated in the country divisions, to whom large numbers in favour of London should be added, resident in the rest of the United Kingdom, in the colonies, and in other parts of the world." What actually takes place is a free influx into London of people born in the country, and an efflux into the country of people born in London; and London can sustain its present increase by native births.

The Registrar-General takes the opportunity to point to the rate of increase of children in London that attain the school-age of three years. Of each hundred children born in London, rather more than 72 attain this age; of the children born in 1871, 81,242 attained the school-age in 1874; while of the 121,394 born in 1874, about 87,574 will attain the school-age in 1877. This, he well observes, "shows the importance of providing adequate means for their education, including schools and playgrounds, for the athletic is only second to the moral training in importance." School boards and sanitarians have to remember that they have not only to endeavour to meet present wants, but also to provide for ever-increasing demands.

THE BIRMINGHAM MEDICAL INSTITUTE AND HOMŒOPATHY.

For some time past it is well known that there has been a warm discussion going on in Birmingham respecting the admission or non-admission of what are called homœopathic practitioners to the newly-formed "Birmingham Medical Institute." From the report of the proceedings of the first annual meeting of the Institute, held last week, it would appear that a Committee of the Institute had been formed to inquire and report on the subject. The Committee say they "have to report that at a general and public meeting of the medical profession, called by circular, and held at the Midland Institute on Thursday, February 4, 1875, it was determined that it was desirable to establish an Election Committee, and such a Committee was appointed, under the advice of their solicitor, to elect the first list of members. That Committee accordingly elected sixty-one members, and 120 more members have been since elected by the whole body of members at a general meeting held on March 24. At the last-mentioned meeting a Committee was elected for the purpose of forming a code of by-laws. This Committee have met twice, and will present a report as soon as their labours are completed, but at the present meeting are in a position to report some progress. In concluding their report, the Committee have to draw attention to a matter personal to themselves. Strictures have

been made upon the fairness and honesty with which your Committee, nominated by the articles of association, have conducted your business in the initiatory stages of the Institute, and especially with regard to the election of members. Your Committee take this, the earliest suitable opportunity, to repudiate the justice of these allegations, and they confidently expect that, after a fair and full discussion, you will express your approval of their conduct, and your conviction of their fairness and honesty." The annual meeting was largely and influentially attended, and Mr. Alfred Baker, in a speech of considerable ability, and spoken with good feeling and propriety, moved the reception and adoption of the report of the Committee. He contended that if gentlemen were duly qualified they were entitled to become members of the Institute, though they might differ to a considerable extent in the theory and practice of the profession. The Institute must not be founded on narrow principles. Mr. Baker defended the Committee from all charges, either of want of honesty or honour. The motion was seconded by Mr. Clarkson, who, in seconding the resolution, said he felt that the only way in which the Institute could be founded was to make it thoroughly free, open, and unrestricted. They who professed to be the disciples, students, and searchers after truth, and yet shut the portals of inquiry upon those who did not agree with them upon speculative matters, would make themselves the high priests of bigotry and intolerance. He thought that the characters of the gentlemen who formed the Committee were like that of Cæsar's wife—above suspicion. Mr. Oliver Pemberton moved an amendment, and Mr. Archer seconded it, to the effect that "this meeting regrets that the original Committee of the Birmingham Medical Institute did not call a special meeting of the profession before having accepted donations from professed homœopathic practitioners, thereby permitting the Committee only to decide so grave a question." Mr. Pemberton had always been of the same opinion on the subject of the admission of homœopaths to the Institute, and, indeed, with respect to homœopathy in general. He had not changed his opinion, and did not mean to do so. He fully acquitted the Committee of any dishonest or dishonourable conduct, but he had a strong conviction that they had made a very grave and serious mistake. Dr. Heslop addressed the meeting at some length in support of the original motion, and said that he *had* changed *his* opinions. So long as his opinion was influenced by the prejudices of his teachers he was opposed to homœopathy as violently as was Mr. Pemberton. Grey hairs and experience had, however, taught him to view the subject in a more dispassionate light. It was true he could not meet those gentlemen who practised homœopathy in the treatment of a case, inasmuch as they had one opinion in the main, and he had another—at any rate, as he at present viewed the matter. But that was no reason why he should show the slightest intolerance to men as competent as he was, who might turn out to be more true than he was, and who were certainly as honest as he was. Under those circumstances, he asked the meeting with confidence to brush from their minds all those trumpery disputes. He asked them to tolerate those gentlemen, whether they agreed with them or not; to say that day that that Institute should be open to those gentlemen in spite of their differences of opinion. He asked them to add another page to the history of toleration, another record to the already honourable records of this famous town. He besought them to be true—not to the worst, but to the best traditions of their honourable calling. After some further discussion, the original motion was carried by 64 to 35. The mode of settling this dispute may perhaps be best left to the body concerned. Every man is at liberty to choose his own company, and it is not often that any society or group of men associating themselves together for any special purpose long remain so associated when separated by such differences of opinion. We confess we have much sympathy with Mr. Oliver Pemberton and the 436 members of the profession in and around Birmingham who agree with him in thinking that "professed homœopathists, so long as they assume a mode of practice and maintain a name calculated to mark them from the general body of the profession," should not be admitted as members of the Institute; and we especially sympathise with him on one point raised as to the value of the qualifications possessed by homœopaths,—but in such a case it is not the value of the qualification itself alone which decides the case. It is all very well to say that they are qualified as we are. Not so; we must look at the mode of obtaining this qualification. There are men who say they have been converted to homœopathy after obtaining their degree. Very good. But there are also men who, having embraced homœopathy, have spent years in pretending they had not, made themselves noteable for their outrageous allopathy, and finally obtained their degree by giving to their examiners answers which must have been lies to their own consciences. These are hardly men to be allowed to associate on any terms with a gentleman. There are others we know who, not knowing or caring for homœopathy, have been seduced into it for a bit of bread, but of such we do not desire to speak.

THE DRAMA IN LUNACY TREATMENT.

Ever since the beneficial change was introduced by which the insane came to be regarded as possessed of feelings which it was not necessary to outrage, and sympathies which could be touched by the same agencies as acted upon those of the sane, the drama has to a greater or less extent been called into exercise as a means of dissipating painful self-consciousness, of rousing dementia into intelligent perception, and of relieving the tedium of prolonged confinement in lunatic asylums.

Only those who are directly concerned in the management of the insane can fully comprehend how important an agent the drama is in the treatment of many of the victims of mental aberration. The zest with which insane patients enter into the enjoyment of dramatic performances is in itself a sign that a powerful mental stimulation accompanies each representation. The eager anticipation with which large bodies of them look forward to the promised pleasure, and the length of time subsequent to each piece of acting during which the minds of many of them are engrossed in the reminiscence of striking stage effects, show that in the drama medical superintendents have a means of substituting, in many cases, a healthy hope or a pleasant retrospection for the melancholic depression, the harrowing delusions, and the multiplicity of vexatious mental states which characterise the inmates of asylums. Not only so, but the interest taken by the insane in dramatic representations places in the hands of those who control them a beneficial form of restraint. It not unfrequently happens that a troublesome patient, whose excitement would only be intensified by stern measures or solitary confinement, is subdued at once by the promise of a visit to the asylum theatre, or the threat of a deprivation of that privilege. The astonishing length of time for which even the most demented people remember snatches from plays, shows that a form of entertainment which in the dawn of social development is seen to possess immense interest to those who, though sane, are rude and uncultivated, is capable also of eliciting the greatest manifestation of attention, perception, and recollection of which insane people are capable.

When such is the case, it is only natural that our large asylums should each possess an amusement hall with a fixed or movable stage from which the insane may be influenced in a manner which is both effective and pleasant. Associated also with this condition of things is the fact that all large asylums

under judicious management can raise from the members of their medical and general staff a dramatic corps whose performances rarely fall below the level of average professional acting, while, at the same time, they gain an additional interest and value by the personal sympathy which exists between the patients and the actors. Those who have at any time witnessed a dramatic performance in say a large county asylum, could not fail to have been struck with the eager interest which the patients took in all the proceedings, from the get-up of their disguised friends on the stage to the development of a complicated plot. They could not have failed to regard the stately hall, the substantial and attractive stage fittings and properties, the quiet and respectful conduct of the patients, and the well-meant efforts of the officials to entertain them, as constituting one of the finest evidences of that humane method of treatment which contrasts so brilliantly with the former system, by which solitary confinement, mechanical restraint, and culpable negligence impelled each miserable lunatic into a greater depth of degradation.

A very good illustration of these remarks is to be found in a performance which took place at the West Riding Asylum on Friday last. More than 700 insane patients listened with breathless interest to the classical drama of *Pygmalion and Galatea*, performed under circumstances most creditable to everyone concerned in its preparation and representation. Mr. W. S. Gilbert, the eminent dramatist and author of the play, himself suggested that it should be performed in the hall. Not only so, but he volunteered to take a part in the acting, and on Friday night made what was in reality his first appearance as an actor in the part of Leucippe the soldier. We believe that the only other part the dramatist ever performed was one of only a few lines given in a London theatre. But this was not the only circumstance which rendered the performance notable. The part of Galatea was performed by a well-known amateur, whom Mr. Gilbert, having seen her in other parts, had considered to be peculiarly fitted to act the fine part of the animated statue. The author of the play undertook to train the lady personally, and expended upon his pupil a prolonged attention. The result is that he has produced an actress who realises in every particular his ideal of Galatea. It is not our duty to engage in dramatic criticism, but it is right to say, in justice to both the actors and their insane hearers, that each touch of humour brought a ready echo from the latter, that the progress of the plot was intelligently followed, and that an almost painful stillness pervaded the hall when the statuesque earnestness of Galatea or the powerful declamation of Cynisca (Pygmalion's wife) touched the hearts of the audience. It was characteristic, also, that the patients by common consent should demand the reappearance of the whole company, and by a special recall should bestow on Mr. Gilbert a well-deserved round of cheers, characterised by an earnestness which, in his experience, may have been equalled but not surpassed. It was indicative also of great good feeling and gratitude that the patients should give an enthusiastic reception to Mr. Briggs, of Stanley Hall, who "put the body and the limbs of this great sport together," and afforded to the inmates of the West Riding Asylum an opportunity of hearing *Pygmalion and Galatea* played by the author and a number of eminent amateurs trained under his personal supervision, and equipped in costumes far exceeding in value the properties of the real stage, and designed by one whose name is a sufficient guarantee of taste and appropriateness—the artist Alma Tadema.

THE WEEK.

TOPICS OF THE DAY.

It will be remembered that some time ago Professor Virchow published a short pamphlet on Louise Lateau. The Royal Academy of Medicine, Berlin, has now taken the trouble to give an opinion on the subject, and, as might be expected of any scientific body, it accords with that of Virchow; it is as follows:—"Louisa Lateau works and requires heat; every Friday she loses a certain quantity of blood by her wounds. When she breathes, she exhales water-vapour and carbonic acid; her weight has not decreased since she has been observed; she therefore consumes carbon which is not furnished by her system. Where does she take this carbon from? Physiology simply replies, 'She eats.' The alleged abstinence from all food of Louise Lateau is contradictory to all physiological laws; it is therefore hardly necessary to prove that this abstinence is an invention. Whoever alleges that Louise Lateau is not subject to physiological laws, must prove it; until this is done, physiology will denote the miracle to be a deception. Could Louise Lateau be closely observed night and day by scientific men, the deception would soon come to light. It is of no use to talk of miracles, even when eleven doors are shut against deceit, as long as the twelfth is left open."

In reference to the Mercantile Hospital Service Bill now before Parliament, the Committee of Management of the London Seamen's Mutual Protection Society held a meeting on Monday, which was attended by seamen from Liverpool, Hull, and Sunderland. After a lengthy discussion on the Bill, the following resolutions were passed in its favour:—1. That this meeting is unanimously of opinion that there should be compulsory medical inspection of seamen upon each occasion of their going to sea; and that, for the purpose of carrying out such inspection and to give relief to and effect the cure of such seamen as are found temporarily unfit through disease to proceed to sea, a Mercantile Marine Hospital Service ought to be established by the Government. 2. That this meeting having considered and discussed the Mercantile Marine Hospital Service Bill introduced by Captain B. Pim and Mr. Wheelhouse, unanimously approves of the principles and provisions thereof, with the exemptions hereinafter mentioned, and is of opinion that if the Bill becomes law it will in the most effectual manner secure the objects mentioned in the first resolution. With reference, however, to Section 5 of the Bill, this meeting is of opinion that a clause should be inserted providing that all cases of accident as distinguished from disease should be eligible for admission to the hospital. A copy of these resolutions has been forwarded to Captain Pim, with a request that he bring them before the House on the next stage of the Bill.

So much attention has been directed to Dr. Halford's mode of treating snake-bites, by the injection of ammonia into the veins and the administration of various drugs, in Indian and Australian snake-poisoning, and the physiological, chemical, and microscopical nature of snake-poisoning, that a Commission was appointed in India to examine into the question. The Commission sum up the result of their investigations in the following terms:—

"Seeing, therefore, that an effective poisoning after the bite of an Australian snake is rather the exception than the rule, it would be easy to understand how any antidote or remedy might gain temporary notoriety. To sum up—1. The result of our experiments on dogs goes to show that the intravenous injection of ammonia possesses no antidotal or remedial power. 2. That the intravenous injection of ammonia, probably by promoting the absorption of the poison, rather expedites than retards the tendency to death. 3. That the Indian cobra is from six to thirteen times more poisonous than the snakes of Australia. 4. That a given quantity of the cobra poison is more powerful and more rapidly mortal than the same quantity of Australian snake poison. 5. That a large proportion of the bites of the two kinds of Australian snakes with which we experimented were, under the usual conditions, ineffective. 6. That the facts alluded to in 3, 4, and 5 are sufficient to

account for the unmerited recognition of the intravenous use of ammonia as an antidote or a mode of treatment in poisoning from Australian snakes."

Professor Halford is, according to the *Melbourne Argus*, at the request of the Medical Society, preparing a digest of his experiments on animals with the intravenous injection of ammonia, and also a classified list of the cases in which ammonia has been injected for the cure of snake-bite.

Complaints, as we have noticed, have existed for some time past with respect to the frequency of inquests in St. Pancras Workhouse. It would appear, however, that, at all events, some of these inquiries are not unnecessary. At an inquest held the other day before Dr. Hardwicke, some disagreeable facts came to light. The deceased was a woman who died in the Workhouse, according to the medical evidence, from compression of the brain, arising from the rupture of an artery caused by a fall. Dr. Hill, the resident medical officer, stated that the deceased slept in what is termed a cellar bed-room previous to her death. There were twenty women sleeping in this place, which is on the basement of the north wing, is about forty-two feet long by sixteen wide, and had been certified for fourteen occupants by the Local Government Board. Dr. Hill believed that the deceased's death was accelerated by the impure atmosphere of the ward in which she slept; and the jury, by their verdict, attributed the death primarily to this cause. It was stated that since the deceased's death the number of occupants in the ward had been reduced—a step which might with advantage have been taken before instead of after the event.

Last Monday an Army Sanitary Committee met to report on the state of these barracks, which has attracted a considerable amount of attention both in and out of Parliament during the past few months. We shall look forward with interest to the Committee's report. The drainage of the barracks has certainly been most defective—a state of affairs no doubt partly due to the low-lying position of the locality where the buildings stand. We are pleased to learn that the troops have been removed, and that the place is undergoing a thorough sanitary overhauling. The drains are being improved, and supplied with numerous ventilating shafts. One nuisance in the neighbourhood of Beggar's Bush calls for immediate abatement—namely the Swan River, which is polluted by the sewerage of a large district, and which flows by the south-eastern extremity of the barracks.

On Monday the Artisans and Labourers' Dwellings Bill was again before the House of Commons in Committee; and, as will be seen by reference to our Parliamentary report, progress was made, with considerable debate, as far as the fifteenth clause. The weak point in the Bill, to which attention was mainly directed, is the absence of any provision for compelling the completion of the full purposes of the Bill. The existence of certain evils having been proved, and all the other requirements of the Act fulfilled, it would be possible for a local authority to acquire property, to expel occupants, and to pull down houses, and then—to do nothing more. Mr. Cross is confident that municipal authorities having once begun the good work will carry it through; but to this it may be replied that the town councils are shifting and fluctuating bodies, and the town council of one year may neglect, if not actively refuse, to carry out the improvement schemes of its predecessors. There does seem to be need of some clause in the Bill to provide that the cleared land shall not be left vacant and idle, and that it shall be used in such a way as shall fulfil the requirements of the statute under which it was acquired and cleared. Mr. Fawcett's opposition to this part of the Bill is tainted and rendered useless for good by the "class-legislation" sentimental theory that has inspired his opposition to the Bill throughout

We deeply regret to announce the death of Dr. John Daniel Hill, F.R.C.S., Surgeon to the Royal Free Hospital, which took place on Wednesday last, after a few days' illness, at his residence, 17, Guilford-street, Russell-square. The cause of death was erysipelas, which was doubtless contracted by infection from some bad cases of that disease which the deceased recently had under his care in the Hospital.

We are glad to learn that the British Medical Benevolent Fund has received a donation of £100 from Charles Shrimpton, M.D., of 5, Whitehall, and formerly of Paris.

Mr. A. H. Garrod, of King's College, Cambridge, has been appointed Fullerian Professor of Physiology to the Royal Institution for the next three years.

THE ADMINISTRATION OF MEDICAL RELIEF AT SUNDERLAND INFIRMARY.

A SPECIAL meeting of the General Committee of the Sunderland Infirmary was held on Thursday, the 8th inst., to receive the report of the sub-committee appointed to investigate into the truth of certain allegations made by patients against the medical staff, and published in the local papers. On the 25th and 27th ult. two letters appeared in the *Sunderland Daily Echo*, one written by John Smith, and the other by Daniel Eden, complaining of the treatment they had received whilst in-patients of the Infirmary. Subsequently, the letters appeared in the *Sunderland Times* as advertisements; but it should be stated that the writers of the letters allege that they had nothing to do with their publication as advertisements, and did not pay the cost of their insertion. The substance of John Smith's complaint was—that he had a wound of one of his legs; that the visiting surgeon never saw it; that the dressings were not properly attended to; and that he was employed to attend a delirious patient one night, in consequence of which his leg got worse. Eden complained that, having met with an accident to his hand, he had to wait for half an hour before it was attended to; that after admission the dressings were not changed so frequently as was necessary; and that the doctor only gave him a pill, when, in his opinion, he wanted a stronger aperient. The Committee reported that they had "devoted nearly three hours to the most patient, minute, and impartial investigation of the charges, and gave each complainant the fairest opportunity of stating his case." With respect to Smith's case, the facts elicited were—that the wound was seen by Mr. Maling, the visiting surgeon, and prescribed for by him; that the dressings were regularly attended to by the house-surgeon and the nurse in charge of the ward. The reference to the assistance rendered to a delirious patient is, in the opinion of the Committee, unworthy of comment, as the rules of the institution require all who are able to give their aid in case of need. The cause of his leg getting worse was found to be due to his getting drunk and falling down one day when permitted to leave the Infirmary for two hours. Smith never complained whilst a patient; indeed, he actually signed, along with the other patients in the same ward, a letter of thanks to the house-surgeon, "in acknowledgment of the skill and many kindnesses we have met with at your hands, during the long time most of us have been under your care." As to Eden's case, it was proved by the visiting surgeon, by the sister under whose nursing care he was, and by the house-surgeon that all proper attention was given. He had sufficiently recovered to be considered fit for out-door relief, but on its being found that he had violated the rules of the institution, by introducing medicines without the authority of the medical officers, he was for this offence, combined with insolence to the house-surgeon, dismissed from the house. In concluding their report, the Committee said that they regretted that charges like the present should have been brought against the officers of the institution; and they were satisfied, after the most searching inquiry, that the cases are not only exaggerated, but,

strictly speaking, without foundation. Mr. E. C. Robson, in moving the adoption of the report, said that it was a very serious thing to put forward such unfounded slanders, for they were apt to shake the confidence of the public in an institution which he believed was, and trusted always would be, well-conducted. Mr. Alderman Kayll seconded the motion, and expressed the opinion that the men did not write the letters themselves; and as they did not pay for their publication, he had come to the conclusion that the publisher did not desire the welfare of the institution, or the benefit of the poor people who came there. The report was adopted unanimously; after which, a letter was laid before the Committee, written to the man Smith by Dr. Abrath, of the Sunderland Hospital for Foreign Seamen, in which he stated that he had learned the Committee would try to smother the cases, so as not to permit them to become public; and expressed his intention of calling a public meeting to consider the cases of maladministration of medical relief. It should be mentioned that Dr. Abrath has for several months past been raking up and publishing cases of "gross blunders" committed by the medical staff of the Infirmary; his sole aim being, as he states in a circular letter to the Governors, "to expose arrant incompetency and break up a concerted clique," and at the same time he reminds them that the chief end of such an institution as the Sunderland Infirmary "is the proper scientific treatment and cure of patients, not the making of hazardous experiments on the poor and helpless, much less the gratification of professional vanity seeking a social status."

The Committee having shown by their inquiry that they are not disposed to smother cases, and the result of their investigations being the entire vindication of the medical and administrative staff, we trust that the subscribers and the general public will continue their support and unabated confidence in the Sunderland Infirmary, an institution which has always held a high position among provincial medical charities.

ORGANIC *v.* INORGANIC IMPURITIES IN WATER.

It would seem undesirable to supply a community of 11,000 people with water containing twenty-five grains of Epsom salts per gallon, besides other mineral constituents. Yet such a water was recommended for the water-supply of the Pemberton Local Board by Dr. Frankland. This evidence was given before a Committee of the House of Commons, on the occasion of the promotion of the Pemberton Local Board Bill, which Bill was opposed by a local landowner, mainly on the ground that the water proposed to be supplied from the streams in the district was contaminated by sewage. As an alternative scheme, it was proposed to take the water from a spring in an abandoned coal-pit in the neighbourhood, which formed a sort of natural reservoir, and which would save the expense of constructing the several reservoirs required by the scheme of the promoters. The analysis of the water from the spring gave per gallon—12·4 grains of sulphate of magnesia (equal to 25 grains of crystallised Epsom salts), 3·4 grains of sulphate of lime, 7·8 grains of carbonate of lime, 0·6 of silica, 5·4 of salts of alkalies, and 2·4 of water of hydration, making 32 grains per gallon dry deposit. Dr. Frankland stated that it would be quite absurd to suppose that the quantity of sulphate of magnesia could produce any evil effect, and that for dietetic purposes it was better than the water proposed to be supplied by the promoters would be after filtration. Mr. Alexander Norman Tate, of Liverpool, gave evidence to a similar effect. Mr. J. A. Wanklyn stated that he had analysed the water from the spring in the coal-pit, and found it to be organically one of the purest waters he had ever met with, but that he could not recommend it for domestic use in consequence of the large amount of sulphates present, which medical men believed caused diarrhœa. It was positively known that such water is liable to become stinking: the sulphuric acid is reduced to sulphuretted hydrogen, and the water smells of rotten eggs. This is especially the case during the progress of cooking, and it would also be most undesirable to take six or ten grains of Epsom salts daily. Dr. Theophilus Redwood concurred with Mr. Wanklyn that water containing so much sulphate of magnesia was unfit for domestic use, and instanced the case of the water of Lambeth Workhouse, which he had been called upon to analyse because it disagreed with the inmates, and he found it contained sulphate of magnesia to an extent which, taken habitually, in many persons, though not in all, would be likely to derange the digestive functions and prove injurious. It was admitted that some of the sources of the promoters' proposed supply contained organic impurity, all traces of which, according to Mr. Wanklyn, could be absolutely removed by filtration, which was not the case with water containing inorganic impurity, which no amount of filtration would remove. After Mr. Bateman and other engineers had given evidence for the promoters, and Mr. Hawksley, Mr. Rawlinson, and many other witnesses for the opposition, Mr. Chandos Leigh addressed the Committee at considerable length in opposition to the Pemberton Local Board Bill. The Committee, without calling upon Mr. Milward, Q.C., the promoters' counsel, to reply, passed the preamble of the Bill, thus deciding against the supply of water containing so much inorganic impurity. The water-supply of Pemberton will therefore be purified by filtration in a similar manner to the water supplied to this metropolis by the different water companies.

THE HAMPSTEAD HOSPITAL DISPUTE.

If any illustration were needed to demonstrate the power in this country of "vested interests," the agitation lately aroused on the subject of the choice of a site for a small-pox hospital at Hampstead would afford a pertinent example of how much a combined opposition, springing from interested motives, can achieve. On Saturday last, at the meeting of the Metropolis District Asylums Committee, a third alternative site at Mill-lane was submitted for the construction of the hospital in question, coupled with an offer of the sum of £26,000 for the present site, provided the one now offered should be accepted. A great deal of correspondence was read to the meeting, some in favour of the alternative sites, but most of it breathing fierce opposition to any building of the description being erected in Mill-lane; finally Mr. Galsworthy moved a resolution to the effect that the managers having viewed the third alternative site, the offer of Mr. Harvey, made through Lord George Hamilton, M.P., it be referred to the General Purposes Committee for a full report. He observed that by taking this course the managers would show their desire that this important subject should be considered in all its bearings before the final conclusion was arrived at; and he reminded them of the answer which had been given to a deputation some three years ago, to the effect that if a better, or even as good a site could be provided, without any loss being entailed, the Board would, in all probability, be disposed to accept it. This motion was seconded by the Hon. Mr. Talbot, M.P., who expressed his opinion that the Board were bound to legislate, not to meet the views of selfish interests, but to find a site for such an establishment as would prove a real benefit to the sick poor, for whose behoof they met there to deliberate. Mr. Currie followed in support of the motion; but Dr. Curtis, the next speaker, objected strongly to the alternative sites, all of which he described as being inferior to the existing one, whilst their proximity to an immense reservoir, which contained the water-supply of a large population, established the danger of poisoning half London should the water in the reservoir become contaminated by small-pox. Mr. Shaw Stewart hoped that the Board would be too sensible to yield either to threats on the one hand, or to persuasion on the other. The most vigorous

efforts had been made to coerce their decision, and now an attempt was being made to tickle them with an offer of £26,000 for the present site. The agitators, in fact, proposed to help the sick poor by sending them a mile and a half further from their homes, to the greater danger of the public. In the end the motion was lost, and the Hampstead Heath site is the only one left to the Board; but as at the commencement of the meeting a communication was read from Mr. O. Coope, M.P., stating his intention of deferring his motion for a Parliamentary inquiry until after the Board had considered and determined the question of the alternative site, we presume that he will no longer delay in bringing this matter under the notice of the House, when possibly Imperial legislation may succeed in settling a difficulty with which Parochial legislation appears to be unable to cope.

SEAMEN'S HOSPITAL, GREENWICH.

The Committee of Management of this Hospital (late the *Dreadnought*) have made an appeal, which ought to be felt to be a very strong one, to the public for funds. In 1821 a floating hospital was established for the use of sick and diseased seamen of all nations, and the Admiralty granted from time to time the use of a vessel for the purposes of this Hospital, which was everywhere known as the *Dreadnought*. In 1870, however, it was decided, on sanitary and other important grounds, to discontinue the Hospital afloat, and the Board of Admiralty granted the Seamen's Society a lease for ninety-nine years of the Infirmary of Greenwich Hospital, at a nominal rent, in lieu of the loan of a ship. But while this arrangement has been very beneficial to the inmates of the Hospital, it has entailed an additional cost in the annual expenditure of about £1000 for rates, taxes, coals, gas, cleaning, repairs, etc.; and the demands on the hospital accommodation have also largely increased. In 1869—the last year afloat—the in-patients were 1892, the out-patients 1030. Last year the in-patients numbered 2056, the out-patients 1509. Now, while there is this large increase of expenditure, it is to be observed —first, that the Government does not contribute anything towards the annual expenditure of the Hospital; secondly, that the annual subscriptions from the public amount only to £1365; and thirdly, that the annual expenditure of the Hospital is upwards of £9500, while the only reliable income —derived from investments—is £3500, leaving a deficiency of £6000 a year to be supplied by voluntary contributions. Last year the income fell short of the expenditure by about £2000. Now, this surely ought not to be. It is our greatest, and perhaps our safest, boast that we are *the* great maritime country of the world—that "Britannia rules the waves." It is a very poor thing, then, if efficient and sufficient support cannot be obtained for one free and cosmopolitan Hospital for Seamen. There can be no question as to the able management of the institution; and that being allowed, it should be quite sufficient, to recommend the Hospital to the support of the English public, to know that seamen of every nation are admitted without difficulty or delay. A seaman "has only to show his need of medical treatment, and he is at once received into the Hospital; and after recovery, he is retained as a convalescent until he is fully capable of resuming his duties on board ship."

MORTALITY IN AUSTRALIA.

By the last advices from Australia we learn that South Australia had been suffering, like the other Australian colonies, from the intense and unprecedented heat, and considerable mortality had resulted. A very large proportion of the deaths had been occasioned by diseases more or less preventable. During the last quarter of 1874 there had been 492 fatal cases of zymotic or epidemic disease, against 137 in the corresponding quarter of the previous year.

THE SPREAD OF FEVER IN GLASGOW.

The last fortnightly report of Dr. J. B. Russell, the Medical Officer of Health for Glasgow, shows that fever is on the increase in that city, there being seventy-two cases on the register, instead of fifty-one as in the previous report. Dr. Russell endeavours to impress the public with the risk to their health attending the concealment of cases of infectious diseases in back shops. "During this fortnight alone," he says, "we have become aware of four different milk and provision shops in different parts of the city, in close connexion with which cases of enteric fever have long been under treatment, and nursed by the person who attended to the business. The public risk is alarming to contemplate. No doubt the head of a family living in such circumstances should be compelled, just as a lodging-house keeper is, to report all cases of infectious disease, under a severe penalty. Failing such an enactment, I would advise that as complete a list as possible, at any rate of all places for the sale of milk, if not of every kind of provisions, should be made, and a weekly visit be paid by a sanitary inspector to ascertain the state of health of the inmates. Apart altogether from the risk of spreading specific disease, the idea of a woman attending a helpless patient, and hurriedly running to answer the shop-bell, and measure out milk, or handle and deliver bread, butter, etc., is very disgusting. Yet this is the state of matters we detect every day." Were Dr. Russell's suggestion adopted, there is no doubt that it would tend very materially to limit the spread of such diseases as enteric fever and small-pox.

EXAMINATION AND LICENCE FOR NATIVE MEDICAL PRACTITIONERS IN INDIA.

Surgeon-General Balfour, in a letter to the Government of Madras, dated January 19, 1875, proposes that all existing native practitioners in India should be licensed and registered without fee, but that all persons for the future pretending to practise any branch of the medical art should be examined and licensed to practise just that branch or portion of the art in which he proves himself to be qualified. He believes that many of the native *hakims* and *vaidyans* are skilful, and instances the case of Lord Elphinstone, whose broken leg was set successfully by a potter. And he believes that such a system as he proposes would be a great incentive to study and improvement in the art of medicine and surgery as taught in Europe. Surgeon-Major Furnell, Acting Principal of the Medical College, doubts whether the time is come for registration, but suggests that every civil dispensary might be made a local school of medicine by allowing natives to bind themselves apprentice for three, four, or five years, after which they might be examined at the Medical College. He hints, further, that the surgeons of the local dispensaries having pupils will be less inclined to allow their own knowledge to become rusty. The Madras Government seems inclined to countenance the apprenticeship scheme. It will be noted that it is solely to an inferior grade of native practitioners that these remarks apply, and not to those who may be able to get a good education, and go through a regular course at the College for a medical degree.

MEATH HOSPITAL AND COUNTY OF DUBLIN INFIRMARY.

At a special meeting of the Medical Board of this institution, held on Thursday, April 8, 1875, Dr. John William Moore was unanimously elected a physician to the Hospital in room of Dr. Stokes, whose resignation we chronicled a fortnight since. Dr. Moore is M.D. of the University of Dublin, and a Fellow of the King and Queen's College of Physicians. He is also Assistant-Physician to Cork-street (Fever) Hospital, and Assistant-Lecturer on Practice of Medicine in the Carmichael School of Medicine, Dublin. By Dr. Stokes' resignation, Dr. Arthur Wynne Foot becomes Senior Physician to the Hospital.

CITY OF DUBLIN HOSPITAL: ADDRESS AND PRESENTATION TO DR. W. IRELAND WHEELER.

On Saturday evening, April 10, the students, past and present, of the City of Dublin Hospital presented to Dr. William Ireland Wheeler, F.R.C.S.I., and Surgeon to the Hospital, a massive two-part marble clock inlaid with malachite and gold, and two beautiful bronze figures, each three feet in height. At the foot of the clock a gold plate bears the following inscription:—"Presented to W. J. Wheeler, Esq., M.D. T C.D., F.R.C.S.I., with an illuminate address by his past and present pupils, March, 1875." After the address had been replied to, Dr. Wheeler entertained a party of guests, numbering 120, and including some of the leading members of the profession, at a *récherché* supper. The usual loyal toasts having been duly honoured, the host proposed the "Army and Navy," to which Surgeon-Major Gore replied. Mr. Joliffe Tufnell, as President of the College, responded to the toast of the Royal College of Surgeons in Ireland; Dr. J. Magee Finny, to that of the King and Queen's College of Physicians. The Rev. Professor Haughton proposed the host's health in an amusing speech, and it was drunk with enthusiasm.

DEATH FROM ETHER-INHALATION.

An inquest was held last week at Manchester on the body of a lad who died in the hospital of the City Workhouse while under the influence of ether, which had been administered previous to performing an operation on the hand. According to the evidence of Mr. James Hardie, M.D., Surgeon to the Workhouse, the deceased had been operated on twice before, when chloroform had been administered; but as on the last occasion alarming symptoms presented themselves, it was now thought safer to give ether. A small quantity of ether was applied to the nostrils, and it seemed to take effect easier and quicker than usual. A few minutes after, and just as the operation was about to be commenced, the patient seemed to faint, and the breathing to be arrested. The galvanic battery was applied over the course of the phrenic nerves, but it only produced two or three gasps; and this as well as other means of restoring consciousness was unsuccessful, the patient dying whilst on the operating-table.

KING'S COLLEGE HOSPITAL ANNUAL FESTIVAL.

The annual festival in connexion with King's College Hospital was held on Wednesday last, in the great hall at King's College, under the presidency of his Royal Highness the Duke of Cambridge, President of the Hospital. About 150 gentlemen sat down to dinner, among whom were the Bishop of Winchester, Lord Justice James, the Right Hon. J. G. Hubbard, M.P., Sir Sydney Waterlow, Mr. Marten, M.P., Sir H. Codringham, Lieut.-General Sir. R. Wilbraham, K.C.B., Col. Sir F. Fitzwigram, etc. His Highness, in proposing the toast of the evening—"Prosperity to King's College Hospital,"—spoke in high terms of the management of the Hospital, which, he said, was organised and administered in every detail as satisfactorily as any other large hospital in the metropolis. Before the company dispersed it was announced that the result of this year's festival amounted to £1582 17s. 4d. —exclusive of £300 for the Samaritan Fund,—of which the sum of £1480 was subscribed at the dinner.

LECTURES ON STATE MEDICINE AT THE APOTHECARIES' HALL.

We are informed that the Society of Apothecaries intend to institute, during May and June next, at their Hall, a limited course of Lectures on State Medicine. These lectures will be delivered by Dr. De Chaumont, Assistant Professor of Hygiene at the Army Medical School at Netley.

PARLIAMENTARY.—ARTISANS AND LABOURERS' DWELLINGS BILL.

In the House of Commons, on Monday, April 12, the Committee on the Artisans' Dwellings Bill was resumed.

The principal alterations of interest to the medical profession proposed or carried were the following:—

On Clause 7, Mr. Fawcett proposed to substitute words to compel the local authority to appropriate land which they had acquired for the purposes of the Act, as he considered there was not sufficient compulsion in the clause as it stood to provide for the reconstruction of houses thus pulled down.

Mr. Cross explained that the Government thought it better to carry the corporations with them, as he was certain the great towns would carry out the provisions of the measure to the satisfaction of the House and of the country.

The amendment was withdrawn, as also another moved by Mr. Fawcett, with the view of further checking the local authority from entering unrestrictedly into large building speculations.

Mr. Cawley procured the insertion of words providing that "all new streets so constituted shall thenceforth be public streets, repairable by the same authority as other streets in the district."

Sir Sydney Waterlow moved to insert words to the effect that "in any grant or lease of any part of the area which may be appropriated by the scheme for the erection of dwellings for the working classes, the local authority shall impose suitable conditions and restrictions as to the elevation, size, and design of the houses, and the extent of the accommodation to be afforded thereby,"—which was agreed to.

Mr. Rathbone moved an amendment to take away the necessity for the continued appropriation of such a number of dwellings for the use of the working classes as might have been at first contemplated under the scheme,—which was also agreed to.

Mr. Muntz proposed that ten years after the acquisition of property by the local authority it should be sold, to avoid the possibility of their holding it in perpetuity. This suggestion was accepted.

An attempt to limit the number of public-houses erected on the newly acquired property, as has been done at the Shaftesbury Park estate, was negatived by a large majority.

On Clause 8, Mr. Fawcett moved the omission of the words "occupied wholly or partially by any person belonging to the working class," his object being to extend the benefit of the notice to be given to the occupants of condemned houses equally to all, irrespective of the class to which they belonged. This amendment was accepted.

Clauses 10, 11, and 12 were ordered to stand part of the Bill.

On Clause 13, a proposal was made to amend the clause by inserting words to consolidate with the Act the different Lands Clauses Acts and the Railways (Ireland) Acts,—which was agreed to.

Mr. Cross then moved the following amendment:—"Due regard being had to the nature and the condition of the property and the probable duration of the buildings in their existing state, and to the state of repair thereof, and all other circumstances affecting such value." The object of the amendment was to prevent the arbitrator giving an excessive amount of compensation to the owners of the property taken, and also to prevent the owners from permitting their property to go to ruin with the view to its being taken under the provisions of this Act.

Clauses 13 and 14 were agreed to, and the debate adjourned.

On Wednesday, April 14,

The Medical Act Amendment (College of Surgeons) Bill was read a second time without any debate.

In the orders of the day for Thursday,

Committees were to sit on the Artisans and Labourers' Dwellings Bill, and the Sale of Food and Drugs Bill.

The Public Health Bill was down for second reading.

Sir G. Jenkinson was to ask questions with reference to the inadequate supply of water for drinking, etc., in many towns, rural villages, etc., and whether the Government will consent to an inquiry by Royal Commission; and Mr. W. Egerton was to ask the Vice-President of the Privy Council a question with reference to the monthly return of the Veterinary Department of the Privy Council Office, published under Section 22 of the Contagious Diseases (Animals) Act, 1869.

ABSTRACT OF THE

GOULSTONIAN LECTURES ON PUERPERAL FEVER.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS, LONDON.

By ROBERT J. LEE, M.D., F.R.C.P.,
Assistant-Physician at the Hospital for Sick Children, Great Ormond-street.

Lecture III.

Dr. Lee said that it would be difficult to do justice in these lectures to the researches which have lately been made into the interesting and important subject of decomposition. It is only necessary to select such of these observations as bear directly on the symptoms and pathology of their subject. Those who are unacquainted with the general characters of the minute organisms which are classed under the term bacteria may readily obtain some idea of their dimensions, forms, and other distinguishing features, by the examination of any fluid containing decomposing organic matter. For instance, the secretion in carcinoma uteri may be subjected to microscopical examination with the quarter-inch or half-inch object-glass; and, instead of a simple collection of bacteria, we have the cells of tissues with which we are tolerably familiar, to assist us in forming some idea of the extreme minuteness of those organisms. A cancer-cell appears to be capable of containing quite a considerable number of the darkish globular granules, which are now looked upon as special forms possessing active infective properties. We can readily recognise in such a preparation the staff-shaped bacteria, properly so-called, with their undulating mode of progression, the spirilla with rapid axial rotation, the more obscure movements of the vibrios, and, lastly, the comparatively insignificant globular micrococci. It is the last of these that, under special names, as micrococcus diphtheriticus, micrococcus vacciniæ, and others, which are not so easy to distinguish from one another as to make us quite satisfied of their specific character, are now engaging the attention of pathologists in relation to the various changes of tissue which are met with in puerperal disease.

There is no difficulty whatever in conceiving it quite possible for even the larger bacteria to traverse the smallest capillaries; for we have only to introduce under the cover of the microscopic slide a few red blood-corpuscles, in order to perceive that three or four staff-shaped bacteria placed side by side could follow a blood-cell in its passage through minute vessels. And when we observe that a micrococcus is a sphere whose diameter is not equal to that of the staff-shaped bodies, we can imagine it capable of exerting local morbid influence by interruption of the physiological processes which are constantly taking place in the body.

The object in presenting in this familiar manner the general characters of bacteria is rather to favour the view that, instead of treating them with contempt, we may not only appreciate the fact of such organisms existing, but may give some scope to the imagination when we are considering the question of morbid poisons, and are asked to believe in much that cannot be brought within the range of actual perception.

Professor Heiberg of Christiania ("Die Puerperalen und Pyæmischen Processen," Leipzig, 1873) has lately succeeded in satisfying those who are qualified to form an opinion upon their value, that, in cases of puerperal fever, very many tissues may contain bacteria. He has exhibited specimens in which the lymph-canals of the serous membrane of the liver are seen to contain them in small groups or "colonies"; and they are not confined to the canals, but seem to have permeated their walls and invaded the external tissue. Similar groups are found in the lymph-vessels of the pleural membrane; in the tissue of the cardiac valves, which is rendered slightly opaque and swollen around them; in the arteries and tubes of the kidney; and, among other results of investigations, Professor Heiberg describes them in those lacunæ which exist in the nasal mucous membrane, and communicate by fissures with the surface. We can easily apply these facts to the explanation of the formation of minute abscesses around arterial emboli, and to the different pathological conditions which follow a simple fibrinous coagulum arrested in the circulation, as compared with one containing active micrococci. This is the direction in which pathological investigations will be made by those who support these views of the connexion between bacteria and puerperal fever. The idea of searching for micrococci as Professor Heiberg did was suggested by reflection on the difference between one embolon and another—that is, from a comparison between the state of the tissue surrounding small collections of healthy pus, which had been injected into the veins, and had been arrested in the minute branches of the pulmonary artery, and the much more active changes which resulted from the injection of material containing bacteria. It was in a case of ulcerative endocarditis occurring in pyæmia that Professor Winge first referred to the existence of micrococci in the pathological changes observed in the endocardial membrane, Professor Virchow having previously described this particular form of ulceration in puerperal fever as of diphtheritic nature. This case of Winge's was followed by another, the details of which were supplied by Professor Heiberg, and was accompanied by a postscript by Virchow, in which he refers the species of micrococcus, to the genus *Leptothrix* of Hallier, expressing the necessity of caution in deciding upon this difficult point, as the very minute size of the corpuscula, and the absence of movement in the particles necessarily make the microscopical examination somewhat uncertain. However, he states very positively that they are parasites, and are related to diphtheria and blood-infection. This is the present state of our knowledge regarding bacteria in their relation to puerperal infection; and, as there seems to be good reason for believing in the facts as far as they go, we might decline to speculate upon the question which presents itself, whether these micrococci are active agents themselves in producing the effects described, or whether they are only the vehicles of a subtle poison which attaches itself to them as well as to any other particles of matter, whether micrococci or not.

When Professor Lister remarks, "We now see it is not essential to assume the existence of a special virus at all, but that organisms common to all the sores in the ward may, for aught we know, assume specific properties in the discharges long putrefying under the dressings," it is clear that he is indisposed to allow that a poison apart from bacteria can be brought into existence.

There is one case in which we might find it difficult to explain, by the theory of bacteria, certain morbid phenomena, if we confined ourselves to the limited effect which the particles produce on the tissues: those changes, namely, which we term inflammatory. It is well known that there are cases in which we find no collections of pus, or secondary abscesses, and no well-marked pathological alterations, cases usually of the acute form of puerperal fever, and where the constitutional symptoms have been the chief evidence of septic infection. In such instances, morbid anatomy reveals conditions not unlike those which we meet with in certain other contagious diseases: enlargement and softening of the spleen, congestion of the mucous and serous membranes, fluid condition of the blood, and slight general congestion of the pulmonary tissue. It is in these cases that Heiberg felt a difficulty in retaining the use of the term pyæmia; for there is neither a primary focus of purulent matter, nor are there any evidences of the presence of pus in any part of the body.

This is the reason why Professor Billroth uses the term septhæmia to signify the resorption of septic stuff, and pyæmia the resorption of pus. We have also septicæmia contrasted with ichorrhæmia in some recent German works. These terms are intended to separate cases of acute septic infection from those of longer duration; for, as it is well known, in cases of abortion, retained placenta, and others, where the origin of the decomposing substance is not very doubtful, we observe a series of symptoms which lead to the belief that a slow process of poisoning is going on in the system of the patient. Such a process would be termed ichorrhæmic.

To return to puerperal fever—a disease which, we are induced to believe, is to be explained in all respects by the influence of septic poison—it would appear that in most cases we are to search for the focus of decomposition in the cavity of the uterus or the surface of the mucous membranes which are connected with it. Whether we can prove that there is organic substance undergoing decomposition or not, we are to be satisfied by the symptoms which are present that such is the case. We are also required to admit that, under several conditions, all of which involve the presence of septic substance, symptoms similar to puerperal fever may be developed; and

that, whatever differences are observed in the acute or chronic character of such symptoms, we are to refer them to the rate of admission of the poison into the system. We assume that we may explain the peculiarly acute form of puerperal fever with which we are acquainted by the fact of the existence of venous sinuses in the walls of the gravid uterus, and of large lymphatic vessels by which the septic material easily enters the circulating fluids; and, when asked to define what we mean by a septic agent, by sepsis, or by any other term involving the same idea, we may make the basis of our definition the existence of active living organisms resulting from the decomposition of organic matter, having special microscopical characters, producing special effects on the system of man and beast, and the transmission of which is regulated by ascertained principles.

Dr. Lee next considered the application of his general conclusions to the subject of the treatment of the febrile puerperal processes, local and constitutional. The first point is the determination of the conditions under which decomposition proceeds most actively, and what chemical or other agents may be employed with most certainty to arrest it. Having quoted Cullen's directions how "to obviate or correct the tendency of the fluids to putrefaction," Dr. Lee said that we are now supplied with agents which we may use to good purpose in the practical treatment of all cases in which we have reasons for thinking that there is a localised focus of infection. Carbolic acid is one of these, and, for practical purposes, Dr. Lee would be inclined to use the dilution of one in eighty, as he finds that it is quite powerful enough to destroy activity, and is not liable to produce irritation when applied to sensitive tissues. Similarly he finds that, for the liquor sodæ chlorinatæ of the British Pharmacopœia, a valuable disinfectant, the dilution of the fluid with two of water furnishes a reliable disinfectant. One or two other substances have appeared to be advantageously employed in combination with carbolic acid, and especially the solutions of opium. Apart from the sedative effect of the drug, it would appear that it has a special disinfecting property, not very powerful, but decidedly exhibited in such a mixture as one part of liquor opii to three of water. The more we attend to the satisfactory results of the practical application of the theory of infection to the treatment of symptoms, the less important does the special influence of antiseptic constitutional remedies appear to be. There are some who conceive that opium is a valuable agent in the constitutional treatment of the puerperal fever. It is not to be denied that its sedative properties may be employed to great advantage for some symptoms; but, regarded as a constitutional antiseptic, experience does not prove that it enjoys any special virtue. It may be observed that, if the introduction into the system of substances like carbolic acid be attempted, on the theory that the fluids of the body may be so far impregnated with the disinfectant as to prevent the action of bacteria, it is necessary to show that such a quantity as could at a minimum reasonably effect such a purpose must be capable of being absorbed, or can be administered without injury.

On the subject of the treatment of local inflammatory symptoms, it is unnecessary to make any particular remarks. Theoretical considerations fully support the results of experience, that erysipelas and puerperal fever, and all the forms of cellulitis, may be produced from one another; and that their origin is the same. The practical study of these maladies, in their connexion with one another, seems to offer the promise of explaining much that we previously failed to understand.

There is another point—namely, the question of the treatment of thrombosis, as well as one of the accidents of thrombosis—namely, coagulation of blood in the pulmonary artery and the right cardiac cavities. Speaking from personal experience, Dr. Lee has no hesitation in saying that it is better to regard the occurrence of coagulation in the pulmonary vessels, and its extension to the heart, on simple mechanical principles. In a case of this kind, where coagulation had taken place in both lower extremities as high as Poupart's ligament, and, on one side, had entered the pelvis, he used rather active measures to relieve the cardiac symptoms. They had occurred quite suddenly during the period of convalescence, and were characterised by the tumultuous action of the heart, distress in respiration, and diminution of temperature (in this instance from 100° Fahr. to 96·5° Fahr.), which are diagnostic of pulmonary embolism. The relief which followed rather copious bleeding by the application of leeches was very considerable, both when the symptoms occurred for the first time as well as on a second occasion, when they recurred in a less severe degree a few days later. The patient ultimately recovered.

Dr. Lee concluded by saying that he had reviewed in a very general manner the subject of puerperal fever; and had endeavoured rather to establish some solid basis for the practical treatment of the disease, than to investigate those difficult questions which are now engaging the attention of scientific observers.

FROM ABROAD.

The Telegraph Workers' Cramp.

In the *Gazette Médicale* of the 10th inst., M. Onimus writes as follows:—

"Writers' cramp is the most common and most defined type of affections which arise in certain persons as a consequence of the employment of repeated movements. An affection of the same kind is met with among designers, engravers, and musicians, but we do not believe that to the present time it has ever been signalised as occurring among telegraph clerks. We have recently had the opportunity of observing two cases of it, one of which is highly characteristic, and presents several interesting peculiarities.

"This patient, who has been employed at the telegraph since he was nineteen, and is very intelligent, followed the progress of his malady ever since it appeared, and observed that the first symptom consisted in a difficulty in making the dots, and especially a succession of dots. As is well known, in Morse's machine the letters are represented by an association of dashes (*traits*) and dots: and the first letters in which he first observed a certain stiffness of manipulation were the 's,' which is formed by three dots, the 'i,' which is formed of two dots, and the 'v,' formed of two dots and a dash. The 'd,' which commences with a dash and two dots, was formed easier than the 'v,' because the first movement, terminating the dash, gave a greater assurance in the movement. Gradually, the formation of all kinds of dots and dashes became impossible with the hand held in the ordinary position; and the patient endeavoured to act on the manipulator by the thumb alone, and was able for nearly two years to transmit the despatches in this way. At the end of this period the thumb was seized with cramps, and the patient then employed in succession the index and the medius finger. Each of these fingers allowed of his manipulating for two or three months, but both in their turn were seized with cramp. Finally, he employed his wrist, but co-ordinate movements soon became impossible; and while as regards the fingers he felt a kind of rigidity, the employment of the wrist induced rapid and convulsive movements of the forearm. When he endeavours to overcome these difficulties in manipulation, he is seized with tremors of the arm and even of the leg of the same side, pain in the back of the neck, and sometimes vertigo and sleeplessness.

"This affection would not seem to be very rare among the telegraph *employés*, and especially those using Morse's machine; and among themselves they call it the *mal télégraphique*. The best means of avoiding this affection is to change the apparatus from time to time; and when the symptoms of this special cramp are first perceived, the Morse machine should be replaced by that of Hughes, both these being used in the telegraph offices."

Prof. Dolbeau on Reduction of Dislocation of the Femur.

In a paper which he has published in the *Bulletin de Thérapeutique* for March 15, Prof. Dolbeau furnishes an account of his experience of reducing dislocations of the femur by manipulation. During the seventeen years he has been a Paris hospital surgeon, he states that he has reduced fifteen of these dislocations, twelve of them being ilio-ischiatic, two ilio-pubic, and one ischio-pubic. All have been reduced by himself without assistance and without difficulty, the *procédé de Desprès* having been employed in all of them. This was really the method of combined flexion and rotation employed by Poutean in the last century, but revived and erected into a system by Desprès in 1835. Of course, since then, the use of chloroform, by means of which complete muscular resolution is obtainable, has immensely added to the practicability of the measure.

One of the cases related is very remarkable from the unexpected way in which reduction took place. A youth was brought to the hospital who fifty-five days before had his right leg

fractured. This did very well; but, it being found that the patient could not walk, it was discovered that the same accident which had caused a fracture of the leg had also dislocated the femur. This had been overlooked; and now, in order to see what could be done for it after so long a period, the patient was put under chloroform. When resolution was produced, the thigh was suddenly flexed, and the cracking noise that occurred indicated the rupture of some of the adhesions. The flexion had passed beyond a right angle, and it was evident an ischiatic dislocation was present. Adding immediately to the flexion the rotation of the limb outwards and downwards, M. Dolbeau, to his great astonishment, found that reduction had been effected:—what was intended, in fact, for a mere exploratory examination having proved a complete cure.

In another case, in which the luxation was supra-pubic, M. Dolbeau resolved to imitate a plan adopted by Larrey in a case which had resisted very energetic extension. This consisted in placing the luxated thigh on the shoulder of the operator while he pressed with both hands on the displaced head. While, however, he was placing the thigh on his shoulder, and, of course, flexing it on the pelvis, he perceived the head descending towards the acetabulum, and had only to execute a slight rotation inwards to secure complete reduction. In another case there was dislocation outwards and downwards of eight days' duration, for the reduction of which repeated and violent traction had been employed in vain. The subject was a vigorous young man, who was also a drunkard, so that chloroform had but little effect upon him. On the first trial of Desprès' method, the dislocation, from being iliac, was transformed into one of the sciatic notch, and then of the foramen ovale. The rotatory movement employed had probably been too energetic, the head having turned round two-thirds of the cotyloid cavity without entering it. As the muscular resolution still continued imperfect, although chloroform had been given abundantly, the administration of this was pushed almost to a dangerous extent; and, just when the patient's situation seemed critical from this cause, very strong flexion of the thigh, followed by a moderate rotation downwards and inwards, effected the reduction. From this case it is evident that the procedure enables us to move the head just as much as we want, and that without taking care we may even go beyond the object we have in view, and, while passing along the border of the cavity, convert an external into an internal luxation.

Prof. Dolbeau's general conclusions are—1. That all recent dislocations of the femur, whatever their varieties may be, may be reduced by Desprès' procedure. 2. That this procedure, which belongs to the gentle methods, is often attended with success in cases in which the forcible method fails. 3. That flexion of the thigh, combined with rotation of the limb, enables the head to become disengaged from all the obstacles that may retain it, and at the same time to pass along the various portions of the circumference of the acetabulum until it is brought into relation with the laceration of the capsule, the only aperture by which it can re-enter the cavity. 4. Before having recourse to forcible measures his procedure should be tried, after complete muscular resolution has been obtained by the administration of chloroform. The value of the method has, in fact, become doubled since the discovery of chloroform.

Presentation.—Dr. G. P. Rugg, of Clapham-road, has been presented with a valuable microscope bearing the following inscription:—"Presented to George P. Rugg, M.D., L.R.C.P. Lond., M.R.C.S. Eng., etc., by the Committee of the Surrey Reformatory School for Girls, in testimony of their appreciation of the valuable and efficient services rendered by him as honorary physician to the School during a period of eight years."

Consumption of Horse-Flesh in Paris.—At the recent banquet of the Anglo-Franco-American Hippophagists, held at the Grand Hotel, Paris, the statistics of the increase of the consumption of horse-flesh in Paris were read out. From these it appears that, in 1867, 2152 horses, asses, and mules were consumed, and in 1869 the numbers had only increased to 2654. In 1872, however, the consumption took on a large increase, amounting to 5732; and in 1874 it still more augmented, 7194 animals having been consumed. These furnished 1,295,600 kilogrammes of meat, sold by fifty butchers, in the year.—*L'Institut*, April 7.

GENERAL CORRESPONDENCE.

DR. SANDERSON'S SPEECH ON THE GERM THEORY OF DISEASE.

Letter from Professor Lionel Beale.

[To the Editor of the Medical Times and Gazette.]

Sir,—I hope that no one interested in the discussion concerning Disease Germs will allow himself to be prejudiced against my views by the remarks made by Dr. Sanderson; at least, until Dr. Sanderson shall have more fully explained the objection he characterises as "insurmountable," and an opportunity shall have been afforded me of replying. Great authorities named by Dr. Sanderson, if pressed for an opinion concerning a germ theory, would, according to him, "shrug their shoulders," and in this way, I suppose, annihilate the theory in particular, and make an end of the persons who entertained it. The members of the Pathological Society, however, "ought not to shrug their shoulders" in the presence of a few of the "facts" advanced by Dr. Sanderson.

For my part, I object entirely to scientific questions being settled by shrugging of shoulders; but if I was a great scientific authority, and allowed myself to indulge in the exercise of that privilege, I should shrug my shoulders very much at some of the "facts" mentioned by Dr. Sanderson, more at some of the conclusions he has deduced, and most of all at the coolness displayed by him and a few other scientific authorities in ignoring or in authoritatively disposing of the scientific work and conclusions of other Englishmen whose scientific position is not inferior to their own.

London, April 12. I am, &c., Lionel S. Beale.

CELLS IN OVARIAN FLUID.

Letter from Mr. Lawson Tait.

[To the Editor of the Medical Times and Gazette.]

Sir,—I trust my friend Dr. Thornton will forgive me for hinting that he is somewhat hasty in concluding that the cells he has figured are indications for the immediate removal of an ovarian tumour. I doubt very much if there is any ovarian tumour of truly follicular origin in which he will not find such cells more or less altered. He will find them on any serous surface, especially on the peritoneum which has been affected by chronic dropsy, and he will find them well shown in Klein's drawings. In fact, he has unconsciously depicted in his first figure what looks very like a stoma, and which no doubt would have exhibited itself conclusively as such if it had been properly prepared. I saw these cells for the first time in an ovarian tumour which I removed nearly seven years ago, and the patient is still in perfect health.

Birmingham. I am, &c., Lawson Tait.

THE ANDES FROM A SANITARY POINT OF VIEW.

Letter from Dr. J. H. Scrivener.

[To the Editor of the Medical Times and Gazette.]

Sir,—I read in the *Medical Times and Gazette* of March 13 ult. a review of Dr. H. C. Lombard's work, "Les Climats de Montagnes considérés au Point de vue Medicale," in which I find the following interesting statement:—"Dr. Lombard is much in favour of sending patients in the earlier stages of phthisis to get the benefit of mountain air, and he looks with favour on the attempts which are being made to send phthisical patients to mountain sanitaria in the Andes and Himalayas, as recommended by Dr. Herman Weber and Dr. C. J. B. Williams."

I fully concur in the recommendations of those gentlemen, from a long residence in the Andes, and, consequently, from a knowledge of its climate. I have traversed those mountains on many occasions, and am therefore able to form an opinion on the salubrity of the climate; as also of that on the route from the province of Cordova to the borders of the Pacific. All over that vast tract of land that fatal enemy of mankind—the tubercular phthisis—so justly feared by the inhabitants of Lima and Buenos Ayres, is entirely unknown.

During a residence of nearly ten years in different and widely spread districts of the whole country, I never saw or

heard, either directly or indirectly, in my intercourse with others, of the existence of the disease. In the mountains of Cordova, as on the Andine heights of Bolivia, the patient will find his disease alleviated, and in time removed—let him come from what quarter of the globe he may—by the hand of Nature. There pulmonary complaints are not known to originate; and there those who suffer from them on the borders of Parana and the River Plate seek and find a permanent cure for their ailments proceeding from all affections of the lungs. This fact has been known and acted upon from time immemorial by the inhabitants and physicians of Lima and those on the coast of the Pacific.

I called the attention of the profession to that subject in a pamphlet I published in 1868, "On the Sanitary Character of the Andine Heights," and the benefit which phthisical patients would derive from a residence in those mountains. A review of that pamphlet, with a description of the other climatic and physiological conditions and diseases incidental to these regions, appeared in the *Medical Times and Gazette* of October 30 and November 6, 1869. I am, &c.,

JOHN H. SCRIVENER, M.D.

205, Faubourg Saint Honoré, Paris.

P.S.—I enclose a copy of the pamphlet "On the Sanitary Character of the Andine Heights."

CONTAGIOUS DISEASE IN THE ARMY.

LETTER FROM SURG.-MAJOR FRANKLYN.

[To the Editor of the Medical Times and Gazette.]

SIR,—I did not intend to take any part in this controversy, upwards of a quarter of a century as a regimental surgeon having rendered me careful about entering into such matters; but, as Surgeon-Major Black, in your issue of March 27, expresses surprise at our silence, here are a few facts:—I have been in charge of the Artillery at Aldershot for about four years; it varies from 1300 to 2000 men. Our sick-list from venereal is from ½ to 1 per cent., except when batteries arrive after a long march through unprotected districts. In this case, I have known a cavalry regiment have nearly one-third of its total number report sick with venereal on arrival here, and our batteries regularly decimated. Comments I leave to you. I am, &c.,

EDWARD FRANKLYN, M.D., F.R.C.S.,
Surgeon-Major A.M.D.

PERSONATION OF CANDIDATES.

LETTER FROM MR. R. H. ROBERTSON.

[To the Editor of the Medical Times and Gazette.]

SIR,—On Friday and Saturday, January 29 and 30 last, the usual examination in Arts was held at the Apothecaries' Hall. At the top of the first class of the pass-list was placed Charles Matthias Lamb, and his certificate was shortly afterwards sent him in the ordinary course. The Society of Apothecaries afterwards received information which led them to believe that Charles Matthias Lamb was not present himself on either of the days of the examination in question, and that he was, in fact, personated by someone else, who answered the examination papers for him. I communicated the suspicions of the Society to Charles Matthias Lamb accordingly, and required him at once to deliver up the certificate, which had been, as the Society believed, improperly obtained, so that the same might be cancelled. The certificate was returned to me the next day. The suspicions entertained by the Society having been thereby confirmed, it seems to be their imperative duty towards the members of the medical profession in general and the students in particular that these facts should be most generally known and widely circulated. I am, &c.,

RICHARD H. ROBERTSON,
Secretary to the Court of Examiners in Arts.

Apothecaries' Hall, London, E.C., April 13.

*** Does Mr. Robertson's duty end here? Are no other steps to be taken?

THE DIAGNOSIS OF BROAD LIGAMENT CYSTS.

LETTER FROM DR. C. H. GOLDING BIRD.

[To the Editor of the Medical Times and Gazette.]

SIR,—Your issue of March 20 contains the abstract of some recent remarks at the Pathological Society by Mr. Spencer Wells, upon the diagnosis of broad ligament cysts, and the points contained are referred to by your correspondent as "new"; but with the exception of the one regarding the microscopic examination of the fluid, all the statements will be found, in substance, in the *Medical Times and Gazette* for July 19, 1851.

Their author, the late Dr. Frederick Bird, there speaking of parovarian cysts, says—"As in true ovarian disease, a large collection of fluid may take place; but, unlike ovarian disease, there will not be remarked an unvarying tendency to its re-accumulation,—in some cases the fluid is probably never again secreted." Further on these words occur—"Whenever it has seemed probable that fluid has collected in the broad ligament I have always urged the propriety of tapping, in the first instance, as soon as the distension of the abdomen demanded relief; and it has been remarked that the secretion has in each case presented the same physical and chemical characters—thin, limpid as water, without any admixture of flocculi, of low specific gravity, saline, and containing no free albumen." Four cases are afterwards quoted, in three of which the fluid was not again secreted, while in one it ceased to be so after the second tapping. The fluid in each case presented the characters already enumerated. I am, &c.,

C. H. GOLDING BIRD, M.B., F.R.C.S.E.

Guy's Hospital, March 31.

DAVOS-AM-PLAZ AS A HEALTH-RESORT IN WINTER.

[To the Editor of the Medical Times and Gazette.]

SIR,—Having had a letter from a patient, enclosing another from a friend regarding the above-named place, as it appeared to them during the past winter, I have thought that the following extracts might be useful to some of your readers. My friend, as he observes, "gave Davos a fair six weeks' trial, saw seven feet of snow fall in a week, and came down in open sledge to Landquart on December 2. The trip lasted twelve hours." After describing his symptoms, he goes on to remark, "I am certain few English doctors ever spent a severe winter up there (at Davos), for if they had, they would never send their patients to it. In the first place, the landlords are the most independent and also impertinent sort of men; if you complain, they tell you simply you must take things as they are; they do not care if you pack up and go, as the place is crowded with Germans and Dutch. The diet is nothing to what one gets here (writing from Hyères); it is not at all suitable for Englishmen. I have, as a sailor, fared worse; but as a sick man, I am sure Davos requires looking to as regards landlords and diet. Another thing is worth while knowing—that is, if you wish your patient to have a south room, he must write for it in the preceding spring; otherwise he is certain to be placed in some hole or other with a northerly aspect. I have seen invalids come up in November obliged to live in places where you would not like to see a servant put up." In addition to the above, my patient's friend writes as follows:—"As you suppose, it has been a miserable winter at Davos,—very little sunshine and much south wind—a regular 'fever wind,' and the great enemy of Davos invalids." After describing the good effects received from the place in the early part of his winter stay, he goes on to speak of the continued bad weather, confinement to the house, and, above all, bad food, as bringing on indigestion and a feverish attack; and he speaks of fever and sore throat as having been rife at Davos, owing to the south wind. He says, "the food is altogether unsuited for the English invalid: it is all very well for Germans and Englishmen with sound digestions, but the invalid requires something more nourishing and better cooked; therefore, the only thing persons with delicate stomachs can do, if they want to go, is to take their own servants and hire apartments." He observes that "for invalids in the earliest stages, or threatened only with phthisis, Davos is evidently a splendid place for bracing, provided the food is good enough. It is too dry for asthmatical patients." Hoping that these observations may be of service, I am, &c., J. W. O.

CORONERSHIP FOR THE ROYSTON DIVISION OF HERTFORDSHIRE.—We are glad to see that there is a medical candidate, Mr. D. B. Balding, F.R.C.S.E., of Royston, for this vacant Coronership. We heartily wish him success, and hope he will have the full support of the profession; but we have so often and so recently had occasion to put forward the reasons why a coroner should be a medical man rather than a member of any other profession that we need not repeat them now.

REPORTS OF SOCIETIES.

CLINICAL SOCIETY OF LONDON.

FRIDAY, MARCH 12.

Sir W. JENNER, Bt., K.C.B., M.D., F.R.S., President, in the Chair.

HYPERTROPHY OF THE LOWER PARTS OF THE FACE.

MR. R. BARWELL exhibited a patient suffering from this affection; and said that simple hypertrophy arising without definite cause—such cause, for instance, as might call forth increased muscular action, stretching, friction, or compression of tissue—was a rare event; especially rare when no alteration of texture, no induration, thickening, or other change accompanied the malady. He had, therefore, brought this case under the notice of the Society, as no similar case appeared to have been previously recorded. The man, who was aged twenty, and a sawyer by trade, went to bed one night, rather less than five years ago, perfectly well, nothing being wrong with his features. On rising next morning, the lips and lower parts of his face were enormously increased in size. There was no pain, heat, or redness, but a considerable discharge from the nose. Even now, when he caught cold, the face enlarged. The history, short as it was, required some consideration—possibly amendment. He said, his face was bigger on that first day than now, and his mouth was then, as now, drawn on one side. Mr. Barwell thought that, as to this first sudden enlargement, the man was probably mistaken; the increase was certainly not inflammatory, and could hardly have been hypertrophy. The first appearance of a marked deformity would make a great impression, which would slowly decline; for instance, he had observed the mouth being on one side at first, but its present crooked position had ceased to attract his notice. Hence it was more than probable that the first change was less marked than he supposed, and also than it now was. At present, the face, beginning at the edge of the jaw, was enlarged as far back as the edge of the masseters; the broad part of this enlargement extended as high as the lower edge of the malar bones; from this point it rapidly narrowed itself upward to the side of the nose, and terminated at the inner corner of each eye. The chief deformation fell upon the lips, which were enormously developed and everted, and for additional space thrown into folds. They were not cracked nor indurated, but in texture perfectly normal. The cheeks also were very thick and bulging. The labial glands were not enlarged. The tongue, though its mucous membrane was fissured, was not increased; the bones of the face were normal. It was very difficult to assign any cause for this condition,—whether the malady might have arisen from some affection of the vaso-motor nerves allowing arterial increase, whereby additional nutrient was supplied to, forced upon, the tissues; or whether the tissues, taking on increased growth, attracted to themselves a greater supply of blood, could not at this date of the affection be determined. One thing, however, was evident, that the area of the increased nutrition corresponded to the distribution of the facial artery. Hence, Mr. Barwell considered the only treatment likely to prove beneficial was to tie both vessels on the ramus of the jaw; which operation he proposed to perform on the morrow at Charing-cross Hospital.

Mr. TIMOTHY HOLMES spoke upon the question of treatment. He asked whether incisions into the hypertrophied tissues or removal of pieces from the inside of the mouth might not be successful.

Mr. EASTES described a case at Guy's Hospital in which Mr. Birkett removed the mucous membrane along the lips and united the edges with success.

The PRESIDENT said, in reference to the commencement of the disease, that the account was hardly reliable, and that the patient's attention had probably been drawn to the condition, previously unobserved, by an acute inflammatory attack.

Mr. BARWELL said that he would, if possible, bring the patient before the Society again after ligaturing the arteries.

TINEA FAVOSA.

Dr. DUCKWORTH exhibited a boy, aged eight, whose scalp and body were affected by this disease. He had had the disorder for sixteen months, and, it was alleged, had been once cured of it for a short time. The disease was very typically represented in this case, the primrose-yellow cups being distinctly seen in parts. The scalp had a strong mousey odour. There was no history of contagion. The boy's parents, Irish people, occupied three rooms near the Mint. Several brothers and sisters were unaffected. The cat in the house was also said to be free from skin disease. The microscope revealed the presence of abundant spores of acorion Schönleinii. Dr. Duckworth commented on the extreme rarity of favosa in London; and stated that this was only the fourth or fifth case that he had seen in the last ten years. The boy was poorly nourished, and had enlarged cervical glands. It was proposed to treat the case by poulticing, and the subsequent use of sulphurous acid; epilation would also be practised. Cod-liver oil and steel were to be given internally.

The PRESIDENT said that favus was an obstinate disease to cure, and that as the patients went from hospital to hospital the cases of the disease appeared to be more numerous than they really were.

FATAL PLEURO-PNEUMONIA IN A PERSON ADDICTED TO EXCESSIVE USE OF ALCOHOL, MORPHIA, CANNABIS INDICA, AND BROMIDE OF POTASSIUM.

Dr. WHIPHAM brought forward a case in which pleuro-pneumonia, though limited to a small portion of one lung, proved fatal in a patient aged fifty-five, who had been accustomed for nearly twenty years to large daily doses of morphia; who had also taken cannabis Indica in excessive doses; and who latterly had been very intemperate in his use of alcohol. The origin of the opium-eating was a pain, real or imaginary, in the rectum, which had attacked him about twenty years ago, from which he had been free until his father died of cancer in that region. He was a person always fond of "physicking himself." Opium in the form of laudanum was prescribed by a surgeon, as an injection per rectum in half-drachm doses, to relieve this supposed pain. This dose, though efficacious for a time, gradually lost its effect; and was gradually increased, until the quantity amounted, in ten years, to an ounce of the watery extract of opium in the course of a week. He then tried total abstinence from the drug, which was followed by nasal catarrh, purging, vomiting, and such utter depression, that his life was almost despaired of. After four months' abstinence, he began again, and eventually took to morphia as being less bulky. When he first came under observation, he was in the habit of injecting two or three grains of morphia per rectum, repeating this dose, at intervals of fifteen minutes, two or three times, until he could "recover confidence in himself." He was advised to try and reduce the quantity gradually. When the daily quantity, however, was less than six grains, the former symptoms, *e.g.*, vomiting, purging, etc., manifested themselves, and he immediately increased the dose. At the same time, chloral hydrate was prescribed as an injection, with the view of diminishing the morphia. So far from this being the case, however, the only result was that he took it ever after in addition to the morphia. Some six or seven years previous to his death, he tried large doses of cannabis Indica, from which, owing to its failure in relieving his pain, he eventually abstained. Bromide of potassium he injected in scruple doses per rectum until six months before his fatal illness. During the last four or five years of his life, he became addicted to the abuse of alcohol, and in consequence suffered repeated attacks of dyspepsia. In the beginning of December, 1874, he was attacked with pleuro-pneumonia of the lower part of the right lung; and, in the treatment of this disease, injections per rectum of two grains of morphia were at first productive of good results, but eventually the drug failed in its stimulating properties, and the patient sank after four days' illness. From subsequent inquiries, it appeared that the regular dose of morphia was one scruple in twenty-four hours, in addition to two bottles of sherry, brandy, and champagne, chloral hydrate in fifteen-grain doses frequently, and occasionally twenty grains of bromide of potassium. The points of interest in the case were—1. That a person could tolerate such large doses of these drugs, and at the same time suffer so slightly from their deleterious effects; 2. The catarrh, vomiting, and purging, which always attended any attempt to reduce the quantity of morphia; 3. The marked benefit which resulted from morphia injections during his fatal illness.

The PRESIDENT said that chloral is now taken to an enormous extent, while opium-eating is not so common.

Dr. DUCKWORTH remarked on the habit that such persons have of falsifying the amount of opium consumed; and

Dr. SOUTHEY also spoke on the secrecy of the habit.

ACUTE NECROSIS OF ULNA: REMOVAL OF THE ENTIRE SHAFT OF THE BONE.

Mr. BARWELL read notes of this case. The patient, a girl aged seven, was brought to him by Mr. Cope, of Croydon, who had attended her for fracture of the ulna. At the time he was called in, considerable inflammation had already commenced; but the case did well for three weeks, when the child again fell, striking her forearm severely. Inflammation of the phlegmonous character, with tendency to abscess, and much pyrexia, set in. Six weeks after the primary injury, Mr. Barwell was consulted, and found considerable deep swelling and pink patches of discoloration along the subcutaneous ridge of the ulna. The limb was hot and painful, especially on movement. The temperature in the mouth was 101·2°. Acute necrosis was diagnosed, and an incision was made down to the bone through the middle third of the ulna. No pus was found beneath the periosteum, though a little existed in the soft parts of the limb. Some smart bleeding was easily restrained by pressure. The wound filled gradually, with the exception of four sinus mouths, and in five weeks the bone could be felt through these sinuses necrosed: while deep bony enlargement showed that new periosteal bone had been formed. A week later, the former line of incision was reopened, and the dead ulna, almost surrounded by new bone, exposed. Mr. Barwell was anxious to remove the dead, with as little injury to the new, parts as possible. Having therefore separated them, as far as could be done, with a blunt periosteal chisel, he succeeded in drawing out the shaft (which was exhibited to the meeting) lengthwise, leaving the epiphyses and the new bone connecting them entire. The Esmarch bandage having been used, scarcely half an ounce of blood was lost. The case went on perfectly well. Two months after the date of operation, Mr. Barwell saw the patient, and found the wound quite healed, the hand and arm perfect in form and in movements, though these were somewhat restrained. Three months later, Mr. Cope wrote—"The case has gone on without a bad symptom; there is perfect use of both elbow, wrist, and hand." Mr. Barwell remarked that he thought the name "acute necrosis" more in accordance with the course of the disease than "acute periostitis." He spoke of the frequent absence of pus within the periosteum until a later period of the malady, and stated that in all cases early incision was imperative; but, as some difficulty existed in recognising the earliest symptoms of the malady, these were—age of patient, pyrexia, deep-seated and severe pain, uniform, deep, and doughy swelling, red patches (not dusky), mottled, on a normally coloured ground, both lying over the painful bone. If the surgeon waited until the swelling was nearer the surface, and pitted, and until the red patches ran together, and became dusky and glazed, he waited too long.

Dr. JOHN HARLEY asked whether there had been discharge of fragments of bone, or gradual disintegration.

Mr. BARWELL believed that the latter process had occurred.

Mr. CHRISTOPHER HEATH said that the case was not an uncommon one, if there had been no fracture, as a consequence of injury. He said that the formation of pus beneath the periosteum was an essential symptom in acute necrosis.

Mr. BARWELL said that there was a period of quiescence between the two injuries. The periosteum was entire at the time of the first incision.

Mr. CALLENDER asked whether the ulna had been fractured; and Mr. Barwell having replied that he thought not, Mr. Callender added that the history of the case was not an unusual one—of a second injury to a limb, and of this second injury being followed by acute necrosis of the shaft of the bone. He suggested that the nutrient vessels might be affected in the first injury, and the periosteum, being more vascular, readily inflamed after the second.

Mr. HEATH said that it would be very difficult to diagnose injury to the nutrient artery of a bone.

PRESENTATION TO MR. T. CARR JACKSON.—Mr. Thomas Carr Jackson, F.R.S.C.E., Surgeon to the Great Northern Hospital, etc., has had the pleasure of being presented with a valuable service of plate by the staff of the British Equitable Assurance Company, in acknowledgment of twenty years' professional service. Mr. Jackson has been connected with the Company since its commencement; and all who know him will easily understand how his energy of character and professional skill have enabled him to render the very valuable services thus recognised.

OBITUARY.

GEORGE CANNEY, M.D., F.R.C.S., ETC.,

OF Bondgate House, Bishop Auckland, died suddenly on the 1st instant, at the age of fifty-five years. He retired in his usual health at twelve o'clock, and his wife found him dead in bed at five o'clock the following morning. Dr. Canney had an extensive practice as a physician in the North; was past Master of the Wear Valley Lodge of Freemasons, and past Provincial Grand Junior Warden of the province of Durham. He contributed "Successful Reduction of Chronic Inversion of Uterus under Chloroform," to *Ranking's Half-Yearly Abstract*, in 1853; "Removal of large Polypous Tumours of Uterus by Extraction and Excision," to the *Medical Times and Gazette*, in 1853; "On the Claim of Priority in the Reduction of Chronic Inversion of the Uterus," to the *British Medical Journal*, in 1866.

SIR JOHN GRAY, KNT., M.D., M.P., ETC.

THIS gentleman—for many years perhaps better known in the arena of public life and politics than in the ranks of the medical profession—died, at the age of sixty years, at Bath early on the morning of Friday week, April 9. He was the third son of the late Mr. John Gray, of Claremorris, County Mayo, and one of a numerous family. A sister (lately deceased) was married to Mr. McCullagh Torrens, M.P. About forty years ago, John Gray entered the University of Dublin, and ultimately chose medicine as his calling in life. In 1839 he married Anna, only daughter of James Dwyer, Esq., of Limerick. Shortly after his marriage he settled in Dublin, and, as a practising physician, became attached to a hospital in North Cumberland-street, where he gave promise of soon attaining an eminent position in his profession. But just at that time the great O'Connell agitation was at its height, and Dr. Gray's enthusiasm led him to exchange the scalpel for the pen. In 1841, he, his brother, Wilson Gray, and Dr. Atkinson purchased the *Freeman's Journal*, a paper which nearly a century before had been founded by another medical man, the celebrated patriot and politician Dr. Charles Lucas. Dr. Gray at first acted as political editor, and ultimately became sole proprietor of this newspaper. In the "Repeal year" Dr. Gray was indicted with O'Connell and his followers. As a result of the trial, which took place in January, 1844, he was sentenced to nine months' imprisonment. After rather more than three months' incarceration all the prisoners were liberated. This episode, so far from deterring Dr. Gray from following his political tendencies, led him to throw himself still more thoroughly into the arena of public life. As an ardent advocate of "tenant-right" and "fixity of tenure," he then unsuccessfully contested the county Monaghan. Fortunately for Dublin, his defeat as a candidate for Parliamentary honours on that occasion had the effect of making him devote more attention to his duties as a member of the municipal council of the metropolis. The establishment of a fire-brigade and the construction of a splendid cattle market on the North Circular-road, Dublin, were mainly due to his efforts. But the great work of his life was the construction of the Vartry Waterworks, by which an abundant supply of pure water was conveyed a distance of nearly thirty miles from the highlands of Wicklow to the city. On June 30, 1863, the Earl of Carlisle, then Lord Lieutenant of Ireland, conferred on Dr. Gray the honour of knighthood, "in special recognition" (to quote the *Dublin Gazette*) "of the indefatigable zeal and high ability evinced by him throughout the whole progress of the undertaking as Chairman of the Municipal Waterworks Committee." In 1865 Sir John Gray was returned to serve in the Imperial Parliament for the city of Kilkenny, and he held his seat until his death. For nearly two years his health had been slowly declining, incessant work telling on a naturally robust frame. To his undying credit be it said that even in his days of weakness he still laboured on in the interests of his fellow-citizens of Dublin, the main drainage of the River Liffey having been the subject which last engrossed his attention. However we may differ from Sir John Gray in politics—in his later years he was a Home-Ruler, as in his earlier days he had supported the "repeal of the Union,"—we cannot refuse him the credit of accomplishing one and advocating another of the greatest sanitary improvements which could be effected in the city of Dublin. These alone should interest every reader in the career of one who carried into public life the lessons of his early medical training.

JAMES HEWITT SAWYER, M.D. Aberd., M.R.I.A., Died April 12, at his residence, Albert Lodge, Stillorgan-road, Donnybrook, at a tolerably advanced age. The announcement of Dr. Sawyer's death will be read with regret by his many friends, to whom his personal qualities and professional talents had endeared him. Until quite recently he occupied the Chair of Midwifery in the School of Surgery, Royal College of Surgeons, and he was one of the Masters of the Coombe Lying-in Hospital. Within the past few months he retired from the active practice of his profession.

MEDICAL NEWS.

Royal College of Surgeons of England.—The following gentlemen passed their primary examinations in Anatomy and Physiology at a meeting of the Court of Examiners on the 9th inst., and when eligible will be admitted to the pass examination:—

Allen, D. George, student of St. George's Hospital.
Beevor, Charles E., of University College.
Berridge, William A., of the London Hospital.
Blaxland, Herbert, of University College.
Cane, Howard, of University College.
Colquhoun, Daniel, of the Charing-cross Hospital.
Coumbe, John B., of St. Mary's Hospital.
Cumming, Robert F., of St. Bartholomew's Hospital.
Dalton, Charles G., of the London Hospital.
Gabe, John, of the Middlesex Hospital.
Gimlette, George H. D., of St. Thomas's Hospital.
Heath, William L., of St. Bartholomew's Hospital.
Henderson, George C., of University College.
Keen, Edward, of St. George's Hospital.
Lapage, Charles C., B.A. Cantab., of the Leeds School.
Mackern, George, of Guy's Hospital.
Martin, Samuel E., of the Belfast School.
Mead, George G., of St. Bartholomew's Hospital.
Nugent, Thomas C., of Guy's Hospital.
Paulley, J. N. Legge, of St. Bartholomew's Hospital.
Poland, John, of Guy's Hospital.
Prideaux, Thomas E. P., of St. Bartholomew's Hospital.
Proffitt, William J. W., of the Middlesex Hospital.
Reader, Jeremiah, of Guy's Hospital.
Richardson, Thomas W., of the London Hospital.
Smith, Herbert U., of St. Thomas's Hospital.
Smith, Thomas F. H., of King's College.
Steele, Henry F., of St. Bartholomew's Hospital.
Symington, Johnson, of the Edinburgh School.
Walker, George, of St. George's Hospital.
Wright, George A., of Guy's Hospital.

The following gentlemen passed on the 12th inst.:—

Battle, William H., student of St. Thomas's Hospital.
Bell, Richard F., of St. Thomas's Hospital.
Bennett, William C. S., of the Middlesex Hospital.
Bowen, Owen, of Guy's Hospital.
Bullock, Joseph E., of University College.
Carlyon, Thomas B., of St. Bartholomew's Hospital.
Duncan, John T., of St. Bartholomew's Hospital.
Eliot, George, of the Westminster Hospital.
Evans, John D., of University College.
Gay, Charles W., of King's College.
Greenwood, Arthur, of the Charing-cross Hospital.
Grimmer, John M., of St. George's Hospital.
Hayward, Thomas E., of St. Bartholomew's Hospital.
Hughes, David A., of St. Bartholomew's Hospital.
Jeans, Francis A., of University College.
Jell, Boyd B., of University College.
Meaden, George A., of St. Bartholomew's Hospital.
Palmer, Harold L., of the London Hospital.
Prowse, Arthur B., of St. Mary's Hospital.
Sharples, Charles W., of the Middlesex Hospital.
Thompson, Edmund J., of University College.
Tidswell, Herbert H., of St. George's Hospital.
Wainewright, Robert S., of Guy's Hospital.
Walsh, William A. S., of King's College.
White, William R., of King's College.

Thirty-five candidates out of the 180 examined having failed to acquit themselves to the satisfaction of the Court of Examiners, were referred to their anatomical and physiological studies for three months.

At this examination, Dr. Fleming, of Glasgow, and Dr. Barton, of Dublin, attended as visitors or inspectors from the General Medical Council.

Apothecaries' Hall. — The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, April 8:—

Bernaya, Herbert Leopold, H.M.'s Dockyard, Chatham.
De Brent, Mortimer John, Marischal-road, Lee.
Briggs, Harry Buchan, Oncombe House, Horncastle.
Coles, John William, Camberwell New-road.
Donahoe, Thomas Bradford, Blackfriars-road.
Sandiford, Robert Trotman, New Ormond-street, Bedford-row.
Twining, Alfred Hughes, Walthamstow, Essex.

The following gentlemen also on the same day passed their primary professional examination:—

Cundell, George Richard, St. Mary's Hospital.
Davis, Frederick Howard, St. Bartholomew's Hospital.
Mathias, James, St. Bartholomew's Hospital.
Moore, Charles Arthur, St. Bartholomew's Hospital.
Smith, Rowland Dunn, London Hospital.

APPOINTMENT.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that place.

Shapter, Lewis, B.A., M.B. Cantab.—Consulting Physician to the Wonford House Hospital for the Insane.

MILITARY APPOINTMENTS.

War Office—Medical Department.—The promotion to the rank of Surgeon-Major of Surgeon Oliver Codrington, which appeared in the *Gazette* of January 22, 1875, is antedated to January 7, 1875; Surgeon Arthur Charles Gaye to be Surgeon-Major, *vice* Alexander Clark Ross, M.D., retired upon temporary half-pay; Surgeon William Evelyn Alston, M.D., to be Surgeon-Major, *vice* James Jardine, M.D., retired upon temporary half-pay; Surgeon James Alexander Scott to be Surgeon-Major, *vice* William Lapsley, retired upon half-pay; Staff-Surgeon John James Henry, from half-pay, to be Surgeon-Major, *vice* George McGusty Carolan, retired upon temporary half-pay; Surgeon-Major Thomas Teevan retires upon temporary half-pay; Surgeon-Major Philip Henry Eustace Cross retires upon half-pay; Surgeon Samuel Wesley Handy, upon half-pay, resigns his commission.

The surname of the Staff-Surgeon placed upon half-pay in the *Gazette* of March 13, 1863, is "D'Arcy," and not "D'Arcey," as hitherto stated.

BIRTHS.

Barnes.—On April 10, at Hammersmith, the wife of E. C. Barnes, M.R.C.S. Eng., L.S.A., of a daughter.

Little.—On February 26, at Singapore, the wife of R. Little, M.D., M.L.C., of twin sons.

McNalty.—On April 8, at 45, Sutherland-gardens, W., the wife of G. W. McNalty, M.D., Surgeon-Major, of a daughter.

Martin.—On April 3, at Abingdon, Berks, the wife of Paulin Martin, M.R.C.S., of a son.

Rayner.—On April 2, at Tiviot Dale, Stockport, the wife of Edwin Rayner, M.D., of a son.

Sumpter.—On April 11, at Cley-next-the-Sea, Norfolk, the wife of Walter Sumpter, M.D., of a son.

MARRIAGES.

Adderley—Burn.—On April 10, at St. Jude's Church, Southsea, Edward Adderley, Esq. (late Captain 5th Dragoon Guards), third son of Henry Adderley, of 76, Inverness-terrace, Hyde-park, London, to Carlotta Isabel, younger daughter of George Burn, C.B., M.D., Inspector-General of Hospitals and Fleets.

Cox—Bennett.—On April 8, at Nice, Robert Cox, Esq., of Gorgie, Edinburgh, to Agnes Harriett, second daughter of John Hughes Bennett, M.D., late Professor of the Institutes of Medicine in the University of Edinburgh.

Langlands—Trevor-Roper.—On April 7, at the parish church of Hoylake, Cheshire, James W. Langlands, Esq., of Liverpool, to Harriet Agnes, daughter of the late George Trevor-Roper, M.D., Rock Ferry.

Piercy—Pettigrew.—On April 3, at St. James's, Calcutta, William Temple, only son of Major Piercy, to Christiana Julia, second daughter of the late Vesalius Pettigrew, M.D., of Colebrook Lodge, Upper Norwood. (By telegram.)

Rennick—Frodham.—On April 8, at St. George's, Bloomsbury, Captain Rennick, Bengal Staff Corps, son of R. H. Rennick, Esq., late Surgeon-General Madras Army, to Euphemia Mill, daughter of the late Charles Fredham, F.R.A.S., 26, Upper Bedford-place, Russell-square, London.

Riddett—Squibb.—On April 10, at St. Paul's Church, Cannes, Philip Thomas Riddett, Esq., of Cannes, to Avise Ellen Maude, youngest daughter of the late George James Squibb, F.R.C.S., of Montague-place, Bryanston-square, London.

Smith—Bird.—On March 12, at the Galle Face Church, Colombo, G. A. C. Vernon Smith, M.R.C.S., son of the late W. H. Smith, Esq., D.C.L., to Caroline Lydia (Lina), second daughter of W. C. Bird, Esq., of Madras, late of Manchester.

Stocker—Dimsdale.—On April 7, at Christ Church, Lancaster-gate, J. Sherwood Stocker, M.D., M.R.C.P., of 2, Montagu-square, W., to Charlotte Frances, elder daughter of Joseph E. Dimsdale, Esq., of 52, Cleveland-square, Hyde-park, London, W.

Surman—Cartwright.—On April 8, at St. James's, Piccadilly, William Henry Surman, Brevet Major 7th Royal Fusiliers, to Marian Bailey, eldest daughter of Samuel Cartwright, F.R.C.S., of 32, Old Burlington-street, London, W.

Thompson—Egan.—On April 8, at Christ Church, South Hackney, George Thompson, M.D., Medical Superintendent of the City and County Asylum, Stapleton, Gloucestershire, to Mary, eldest daughter of the Rev. J. C. Egan, M.A., M.D., Vicar of Christ Church, South Hackney.

Welch—Jupp.—On April 7, at Christ Church, South Hackney, Samuel Welch, M.R.C.S., of Hackney-road, to Julia Sophia, daughter of John Jupp, Esq., of Victoria-park-road, London, E.

DEATHS.

Dicken, Perry, M.D., M.R.C.S. Eng., L.S.A., at Ashby-de-la-Zouch, after a short illness, on April 12, in his 64th year.

JENKINS, WILLIAM HENRY, M.R.C.S. Eng., late of the 84th Regiment eldest surviving son of the late Henry Crutchley Jenkins, Esq., of Brighton, suddenly, at his residence, 103, Collins-street East, Melbourne, Victoria, on February 23, aged 44.

NIXON, CHARLES ALEXANDER NEWBURGH, elder son of the late George Alcock Nixon, F.R.C.S.I., of Enniskillen, County Fermanagh, at 12, Eden Ville, Blackrock, County Dublin, on April 7, aged 24.

POWER, ROBERT FRANCIS, M.D., M.R.C.P., F.R.C.S.I., at 11, Montagu-street, Montagu-square, after a short illness, on April 10.

PROVIS, WILTON, L.R.C.P. Edin., L.M., M.R.C.S. Eng., at the Chantry Mere, Wilts, on April 6, aged 28.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

BRADFORD INFIRMARY AND DISPENSARY.—Physician. Candidates must be duly qualified. Applications, with testimonials, to Mr. Charles Woodcock, Secretary, 65, Market-street, Bradford, on or before June 12.

CARLISLE DISPENSARY.—Assistant House-Surgeon. Applications, with testimonials, to Mr. Davidson, 8, Devonshire-street, Carlisle.

CHELTENHAM GENERAL HOSPITAL AND DISPENSARY.—Honorary Medical Officer to the Branch Dispensary. Candidates must be duly qualified. Applications, with testimonials, to the Board of Governors, on or before April 17.

CHELTENHAM GENERAL HOSPITAL AND DISPENSARY.—Junior House-Surgeon. Candidates must be unmarried and registered. Applications, with testimonials, to the Secretary.

DUNDEE ROYAL INFIRMARY.—Resident Medical Superintendent. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, D. Gordon Stewart, Esq., Solicitor, Dundee, on or before April 21.

FLEETWOOD.—Medical Officer of Health. Applications, with testimonials, to W. Ascroft, Clerk, 1, St. Peter's-place, Fleetwood, on or before April 30.

HULL BOROUGH ASYLUM.—Resident Medical Superintendent. Candidates must be duly qualified and registered. Applications, with testimonials, to the Clerk to the Committee of Visitors, on or before April 24.

KENT AND CANTERBURY HOSPITAL.—Assistant House-Surgeon and Dispenser. Candidates must be duly qualified and registered. Applications, with testimonials, to the Secretary, at the Hospital, Canterbury, on or before April 30.

ST. GEORGE'S (HANOVER-SQUARE) DISPENSARY, 59, MOUNT-STREET, GROSVENOR-SQUARE, W.—Physician. Candidates must be F. or M.R.C.P. Applications, with testimonials, to the Secretary, Mr. G. H. Lean, jun., 73, Park-street, Grosvenor-square, W., on or before May 8.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, WOLVERHAMPTON.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Chairman of the Medical Committee, on or before May 3.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Abingdon Union.—The Second District is vacant; area 7709; population 4630; salary £110 per annum. Also the Workhouse, salary £45 per annum.

Houghton-le-Spring Union.—Mr. W. Curry has resigned the Rainton District; area 3265; population 4945; salary £25 per annum.

Luton Union.—Mr. K. Tomson has resigned the Workhouse; salary £30 per annum.

Mere Union.—The Second District is vacant; area 14,224; population 3557; salary £105 per annum. Also the Workhouse; salary £10 per annum.

Newbury Union.—The Second District is vacant; area 20,633; population 6986; salary £140 per annum.

Spalding Union.—The Gosberton District is vacant; area 10,193; population 2829; salary £40 per annum.

Totnes Union.—Mr. R. Jelley has resigned the Ninth District; area 11,200; population 1959; salary £20 per annum.

Wangford Union.—The Bungay District is vacant; area 15,384; population 6331; salary £90 per annum.

APPOINTMENTS.

Alderbury Union.—Carr H. Roberts, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., to the Fourth District and the Workhouse.

Manchester Township.—George R. Gowland, L.R.C.P. Edin., L.R.C.S. Edin., as Assistant Medical Officer at the Crumpsall Workhouse.

Merthyr Tydfil Union.—Evan Jones, M.R.C.S. Eng., L.S.A., to the Aberdare Hospital.

ROYAL INSTITUTION OF GREAT BRITAIN.—At the general monthly meeting, on Monday, April 5, the Duke of Northumberland, D.C.L., President, in the chair, Witham Matthew Bywater, Esq., Charles Elliot, Esq., C.B., the Lady Caroline Kerrison, Hugo W. Müller, Esq., Ph. D., F.R.S., Francis Peacock, Esq., the Hon. Sir Colley Harman Scotland, Henry Charles Stephens, Esq., Captain Antony Olivier Tabuteau, Sir Harry Verney, Bart., Richard Wheen, jun., Esq., were elected members of the Royal Institution. The Managers reported that they had this day appointed Alfred H. Garrod, Esq., Fellow of St. John's College, Cambridge, Fullerian Professor of Physiology, in pursuance of the deed of endowment. The presents received since the last meeting were laid on the table, and the thanks of the members returned for the same.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—Bacon.

N. N., Shropshire.—The Infant Life Protection Act passed July 25, 1872.

Humphry, Plymouth.—The inhalation of an anæsthetic vapour by a patient about to undergo a surgical operation is as old as the twelfth century.

V. F.—Edinburgh Medical and Surgical Journal, vol. iii., page 439.

Michael B.—See a series of papers published in the *Medical Gazette* for the year 1847 by Dr. Wardel.

A Subscriber, South Wales.—The adulteration of food was prohibited in England in 1267, and punishments for it enacted 1581, 1601, 1836, 1851, etc.

C. O., Chester.—The duty on the licence to practise as a physician in Great Britain was abolished by Act 22 and 23 Vict., c. 36, August 13, 1859.

A. P.—"Science is the knowledge of many, orderly and methodically digested and arranged, so as to become attainable by one."—*Sir John Herschel.*

J. K. K.—Dr. George Cheyne at one time weighed no less than thirty-two stone. To reduce his size he tried a milk and vegetable diet with the best results. Two of his works—"An Essay on Health and Long Life" and "The English Malady, or a Treatise of Nervous Diseases"—contained the results of his own experience. On the publication of the first work, Winter, a well-known physician of the period, addressed the following epigram to Cheyne:—

"Tell me from whom, fat-headed Scot,
Thou didst thy system learn!
From Hippocrate thou hadst it not,
Nor Celsus, nor Pitcairne.

"Suppose we own that milk is good,
And say the same of grass;—
The one for babes is only food,
The other for an ass!

"Doctor! one new prescription try
(A friend's advice forgive)—
Eat grass, reduce thyself, and die,
Thy patients then may live!"

To which Cheyne made the following reply:—

"My system, Doctor, is my own,—
No tutor I pretend;
My blunders hurt myself alone,
But yours your dearest friend.

"Were you to milk and straw confined,
Thrice happy might you be;—
Perhaps you might regain your mind,
And from your wit get free.

"I can't your kind prescription try,
But heartily forgive.
'Tis natural you should wish me die,
That you yourself may live."

Aubrey.—The Barber-Surgeons' Company of London possess a cup of silver, partially gilt, made by order of Charles II., and presented by him to the Company, the Master at that time being Sir Charles Scarborough, who was Chief Physician to the King.

R. W. C.—The degree in question is a highly honourable one. It does not of necessity entitle a man to enter on the Register, but, of course, entitles him to call himself doctor and sign "M.D." It is only obtainable by a strict and somewhat lengthy examination.

Cyprus.—Kensal-green is the oldest metropolitan cemetery; it was established in 1832.

Associate, King's Cross.—The gag used by Sir William Fergusson at the operation on Saturday last is known as Mason's gag, and can be obtained of Messrs. Matthews, of Portugal-street. Mr. Francis Mason is on the surgical staff of St. Thomas's Hospital.

Microscopist.—The lectures of the late Professor Quekett appeared in vol. xxiv. of the *Medical Times and Gazette.*

Mr. Simpson.—The John Case, M.D., to whom you allude, was an arrant quack, who wrote on his house—

"Within this place
Lives Doctor Case."

and on his pill-boxes—

"Here's fourteen pills for thirteen pence,
Enough in any man's own con-sci-ence."

Mr. M.—As a Fellow of the Royal College of Surgeons, and a teacher, you have only to send in your card to the President, when you will at once be admitted to see and hear the examinations, both primary and pass, a privilege confined to the Fellows, some of whom, we are informed, attend every examination.

M., King's College.—Sir William Fergusson was created a baronet in 1866. He was born on March 20, 1808, consequently he is in his sixty-eighth year. Sir James Paget was not created a Baronet until 1871; he was born in 1814. It is a mistake on the part of "Dod,"—his son's name is John Rayhere, not Rayhore: having been born *in* St. Bartholomew's, which itself constitutes the parish of St. Bartholomew-the-Less, he was called after the founder of the hospital.

A Collector.—The portrait of "Guhelmus Cadogan, M.D." painted by R. E. Pine, and engraved by W. Dickinson, is, according to Smith, "scarce." The autograph of B. S. Albinus is extremely rare. Pettigrew states, in his "Medical Portrait Gallery," that he was indebted to Mr. T. M. Stone, of the College of Surgeons, for a *fac-simile* of it for his work; he has now about a dozen.

COMMUNICATIONS have been received from—

Mr. G. Kirkwood, Edinburgh; Mr. Lawson Tait, Birmingham; A. A.W.; Mr. Burdett, Greenwich; Mr. R. Cunliffe Owen, London; Dr Lionel Beale, London; Mr. R. W. Cely, London; Mr. R. H. Robertson, London; Dr. Hussey, Oxford; The Registrar of the Apothecaries' Hall, London; Secretary of the Statistical Society; Dr. A. Inolis, Worcester; Dr. C. Handfield Jones, London; Mr. H. Morais, London; Mr. G. Baown, London; Mr. J. Chatto, London.

BOOKS AND PAMPHLETS RECEIVED—

Annual Report on Unsound and Adulterated Food, by the Medical Officer of Health and Analyst for Dublin—Rivista Sperimentale di Freniatria e di Medicina Legale—Address of the President at the Royal College of Physicians to the Fellows, March 22, 1875—Sir Charles Bell and Sir James Simpson, a Biographical Study, by S. Gamgee, F.R.S.E.—Whitmore's Monthly Report on the Health and Meteorology of the Parish of St. Marylebone—Annual Report of the Glasgow Royal Infirmary—Report of the Health of Liverpool, by W. S. Trench, M.D.—Report on the Sanitary Condition of Burnham, by C. Fox, M.D.—Brewster's Life of Sir Isaac Newton, new edition, edited by W. T. Lynn, B.A., F.R.A.S.—Myriogomycosis Aspergillina (Fungus Ear Disease), by J. P. Cassells, M.D.—Normandy's Commercial Handbook of Chemical Analysis, enlarged by Dr. Noad—Annuli Universali di Medicina e Chirurgia—Etude Clinique sur le Traitement de quelques Complications des Rétrécissements de l'Urèthre, par M. le Dr. E. Martin—Des Contractures, par M. le Dr. J. Straus—Des Paralysies Bulbaires, par le Dr. Hallopeau—Fac-Similes of all the Different Signatures of the Emperor Napoleon I.—Sanitary Character of Andine Heights—Ruptur der Gebärmutter und ihre Mechanik, von Dr. Ludwig Bandl—Zur Diagnostik und Therapie des Hydrops, von Dr. H. Seiler—Health Report of the Medical Officer of Health for Brighton—Dennet on Vegetable Fibres.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—National Food and Fuel Reformer—Philadelphia Medical Times—Pharmaceutical Journal—Centralblatt für die Medicinischen Wissenschaften—La France Médicale—Iron—Wiener Medizinische Wochenschrift—Archives of Dermatology—Indian Medical Gazette—Glasgow Medical Journal—Sanitary Review—O Correio Medico de Lisboa.

APPOINTMENTS FOR THE WEEK.

April 17. *Saturday (this day).*

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 9 a.m. and 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

19. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

Medical Society of London, 8 p.m. Dr. Pedler, "On the Pneumatograph." Dr. Richardson, "A further Report on the Treatment *in extremis* of Cases of Fibrinous Separation within the Heart and Great Vessels."

20. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Pathological Society, 8½ p.m. Adjourned Debate "On the Germ Theory of Disease: being a Discussion of the Relations of Bacteria and Allied Organisms to Virulent Inflammations and Specific Contagious Fevers."

Statistical Society, 7¾ p.m. Mr. E.W. Brabrook, "On Friendly Societies and similar Institutions."

21. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

22. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.

23. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

Clinical Society, 8½ p.m. Dr. Gustavus Fritsche (of Poland), "Case of Fibroma, weighing 35 lbs., successfully Removed" (communicated by Dr. Tilbury Fox). Mr. T. Smith, "Disordered Nerve-Function in an Infant." Mr. R. W. Parker, "Case of Scald of the Glottis, with Deposit of False Membranes in the Pharynx, Larynx, and Bronchi." Dr. T. Henry Green, "Acute Fatty Degeneration of the Heart."

Quekett Microscopical Club, 8 p.m. Dr. Daniel Moore, "Remarks on *Bucephalus Haimeanus*, and an allied unnamed form."

VITAL STATISTICS OF LONDON.

Week ending Saturday, April 10.

BIRTHS.

Births of Boys, 1222; Girls, 1145; Total, 2367.
Average of 10 corresponding years 1865-74, 2302·7.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	910	849	1759
Average of the ten years 1865-74	784·7	726·4	1511·1
Average corrected to increased population	...	...	1617
Deaths of people aged 80 and upwards	...	...	77

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	3	4	...	16	...	3	2	6
North	751729	1	4	7	4	19	3	2	...	2
Central ...	334369	...	1	1	...	13	...	3	1	1
East	633111	...	5	1	...	20	1	2	3	3
South	967692	2	6	11	6	27	2	6	...	12
Total	3254260	3	19	24	10	95	6	16	6	24

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·484 in.
Mean temperature	44·5°
Highest point of thermometer	59·5°
Lowest point of thermometer	36·0°
Mean dew-point temperature	38·9°
General direction of wind	S.W. & N.E.
Whole amount of rain in the week	1·23 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, April 10, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1876.)	Births Registered during the week ending April 10.	Deaths Registered during the week ending April 10.	Temperature of Air (Fahr.) Highest during the Week.	Temperature of Air (Fahr.) Lowest during the Week.	Temperature of Air (Fahr.) Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	Rain Fall. In Centimetres.
London	3445160	45·7	2367	1759	59·5	36·0	44·5	6·95	1·23	3·12
Portsmouth ...	122632	27·3	76	48	...	...	...	...	...	...
Norwich	82842	11·1	45	39	57·0	36·5	43·5	6·39	0·61	1·63
Bristol	196186	44·1	142	105	54·3	32·4	42·0	5·56	1·69	4·29
Wolverhampton ...	71718	21·1	62	26	56·9	31·5	43·2	6·22	0·68	1·73
Birmingham ...	366325	43·6	296	194	55·0	38·0	44·2	6·78	0·80	2·03
Leicester	109830	34·3	72	65	57·0	37·2	44·0	6·67	1·16	2·95
Nottingham ...	92251	46·2	51	55	55·9	36·5	43·4	6·33	0·74	1·88
Liverpool	516063	99·1	430	275	51·0	36·3	42·5	5·84	0·32	0·81
Manchester ...	356626	83·1	286	221	58·0	34·0	44·2	6·78	0·55	1·40
Salford	135720	26·3	134	102	55·3	33·0	42·8	6·00	0·45	1·14
Oldham	87137	18·7	80	57	...	...	...	...	...	...
Bradford	168305	23·3	132	87	51·8	37·8	42·5	5·84	0·76	1·93
Leeds	285118	13·2	226	150	53·0	37·0	43·0	6·11	0·46	1·17
Sheffield	267881	13·6	198	138	53·5	33·0	42·7	5·95	0·59	1·50
Hull	133932	36·8	90	73	57·0	33·0	42·6	5·90	0·40	1·02
Sunderland ...	106342	32·2	78	60	64·0	35·0	44·5	6·95	0·62	1·32
Newcastle-on-Tyne	137665	25·6	81	65	51·0	35·0	40·8	4·89	0·45	1·14
Edinburgh	211626	50·5	122	98	53·5	33·5	44·0	6·67	...	...
Glasgow	534564	88·6	387	298	53·7	33·6	43·1	6·17	0·59	1·50
Dublin	314666	31·3	205	171	54·5	31·4	44·1	6 73	0·11	0·28
Total of 21 Towns in United Kingdm	7742889	37·0	5563	4086	64·0	31·4	43·2	6 22	0·67	1·70

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·48 in. The lowest was 29·13 in. on Monday morning, and the highest 29·87 in. at the end of the week.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

LECTURES ON INJURIES TO THE HEAD.

By JONATHAN HUTCHINSON, F.R.C.S.,
Senior Surgeon to the London Hospital; Surgeon to Moorfields Ophthalmic Hospital and the Hospital for Skin Diseases.

Lecture IV.

CASES ILLUSTRATIVE OF OSTEITIS AND PYÆMIA.

(*Continued from page* 385.)

The cases which I have hitherto quoted have been instances of inflammation of some part of the vault of the skull, and in each the extension from the veins was to the superior longitudinal sinuses. I will now detail one in which the cavernous sinuses were involved. You will see that it is a mixed case, and that inflammation of the subarachnoid spaces was present as well as pyæmia. The case is, I think, an example of pyæmia induced by blows on the frontal region, and followed by suppuration in the orbits. The inflammation of the orbital tissues and skin of lids was, perhaps, almost of the type of phlegmonous erysipelas, and was the true starting-point of the blood-poisoning. There is no proof that contusion of the bone was the first result; and as there was no separation of the periosteum, no external wound, no separation of the dura mater by effusion beneath, and, lastly, as the inflammation occurred in both orbits, I am inclined to shut out the bone hypothesis, and to consider the case one of inflammation of soft tissues only. No doubt the suppuration, in the cavernous sinuses, was secondary to the inflammation of the orbital veins. It is possible that the œdematous state of the subarachnoid tissue was, in its turn, due to the venous obstruction.

Daniel S., aged twenty-six, a bricklayer. On Sunday afternoon, August 21, this man was brought to the hospital, looking very ill, and with his eyes closed by swelling of the lids. He was able to stand and give some account of himself. At my request he walked across the room, but he did so in a feeble, tremulous manner. The eyelids were not ecchymosed, but dusky and brown. There were ecchymoses in the conjunctiva on each globe. There was considerable puro-mucous discharge from the lids, and considerable serous chemosis. He could see and hear well. There was no swelling of the scalp excepting near to the eyelids. His aspect was pale, and he looked as though he were on the verge of delirium tremens. His tongue was pointed at the tip, red at the edges, and furred and dry in the centre. His pulse (standing) was 120, and sharp. He was brought to us by three companions of the lowest class, who were all urgent in giving their statement: that, ten days or a fortnight ago, he had fallen whilst at work in an excavation, and struck his forehead against a ledge of wood. He himself confirmed this statement, and added that he had kept at work for a week after the accident, and had then become very ill, and "had his eyelids swell till he could not see out of them." During the last twenty-four hours he had been very delirious, and his friends had had great difficulty in keeping him in bed. He had several slight rigors, but nothing very marked. A respectable man, the brother of the patient, came also with him, and he told us that he had reason to believe that the story of the accident was false, and that, in fact, his brother had been fighting and had been much abused by his antagonists. He stated, also, that his brother had for long led an irregular life, and had been very intemperate. He believed that the present illness was delirium tremens; and this opinion had several supporters among those of us who saw the man at the time of his admission. My own opinion inclined to the diagnosis of arachnitis. The man's countenance had not the wild, timorous expression of delirium tremens; his pupils were contracted, his skin was hot and dry, and his tongue was red and pointed. All these symptoms seemed to imply inflammation. In the evening, after he had been six hours in bed, my opinion was further confirmed. He was no longer pale, but flushed and hot; his pulse was much sharper, and not so rapid; and his skin was still dry and pungently hot. We now ordered ice to be applied to the scalp, and a pill containing two grains of calomel to be taken every two hours, with a draught containing the sixth of a grain of tartar emetic and ten drops of Battley's sedative. At this visit the man was perfectly rational.

Monday, 21st.—He seemed rather better. He had not been very delirious in the night, and was, when I saw him, quite quiet and rational. Symptoms much as yesterday.

23rd.—11 a.m.: His tongue is very dry; his face is dusky; the pupils of equal size, small and sluggish; his pulse is 124 in the minute; he is rather weaker in the left arm and leg than on the right side; he can use his facial muscles on both sides; he lies in muttering delirium, but when he is roused he speaks quite rationally. 2 p.m.: He is conscious and speaks, gives us an account of the accident, and again denies that he has been fighting. Face flushed and very hot; eyelids much less swollen: less discharge; more rational expression; pupils rather small; pulse about 110, and rather full; skin of arms cool. I made him lift both arms, and he complained that he could not lift the left so well as the right; the same, though in less degree, with his left lower extremity. He did, however, lift the leg quite up. He can move the left side of his face well. Tongue straight, pointed, red at the edges, dry and scabby on the dorsum. He seemed sleepy and oppressed, and, on his falling asleep, I noticed a slight tendency of both cheeks to flap. It had not been observed to occur before. We continued the calomel every two hours; the mixture only every four hours.

24th.—8.30 p.m.: He is now in a profuse perspiration; at the same time his skin is very hot. The nurse says that he is not so sensible as he was yesterday. He says himself "that he cannot explain his words." His tongue is rather moist; his pulse is 136 in the minute.

25th.—He is bathed in perspiration; the skin of his hands is quite soddened in perspiration. There is no perceptible difference in the two sides.

26th.—10 p.m.: Skin everywhere hot; he is restless when roused; he lies in muttering delirium; his pupils, when we first came in, were contracted, but, after an examination, when he had been roused, or when the candle had been held near his face, they dilated, and remained for some minutes widely dilated. There is no absolute paralysis, but it is quite certain that he uses his left limbs, and the whole of the left side of his face, with much less power than on the right side. His pulse is exceedingly rapid, sharp, and feeble. His pupils contracted again when he was allowed to fall into a sort of sleep. During this sleep his breathing was frequently attended with puffing of his cheeks and lips, but not with absolute stertor. Sometimes he appeared to be blowing through his lips. Even during this sleep he is constantly picking at the bedclothes, and frequently mutters.

27th.—He had a shivering fit at ten o'clock this morning. His pulse is too rapid to be counted. He lies with his mouth open. Now and then he slightly raises his head, shakes all over, and makes a moaning noise, somewhat as if he were trying to catch something in his mouth.

28th, 1.30 midnight.—The House-Surgeon notes: "He has had nine fits since nine o'clock. At ten o'clock he had a most severe one, his tongue protruding from his mouth to its full extent, and his mouth being widely extended. His pupils are both very much dilated, but the left more so than the right. There is no difference in the sensitiveness of the conjunctivæ. His pulse is imperceptible. He lies moaning. His bowels are much relaxed, his motions passing involuntarily. He keeps constantly grinding his teeth. I cannot perceive much difference in the sensibility of the arms and legs; but, on tickling the soles of his feet, he resists decidedly more strongly with the right than with the left. He is hardly sensible, but still does not refuse brandy and water. His eyes are wide open, and he recognises his relations."

He died a short time after the above note.

Autopsy, eighteen hours after Death.—On the skin of the back were thickly studded very dark ecchymotic spots. They were irregular in shape and size, all of them raised, and somewhat thickened. The blistered surface of the back of the neck was perfectly black with venous congestion. There was no contusion of any part of the scalp. No material quantity of serum was observed to escape during the removal of the calvaria. The lateral ventricles were opened in the first section, and contained only a small quantity of clear serum. The brain-substance was moderately congested. The pia mater over both hemispheres was decidedly more congested than is normal. The arachnoid on both sides, but especially on the right, was opaque, and, in numerous places between the convolutions, the subarachnoid space was occupied by a yellow, semi-gelatinous fluid. In the structure of the pia mater, on the right side, on the upper surface of the anterior lobe, near the median fissure, was a single thick and conspicuous patch of soft lymph, the size of a sixpence. It was wholly removed by tearing away the pia mater, and the brain-substance

beneath showed no signs of inflammation. At the base of the brain, about the optic commissure, the pons, crura cerebri, and medulla, the subarachnoid space was everywhere opaque with yellow gelatinous effusion. The pia mater was also much congested. On the right side the effusion was greater than on the left, and on the right it extended over the crus cerebri, and upon the adjacent part of the cerebellum. A vein coming round the right crus cerebri to the upper surface of the cerebellum, was found to be choked with a solid pure-fibrinous thrombus. Both cavernous sinuses contained dirty grumous pus, and lymph. The ophthalmic veins also contained thrombi which were softening in parts. In the cellular tissue of both orbits was a considerable quantity of brown purulent fluid. All the structures were matted together with lymph, and this grumous pus was infiltrated amongst them, not contained in any encysted cavity. The right orbit contained the most. The periosteum of the upper walls of the orbit was loosened by the effusion of greasy pus beneath it, but there was no large collection. The right lateral sinus was almost, if not entirely, occluded by an adherent fibrinous thrombus, evidently of some standing. In the lungs were pyæmic deposits in an early stage.

I have troubled you with the notes of two cases at great length, and must now be more brief. For the next one it will suffice that I read a mere diary of the progress, and give the post-mortem only in detail. The patient was a German boy (named Philip K.), aged four, who was admitted in 1864 under the care of one of my colleagues. You will see that in this instance primary trephining did not prevent inflammation of the bone and extension of the inflammation to the membranes and to the venous system. The patient had arachnitis and pyæmia together. I believe that the special symptoms of both had been well marked; at any rate, the hemiplegia, indicating arachnitis, was very definite. During the middle part of the case the boy was not under observation, and I have no accurate facts as to rigors.

May 13. F. A boy was kicked on the head, and received a depressed compound fracture of left parietal bone. Trephining, and removal of a fragment. No laceration of dura mater.
„ 14. S. No cerebral symptoms.
„ 15. Sun. Feverish, but doing well.
„ 16. M. Much the same.
„ 17. Tu. „
„ 18. W. „
„ 19. Th. The wound looked pale. The boy was not so well. Two rigors.
„ 20. F. Not so well.
„ 21. S. Worse. His parents insisted on taking him home.
„ 22. Sun. At his own home, and not seen by anyone.
„ 23. M. Not under observation.
„ 24. Tu. „ Getting worse.
„ 25. W. „ „
„ 26. Th. „ „
„ 27. F. „ „
„ 28. S. Admitted into the German Hospital. Conscious. Right limbs and side of face paralysed.
„ 29. Sun. In stupor. Mouth drawn to the left.
„ 30. M. Died at 2 p.m.

Autopsy.—Extensive arachnitis on the left side. Pyæmic deposits in internal organs. Pus in superior longitudinal sinus. Pus around fracture of one clavicle.

Through the courtesy of the medical officers to the German Hospital I saw the parts removed at the post-mortem, and obtained the dura mater. There was a patch the size of the palm of the hand (having the trephine aperture as its centre) on the external surface of the dura mater, which was covered with lymph, which adhered to it, constituting a thick layer. There was no encysted accumulation of pus. The bone at this part was discoloured and greenish. The arachnoid beneath this part was extensively inflamed, containing lymph and pus, and the surface of the hemisphere was smeared over with the same. There was pus in the superior longitudinal sinus, and in the veins leading from the injured bone to the sinus. Numerous purulent deposits were found in the liver and lungs.

On the under surface of the dura mater the deposit of lymph was very free indeed, and in the spirit-preparation it still showed a layer almost as thick as leather, and tolerably tough. This layer lined almost the whole of the left half of the dura mater, but was thickest, first beneath the trephined part, and secondly beneath the anterior angle of the parietal bone. At the latter part it extended to the base of the skull.

On the right side the dura-matral arachnoid was smooth and glistening, and quite free from lymph, excepting at a few points near to the longitudinal sinus. The middle part of the longitudinal sinus was that chiefly inflamed. In the anterior part there was blood-clot, which did not adhere to the lining membrane. In the middle tract the layer of effused lymph adhered closely to the lining membrane. In the centre of this was a fluid like pus. In the posterior third of the sinus were strings of blood-clot, some of them fibrinous and grey, others containing red corpuscles. There was a fracture of the right clavicle, and the ends of the fragments were surrounded by pus.

AN ADDRESS
ON THE
RELATION OF PUERPERAL FEVER TO THE INFECTIVE DISEASES AND PYÆMIA.

Delivered before the Obstetrical Society of London, on Wednesday, April 7.

By T. SPENCER WELLS, F.R.C.S.,
Surgeon to the Samaritan Hospital, etc.

In opening a discussion this evening on the relation of puerperal fever to the infective diseases, which are among the most numerous class of cases treated by the physician and general practitioner, and to the varied forms of traumatic fever which, under the head of pyæmia, fall more frequently under the care of the operating surgeon than of the obstetrician, I wish particularly to impress upon all who honour me by their attention, that my object is rather to elicit than to impart information; to call forth the stores of knowledge now latent in the Society, to ask for the results of your observation, rather than to attempt to add to the knowledge of the Fellows by any contribution of my own.

It has been the custom of the Society in whose room we meet to stimulate the Fellows to enrich the *Transactions* by papers of original research and sterling value; to make this one of the chief objects of the Society; and, if not directly to discourage, certainly not to encourage, full or exhaustive discussions at the meetings. I have long felt, and have publicly expressed my conviction, that this course might be amended with great advantage to all medical societies, and to the advancement of medical science and practice; and I had some small share, in the earliest of the preliminary meetings of this Society—I may say even before the Society was constituted—in determining that in our *Transactions* there should be a permanent record, not only of the papers read before the Society, but of the discussions to which the papers gave rise. This custom has ever since been honoured in the observance, and the example is now being followed by other societies. If I am not greatly mistaken, the discussion on Pyæmia in the seventh volume of the *Transactions of the Clinical Society* will be referred to hereafter with more interest and profit than any of the papers in that or in any of the earlier volumes of that Society's *Transactions;* and the discussion on Cancer in the twenty-fifth volume of the *Transactions of the Pathological Society* was most certainly as great an addition to the value of that volume as one could well imagine, until last night many of us heard the opening address of Dr. Bastian on a subject closely allied to some of the questions which I have to bring before you this evening, and the admirable speech of Dr. Sanderson in commencing the discussion, both full of deep thought, and eminently characteristic of the tendencies of our age and our nation to reject any theory which is not supported by facts, and to bring the highest developments of science to our help in the needs of daily life. These discussions lead to the almost painful reflection, how greatly would the value of the earlier volumes of the *Medico-Chirurgical Transactions* have been increased if we had now not only a copy of the papers read, but a report of the comments they called forth from Baillie and Halford; from Cline, Cooper, and Abernethy; from Travers, Brodie, and Lawrence; from Bright and Addison. The marble busts of these great men of the past now surround us; but the workers of the present and the future can find no record of what they have said here, and can only

regret that, while their form and features are preserved by the sculptor, their thoughts have not been embalmed by the reporter and the printer.

"Who of us can tell
What he had been, had Cadmus never taught
To man the magic that embalms the thought?"

As I have reason to believe that the discussion this evening will be fully and accurately reported, and will be preserved in our *Transactions*, I must now ask you to pardon these few prefatory remarks, and also to forgive me if I venture to express the hope that, as the subject of puerperal fever is not of less interest than that of cancer, is closely allied with pyæmia and with the relation of bacteria to contagions and infectious diseases, it will be debated with as much ability and as complete freedom from any other than purely scientific and truthful feeling, as have characterised the discussions at the Clinical and the Pathological Societies.

If you permit me to consider what I have so far said as introductory, and to commence the subject of puerperal fever now, I hope I shall not encroach upon your time beyond the fifteen minutes within which limit I have tried to condense what I wish to say.

In order that some definite direction might be taken in this inquiry, attention has been already publicly requested to six leading questions. The first, second, and third are so closely allied, that I will, if you please, read them together now.

1. Is there any form of continued fever communicated by contagion or infection, and occurring in connexion with childbirth, which is distinctly caused by a special morbid poison, and as definite in its progress and the local lesions associated with it—as typhus or typhoid, scarlet fever, measles, or small-pox?

2. May all forms of puerperal fever be referred to attacks of some infective continued fever—as scarlet fever or measles—occurring in connexion with childbirth on the one hand, or, on the other, to some form of surgical fever, or to erysipelas, caused by or associated with changes in the uterus and neighbouring parts following the process of childbirth?

3. If all cases of contagious and infectious diseases which occur under other conditions than that of childbirth are set aside, does there remain any such disease as puerperal fever?

In framing these questions, after searching for an accurate definition of the term "puerperal fever," or for some short description of this as distinguished from other forms of continued fever, I have taken, as the most accurate and comprehensive, the definition from the Nomenclature of Diseases drawn up by a committee appointed by the London College of Physicians—for which definition I believe the committee are indebted to Dr. Arthur Farre. It is this: "A continued fever, communicable by contagion, occurring in connexion with childbirth, and often associated with extensive local lesions, especially of the uterine system." To this definition this very important *note* is added: "In returning cases of puerperal fever, the more important local lesions—such as peritonitis, effusions into serous and synovial cavities, phlebitis, and diffuse suppuration—should be specified."

Here, then, we are led, on the authority of the most distinguished obstetric teacher of his day, supported by a committee appointed by the Royal College of Physicians of London, to the conclusion that in puerperal fever we have a contagious continued fever *often* associated with the important local lesions just enumerated; not *always*, but *often*. You may then, according to this definition, have this contagious fever without these local lesions. The poison may be so potent, or the dose so large, that it may kill before there is time for the development of the local lesion; or the dose may be so small, or the poison so feeble, that it only produces some transient elevation of temperature, some greater rate in pulse and respiration, some increased action of skin, kidneys, and bowels, and the morbid material is eliminated before any local lesion is established. But I must ask you to say if, in your experience, you ever saw such a case which could not, on careful inquiry, be traced to exposure of the patient to some one or other of the contagious or infectious fevers—to scarlet fever or diphtheria, to measles or small-pox? I need not remind you how these diseases are intensified or modified by the puerperal condition; and I proceed to ask if, in any case where puerperal fever could not be proved to be really scarlet fever, diphtheria, measles, or small-pox occurring in connexion with childbirth, it was not a traumatic or surgical fever, erysipelas, pyæmia, or septicæmia; the local lesions associated with the fever assuming rather a primary than a secondary importance in the chain of sequence. Time does not permit me to enter on the very important practical question as to the sole dependence of erysipelas upon a specific morbid poison. Whether this peculiar inflammation of the skin and cellular tissue, tending to spread indefinitely, and preceded or accompanied by fever, can arise from the spontaneous generation in the human body of a poison communicable by contagion; or, whether a poison capable of producing erysipelas exists at all times in varying quantity somewhere, ready to increase and multiply under favourable conditions; or, whether (as some believe) erysipelas may arise independently of any poisonous influence from without, we need not inquire now. The important fact for us now is, that erysipelas often attacks the parts concerned in the process of childbirth, and that the fever which accompanies it, intensified by the puerperal condition, is a very fatal form of one of the diseases confounded together under the term puerperal fever. Set aside the infectious fevers and erysipelas occurring in connexion with childbirth; and then we come to the local lesions associated with puerperal fever, and we ask what relations this fever and the local lesions bear to each other. Bruises or tears of the genital canal or perineum; inflammation, and the production of pyrogenic liquids or solids, which may contain both bacteria and some poisonous material or particles which have the power of impregnation; diphtheritic exudation on the mucous membrane of the uterus and vagina, especially on the place of the separated placenta, and plugging of the lymphatic vessels with granular masses or colonies of bacteria or spheroids; the rapid development and growth of plant-life, and the disturbance of function and alteration of structure which must follow; does all this arise under perfect sanitary conditions spontaneously, or from mere chemical decomposition, or only when some poisonous agent is introduced from without—the seed of some plant sown in a fruitful soil?

Again, supposing inflammation is set up in the uterus, in its veins and lymphatics; that the albuminoid secretion known as the lochial discharge contains pus; that pus, or putrid material, or organic germs, are found in the lymphatic vessels of the uterus and the subperitoneal cellular tissue, with diffuse peritonitis; that the blood in the uterine veins clots, softens, breaks up, is the seat of chemical and vital change, is detained in or near the pelvis, or is carried away to distant parts, or alters the composition and properties of all the blood in the body; that we have purulent infection, or pyæmia—putrid infection, or septicæmia; can all this arise in a healthy woman, placed in favourable conditions, if she be not exposed to some morbid poison? Is puerperal fever ever a simple traumatic fever modified by this puerperal condition, or does it always and necessarily depend on the action of a morbid poison? Or, let me put the question in another form. Did you ever see a case of puerperal fever which was not really either a case of scarlet fever or measles, or some such infectious or contagious fever, or erysipelas? or a traumatic fever caused by the bruising or tearing of the parts concerned in childbirth, and the changes in the bloodvessels, blood, and lymphatics, following the injury? If you have seen such a case, then let us know something about the fever, its period of latency, its course and duration, and its termination; and especially tell us something about the poison which has been the cause of the fever.

Time does not allow me to do more than put the question. I await your reply, and pass on to the fourth, fifth, and sixth heads of our subject, which I will also read together. They are these:

4. Assuming that a form of continued fever—communicable by inoculation, contagion, or infection—does frequently occur in connexion with childbirth, how can its spread in private and in hospital practice be most certainly prevented or checked?

5. What relation have bacteria and allied organic forms to the pyæmic process in the puerperal state?

6. What is the value of antiseptics in the prevention and treatment of puerperal fever?

And, to show the close connexion of these with the previous questions, I must remind you that even those who admit that a tear of the perineum, or a bruise of the vulva, by leading to inflammatory exudations around the vagina or uterus, or to clotting of blood in the veins, and consequent changes in the whole of the blood in the body, is quite sufficient to account for fever, which, aggravated by the puerperal condition, may lead to all the local lesions specified in the note to the official

definition of puerperal fever—even those believers in the spontaneous or local origin of the fever, seeing the hundreds of cases where the injury is observed without the fever for every one where the fever is observed, and the prevalence of the fever in certain seasons and districts, and in the practice of certain surgeons or midwives,—still freely admit that it is only under some endemic or epidemic condition, or as a result of contagion or infection, that the ordinary wounds, or bruises, or tears, inevitable during the process of parturition, and commonly free from any serious consequence, become in exceptional cases so deadly.

It is especially in this direction that the knowledge of our country Fellows may be of the greatest value to us. In the practice of a large hospital, or in private practice in a large city or a thickly populated district, it is impossible to say that a patient may not have been exposed to some contagious or infectious disease. But, when isolated cases arise in private practice in the country, where any source of poisoning can be readily traced, the accurate record of such cases, their origin and course, and their arrest or extension, may be of incalculable value. A country surgeon attends a man who has erysipelas after a broken arm. He also attends a healthy woman in an isolated cottage in a natural labour. There is no puerperal fever in the district, yet this woman dies of puerperal fever, and so do others attended about the same time by the same surgeon. These women, in all probability, would have recovered in the ordinary course, had not erysipelas occurred in the man who broke his arm. Such a history as this would have tenfold weight, as being free from numerous sources of fallacy and doubt attending any similar history in a large city.

And, again, we cannot consider the mode of preventing the spread of puerperal fever without examining into the part which bacteria and other organic forms may play either as poisons or as carriers of poison. Here I must ask you to allow me to refer to a paper, which I read twelve years ago at Cambridge, on the Causes of Excessive Mortality after Surgical Operations. It may be found in the second volume of the *Medical Times and Gazette* for 1864. In that paper I gave some account of Pasteur's researches on fermentation, on the organised corpuscles in the air, on spontaneous generation, and on putrefaction; sketching rapidly the results of some of his researches to show the influence of the germs of the lowest organisms present in the atmosphere, especially bacteria and vibrios, upon animal bodies in health and disease, and on our tissues during life and after death, and especially upon the development of epidemic and contagious diseases. I also showed, from the observations of Angus Smith, Chalvet, Eiselt, and Réveil, that germs may be often found in the air of crowded rooms and hospital wards, which only require favourable conditions for their rapid development.

Now that the influence of bacteria is beginning to assume a more general importance in pathological investigation, I must remind you of the account which was published twelve years ago of what I even then thought Pasteur's discoveries were leading us to.

"Carrying on the analogy between puerperal fever and purulent infection in the various forms which contribute so large a share to the excessive mortality after surgical operations, and applying the knowledge, for which we are indebted to Pasteur, of the presence in the atmosphere of organic germs which will grow, develope, and multiply, under favourable conditions, it is easy to understand that some germs find their most appropriate nutriment in the secretions from wounds, or in pus, and that they so modify it as to convert it into a poison when absorbed—or that the germs after development, multiplication, and death, may form a putrid infecting matter—or that they may enter the blood and develope themselves, effecting in the process deadly changes in the circulating fluid. That these low forms of animal life may seriously affect the blood of the higher orders of animals is clearly proved by the recent researches of Davaine, who has furnished us with the first well-established example of a disease of the blood due to the presence of inferior beings which are capable of development and multiplication in the torrent of the circulation. These creatures (bacteria) differ from the whole class of infusoria which form in putrified matter, as they disappear completely as soon as putrefaction of the blood commences. The bacteria are rapid consumers of oxygen, and when they exist in the blood they absorb the greater portion of the oxygen furnished by respiration, and thus hinder the combustion of all the effete and used-up substances which ought to be eliminated from the body. The blood, instead of nourishing the body, nourishes the parasites. Inoculation of animals with fresh blood which contains them leads to their development in the blood of the inoculated animal."

I may also say that, in the same paper, I gave some account of the relation of bacteria to splenic apoplexy in sheep; and referred to demonstrations of the presence of living germs in the air capable of reproducing contagious diseases, by Lemaire finding the achorion in the air which had passed over a scalp affected with favus, and by the experiments of Kennedy and Salisbury on the production of measles by the inoculation or inhalation of fungi given off from mouldy straw or linseed-meal. And then, in concluding that paper, after recording proofs—(1) that the injection of a certain quantity of pus into the blood produces pyæmia and affections characterised by multiple abscesses; (2) that the injection of putrid matter produces septicæmia or putrid infection, characterised by the symptoms of typhoid gastro-enteritis; (3) that the injection into the blood of the exudative materials in contagious diseases, as in glanders, produces the general contagious affections; and that, in all these cases, the introduction of the foreign substance or poison into the blood must be regarded as the origin of the disease,—I went on to give some account of Polli's antiseptic treatment of these various forms of disease by sulphurous acid and the alkaline and earthy sulphites, showing how they arrest or prevent fermentation and putrefaction, and how it might not only be expected that the living fluids and tissues charged with the sulphites would resist the action of morbid poisons, and that there were proofs that, when the sulphites had been taken, they really altered the actions of pus upon the blood of a living animal, as well as that of putrid matters injected into the blood, and that of a virus distinctly contagious and not putrid.

This was in 1864. It was two years afterwards—towards the end of 1866—that Lister began to treat cases antiseptically in the Glasgow Infirmary, using carbolic acid rather than sulphurous acid or the sulphites, but with the express purpose of destroying the organic germs present in the air, or in any of the liquids or solid substances about the patient; or of protecting any wounded or injured part from the contact or development of the germs. How he has gone on gradually perfecting the details of the antiseptic system I need not describe to you; and the results are too well known to require more than the most passing allusion to the prevention of surgical fever, of pyæmia and septicæmia, the checking the spread of erysipelas after its importation into a ward, the lessening of mortality after both the greater and the more trifling operations, the saving of limbs after compound fractures, the healing of large burns, ulcers, or abscesses, and the general freedom of hospital wards from noxious odours and matters, and from the introduction of poison from the dead-house or dissecting-room, while the hospital atmosphere is not only purified for the patients, but for the surgeons and nurses.

If all this have been gained since 1866 in Glasgow and Edinburgh, and in other British and foreign hospitals, where the example has been more or less closely followed; if traumatic fever and pyæmia can be kept out of a surgical hospital, why should not puerperal fever be kept out of a lying-in hospital, or be prevented from spreading, if it have been accidentally imported? There has been a great outcry against lying-in hospitals of late; but I trust this Society may be able to guide the feeling rather in the direction of freeing them from puerperal fever than of destroying them. What has been done by reducing the size of a surgical hospital in Edinburgh and another in London, the size of the wards, the number of beds in each ward, the number of attendants, and enforcing the utmost care in protecting the patient from any contagious or infectious influence, and in securing the greatest possible cleanliness in all things about her; in reducing the mortality after one of the most serious operations to which a human body can be subjected and still live,—is known to those who have watched the progress of ovariotomy. It is for you to say whether a similar enforcement of obedience to the laws of sanitary science, a more exact observation of the origin and progress of the many different conditions which have been classed together under the one head puerperal fever, and of the treatment called for by each condition; and a careful attention to the details of the antiseptic system, as it is brought more completely into accord with our daily increasing knowledge of the natural history of the lowest forms of organic life, shall or shall not be your rule and guide henceforth in your daily practice. What I have said in the very hasty and imperfect sketch it has been possible for me to offer

in the few minutes you have so kindly accorded to me may soon pass out of your thoughts. But I am fully persuaded that there are many here to-night who will be able to assure us that such a diminution of unnecessary or excessive mortality after childbirth may be hoped for as may relieve you and your successors from much anxiety and sorrow, and, while making your own lives more useful and happy, may raise still higher in national esteem the noble profession to which we should all be proud to belong.

ORIGINAL COMMUNICATIONS.

A RARE CASE OF SKIN DISEASE.

By GEORGE GASKOIN, M.R.C.S.,
Surgeon to the British Hospital for Diseases of the Skin.

In a case of skin disease of uncommon character, exhibited on November 27 at the Clinical Society, and reported in the *Medical Times and Gazette*, December 12, 1874, there is displayed a marked deviation from ordinary type, especially as to configuration and growth. The manifestation in skin disease has a general tendency to extension in breadth; it affects rounded shapes and prolongations of a wavy character; seldom, indeed, is it linear, scarcely ever straight; it rarely travels end on, increasing only by its extremity. So much is this the rule, that whenever we meet with any straight lines, or linear prolongations, we are tempted to refer such marks or lesions to artificial production; and this occurred at the Clinical Society, where the case exhibited excited the suspicion of its being nothing else than a factitious urticaria. But a morbid or abnormal condition is essential to the production of urticaria; and such a condition is disposed to the maintenance of other forms of disease. Such a morbid condition was certainly not wanting in the case I lay before you, of which I know not that it has anywhere its parallel in the annals of medicine.

It is now many years since that a young lady of good birth was brought to London for treatment of a skin complaint of very singular character. She had previously been under the care of a country physician of considerable eminence, and by him was referred to Dr. Maton and Mr. Brodie in this metropolis. Through their concurrent suggestions she was at once placed under the sole care and direction of a relative of mine, at that time in the enjoyment of the highest reputation in the treatment of skin diseases.

The young lady was at that time some sixteen years of age. Only a few months previous, in the early days of May, on her appearance at the breakfast-table, it was observed that on her face there were marks of eruption appearing in the form of straight linea; these passed into vesication, and afterwards became purulent, leaving the edges much inflamed. In the lapse of a few days these appearances were seen to subside, the lines dried and healed, and there was left only a faint discoloration on the skin. The eruption next extended to the head after existing about a week on the face; and having remained confined for above six weeks to these parts, the same appeared on the right hand, then proceeded up the arm of that side, and across the shoulder and the chest, and so down the left arm to the other hand, and ultimately it returned to the back part of the shoulders. The legs and, in less degree, the thighs were similarly affected. At the date of her arrival in town there were on the abdomen three such lines, but none were perceived on the sides of the trunk, none on the back or nates, the skin on these parts being perfectly pure and healthy.

These lines varied from six, eight, or even more, inches in length, being sometimes scarcely longer than an inch. In width they varied from an eighth to three-eighths of an inch; but what is most singular is the circumstance that they were all straight, and lay, almost all of them, in lines parallel with the limbs. On each finger, at the date of her arrival, there was exhibited a parallel line passing up the dorsum, and from the knuckles to the bend of the wrist were six or eight such lines, all parallel, beginning each at the knuckles, and each terminating at the wrist. On the arms there were a great many, as well as on the neck, face, and legs, and what added to the appearance of their number was the discoloration left where some of these had healed, at the same time that others were more active and passing through their evolution. They were seen, indeed, in every stage of progress, and might be embraced in one view—the fresh red lines, the vesications, the pustulation, the desquamative process, separation or parting of the crust, and, besides this, the marks left where previous lines had existed. They made their appearance in the course of a single night. Great tenderness was expressed when the slightest pressure was made on lines of recent formation, and this tenderness was much heightened during the inflammatory process.

"The lines or marks of which this eruption is principally composed first show themselves of a red colour, then very much as if the cuticle had been removed; next slight vesication takes place at the ends and edges of the lines, and sometimes in their whole length. The vesicles become pustular, they scab with matter underneath; but a few days only are sufficient for this to dry; the crust parts, and leaves a discoloration on the skin with no cicatrix. The patient says of the eruption that it is sore and painful, but she is never troubled with itching of any kind."

The attendant symptoms in this case are well worthy of attention. Besides the lines above mentioned, there were several pustules in various parts of the body of a phlyzaceous character; "these begin as small pimples, and rapidly proceed to ulcerations in point of size from a pea to a shilling. Where the stocking or other garment sticks closely to the parts, a superficial but ill-conditioned ulcer may appear, continuing longer than in regions not so irritated, and there are spots on the legs which affect an eczematous character. From her infancy the patient has been subject to small vibices upon the hands and fingers, and there are still on the former a number of little purple spots quite unmistakably of the character of purpura."

Two years previous to her coming to London the patient had an affection of the scalp, and lost a good deal of her hair. This affection consisted of a number of red spots, and is conjectured to have got well of itself rather than through the effect of remedies. On the scalp there are now found a few acuminated pimples.

Her country physician writes thus:—"This strange affection began but three months since. Her appearance indicates a constitution not naturally robust. She had at the beginning of last March a febrile affection, with traces of inflammation and congestion in the abdominal and thoracic viscera. Purgatives and leeches near the lower bowel had subdued these symptoms, and matters were going on very well when the present eruption appeared. It showed itself suddenly about the face and head. It now appears removed from the head and nearly so from the face, but seems greatly disposed to diffuse itself over the lower portion of the body. She had on a former occasion been troubled with a complaint of the skin of a somewhat scaly nature, which appeared chiefly on the hands, with a strong disposition to purpura, traces of which may still be seen on the fingers. Pitch pills seem to have been of some effect in removing this, and by these and other means the general health was improved." He then goes on to say that he has exhausted all the resources of his art without making any impression on the present disorder.

"There is no scaliness whatever in the present state of the eruption. The bowels of the patient are very uncertain in their action, and the catamenia not regularly established. The pulse is feeble; it numbers 88. The tongue is furred, whitish, and moist; the appetite good; the bowels generally constipated. There is occasional headache, principally in the morning. The young lady is of fair complexion, with very light hair. She is pale and spare in habit."

This case remained in London under treatment of my relative for about five weeks, during which time he had the opportunity of subjecting it to repeated observation. The opinion which early suggested itself to him, of the lines being artificially produced, seems to have vanished from his mind, since there is no recurrence to this idea in the continuation of his notes, which are very extended and complete. The treatment of the case, which was varied, did not throw much light upon its nature. The biliary function was throughout much at fault, and required constant attention, the bowels being frequently very obstinate. On the other hand, any excessive action increased the eruption. Struck by the general condition of coldness, Dr. Paris strongly suggested the use of port wine, but this immediately produced a marked aggravation. The patient was subjected to the sulphur fume bath, to the external use of sulphuretted water, to the exhibition of slight mercurials and various tonics, and finally of the *Asclepias gigantea*, then in the height of its fame. Of the remedies that were

tried none seemed to give so much benefit as arsenic in moderate doses. This appeared to reduce the pustulation and give a milder aspect to the eruption. In this respect on her departure from town it was very much improved, but the use of arsenic had the inconvenience of producing purging and ultimate aggravation of the complaint at least for a short time. It happened more than once, when she seemed fairly on the mend, that the arrival of a fresh crop defeated expectation, the patient often rising from bed with her face comparatively free from eruption, when in the course of an hour or less time some fresh lines would appear, very often close to one another. On the head also there were sometimes fresh pustules, with slight exudation of blood; but at the end of the treatment, so far as it was persevered in, the tendency to formation of pustules had pretty well ceased; the lines also came out less frequently, but generally increased in length, especially on the neck and forearms. They were also of shorter duration, passing off in twenty-four or forty-eight hours. The application of caustics, such as the nitrate of silver, did not improve any stage of this eruption. It occasioned a thicker scab, which required a longer time to desquamate.

I may observe that exacerbations of this eruption might be generally expected about every fourth day. The patient came from an inland county with a loamy soil, which has certainly sent me more than a usual amount of skin disease. The points to which I would draw attention are the diathetic condition producing psoriasis(?) with purpura—no uncommon combination; the anterior debilitating cause in the preceding fever; the cachexia and general poorness of constitution, probably inherited.

This seems to me all that it is necessary to communicate regarding so singular a case, concerning which the ultimate history is wanting. It has been treasured by me as one of the most interesting I have met with in my studies or experience.

7, Westbourne-park.

TYPHOID FEVER AND SEWER-GAS, ETC.

By ALEXANDER YULE, M.D.

The origin of typhoid fever has been, by some, attributed to the decomposition of vegetable and animal matter poisoning the air and contaminating water or other liquids that are introduced into the system. Lately, in the *Medical Times and Gazette*, it has been shown that the emanations arising from a patient suffering from typhoid fever can contaminate the air when the supply of fresh air to dilute and carry away the poisoned air is deficient in quantity, as may be the case in small rooms where, for various reasons, a free supply of fresh air from without cannot be furnished. In a well-ventilated apartment it is believed that the attendants on people suffering from typhoid fever are seldom infected. Those cases, I imagine, where infection of attendants takes place are such as have been lately related in the *Medical Times and Gazette*. Sewer-gas, in which typhoid fever poison is present (as often occurs), does not, I imagine, except under certain conditions—at present not exactly known,—give rise to typhoid fever. Were sewer-gas, with typhoid fever in it, so poisonous as is generally believed, why do not cases frequently arise amongst the workmen who are employed in the sewers? I think that two reasons may be given. 1. That sewer-gas laden with typhoid fever poison, in order to produce, when breathed, typhoid fever, requires a certain limited amount of admixture with atmospheric air. Where poisoned sewer-gas is in large amount, as in a sewer, the quota of atmospheric air which is requisite to originate in those inhaling it typhoid fever is not present. 2. In those sewers that are properly ventilated, poisoned sewer-gas becomes mixed with air, and then being diffused into the wide ocean of the atmosphere, is thereby rendered innocuous. The case is different when poisoned sewer-gas passes into a private dwelling. There the poison arrives in infinitesimal quantities, and becomes subject to slow and gradual oxidation, by which the poisoned sewer-air becomes active, and those breathing it become affected with the symptoms of fever. Poisoned sewer-gas, where the supply of air is limited (to maintain the train of reasoning), is probably seldom—as shown by its effects on those who are employed in sewers—under the same conditions as sewer-gas poison, in small amount comparatively, when introduced into a private dwelling. In reference to the origin of typhoid fever, accumulated evidence tends to show that it may arise in more ways than one. Possibly, under atmospheric and other unknown conditions, animal and vegetable decomposing matters may originate the poison; likewise it evidently arises *de novo*, like scarlatina, measles, etc. In whatever way it arises, the patient suffering from typhoid fever (by his excreta and otherwise) frequently infects others indirectly. The poison of typhoid fever may be likewise taken up by various unknown articles in addition to milk and water—for instance, food, as bread, etc.,—there remaining latent, and undergoing slow oxidation, until it becomes a dangerous poison.

In the case of the poison of typhoid fever when introduced into the system by means of water or milk, even in the most infinitesimal quantity, it has been shown by its effects to be eminently poisonous. When the poison exists in an aërial form, the conjecture may be made that it requires to be oxidated to a certain point before it reaches a poisonous state. Thus, in porous substances it may remain latent, and slowly develope poisonous properties, so that the material in which it is contained will suffice, when introduced into the system of anyone, to produce the symptoms of typhoid fever.

To conclude these few remarks: In addition to the efficient trapping of water-closets, means for thorough ventilation ought to be adopted, and the most elevated positions selected for the erection of water-closets, so that sewer-gas, if it do escape, may ascend beyond the premises instead of gradually insinuating and diffusing itself over the entire house.

REPORTS OF HOSPITAL PRACTICE

IN

MEDICINE AND SURGERY.

KING'S COLLEGE HOSPITAL.

CASE OF INTERMITTENT HÆMATINURIA.

(Under the care of Dr. BEALE.)

The following notes are abstracted from the report of Mr. George Batterbury, Medical Registrar:—

E. G., aged twenty-five, clerk, was admitted on November 23, 1874, under the care of Dr. Beale, suffering from an attack of hæmatinuria. Patient stated that he had been in the habit of drinking rather freely of beer—about two quarts a day,—but very little spirits. Has had two attacks of rheumatic fever, one when eleven years old, and another when sixteen. Had gonorrhœa twice.

History of Present Attack.—Early in November patient felt week and languid, and on the 8th had a rigor, which was followed by vomiting. Continued his work as usual on the 9th, 10th, and 11th, on which day he had another rigor, lasting two hours. The next day he remained at home. During this time the urine was of natural colour. On the 13th he walked out to call on his doctor, and on his return had another rigor, soon after which he passed about a pint and a half of urine "as black as porter." There was no vomiting or headache, and his appetite continued good. The next five days he remained at home in bed, and the urine gradually got lighter in colour. On the 19th he walked out again, and returned home without experiencing any bad result. On the 20th he took another walk, and on his return his lips were white and his feet felt cold, but there was no actual rigor. Was unable to eat his dinner. At 5 p.m. he passed some very dark-coloured urine. Half an hour afterwards he again passed urine, which was perfectly clear and colourless. Next morning the urine was again dark coloured. He remained at home on the 21st and 22nd, and on the 23rd he came to the hospital as an out-patient, under Dr. Ferrier. He passed urine in the out-patient room which was very dark coloured. Dr. Ferrier therefore recommended him for admission.

State on Admission.—Patient is well nourished, but of very pale complexion. Says he has always been very pale. Complains of muscular pains about the shoulders, and has a slight headache. Heart- and breath-sounds normal; liver-dulness normal. The urine is of the colour of dark sherry; specific gravity 1007; contains a small quantity of albumen. No blood corpuscles seen on microscopical examination. To take iron and quinine.

November 27.—Urine pale and clear; specific gravity 1016; no albumen.

December 2.—Got up in the afternoon. After he had been out of bed for a short time a shivering fit came on, which lasted twenty minutes. His temperature rose to 103·2°. On getting back to bed he perspired freely, and his temperature fell to normal. Urine remains natural.

3rd.—Got up again to-day, and sat by the fire with two coats on. No shivering. After this date the patient continued to improve, and was discharged convalescent on December 16.

Remarks.—Although unfortunately the darkest specimens of urine passed by this patient were not microscopically examined, there can be little doubt that the man suffered from a mild form of that curious condition—*hæmatinuria*—in which much altered blood-colouring matter is from time to time discharged in the urine with albumen, without the escape of any perfect blood corpuscles. An attack usually comes on quite suddenly with lumbar pain, chilliness, cold feet, and sometimes actual shivering. In from one to three or four hours very dark urine is voided. In some cases this is quite loaded with albumen. The deposit which subsides consists entirely of minute granules of dark brown or reddish colouring matter, with many casts composed of similar granules and urates embedded in mucus. The next specimen of urine passed is paler, and after a few hours the secretion becomes quite normal, all deposit and every trace of albumen having totally disappeared. After a few days perhaps the attack recurs, or the patient may remain in fair health for several weeks or months before he again suffers from hæmatinuria. As regards treatment—at least, in severe cases—quinine is of great use. The patient may take five or ten grains or more three times a day. A warm bed will relieve the distressing chilliness experienced at the commencement of the attack, and iron in some form should be given when the acute symptoms have passed off. There is much difference of opinion concerning the real nature of this curious affection, but circumstances render it probable that it is somewhat closely allied to the class of intermittent fevers.

GUY'S HOSPITAL.

OPERATIONS IN THE OPHTHALMIC DEPARTMENT.

On Monday, April 5, the following operations were performed by Mr. Higgens :—

The first two were ordinary cases of convergent strabismus. The one in a little girl of nine years old, with $\frac{1}{18}$ of hypermetropia; the other in a young woman of nineteen, with hypermetropia of $\frac{1}{20}$ and amblyopia of one eye. Mr. Higgens divided the internal rectus of the eye that squinted habitually, in each case remarking that, if refraction was attended to afterwards, and the muscle and all the subconjunctival tissue divided thoroughly, there was seldom need to operate on more than the one eye.

No. 3 was a case of posterior polar cataract, extensive in the left eye, slight in the right. Iridectomy downwards was performed in the left, so as to let in the light through the clear portion of the lens.

No. 4 was a case of old granular lids in an Irish woman of fifty. The disease had gone on to opaque cornea and closed pupil. She had had her eyelashes removed elsewhere. Mr. Higgens performed iridectomy outwards to improve her sight.

Nos. 5 and 6 were cases of anæmia of the optic nerves—one of twelve months' and one of three years' standing. They had both been treated by injection of strychnia without improvement. Mr. Higgens proceeded to iridectomise one eye in each case, remarking that, as the changes did not appear to be atrophic, but simply a condition of bloodlessness of the optic nerve and retina, he thought that the performance of iridectomy might exert a beneficial effect on the interocular circulation.

No. 7 was a very interesting case of tumour of the orbit in a man forty-eight years old. It had been first noticed a month ago as a small pimple over the caruncle. There now appeared a somewhat vascular growth under the conjunctiva, involving the semilunar fold and caruncle of the right orbit; the growth projected to the edge of the cornea, its edge being slightly concave. It is of firmish consistence, and there is some muco-purulent discharge from the surface; it is about the size of a lachrymal gland, and not unlike one in appearance. The lids will easily close over it. Vision is perfectly normal. Mr. Higgens excised the growth with a pair of scissors, and stitched the conjunctiva together—remarking, after he had examined it with the microscope, that it would probably grow again, as its structure consisted almost entirely of round cells.

No. 8 was a congenital cataract of the lamellated variety in a baby of six months old. Mr. Higgens needled both lenses, as the opacities were too extensive for iridectomy to improve vision.

No. 9 was an old case of corneal opacities, with adhesion of iris and closed pupil, in a young man of eighteen. Mr. Higgens performed double iridectomy, inwards and outwards.

No. 10 was a case of anterior synechiæ in a girl of fifteen, which had been previously detached and had re-adhered. Mr. Higgens passed a broad bent needle through the upper part of the cornea, and cut through the adhesion.

No. 11 was a case of cyst in the upper part of the orbit, with the following history :—Four months ago, patient, a young man of nineteen, was poked by a finger just between the eyebrow and the globe. There was no black eye, but the tissues immediately swelled; and he describes that the next day he could not see out of the eye for the swelling. He was blistered, etc., and in about a week the swelling subsided a good deal. When he first came under Mr. Higgens's care three months ago there was partial ptosis and paresis of the superior rectus. A tumour could be felt in the position of the lachrymal gland, which was at first thought to be an enlargement of that structure. He was treated with iodide of potassium. There is now a fluctuating swelling, about the size of a walnut, situated below the outer part of the upper margin of the left orbit, possibly connected with the lachrymal gland. The eyeball is displaced downwards, but the movements are unimpaired. $V = \frac{20}{50}$. The retinal veins are distended, and the optic nerve hyperæmic. No pulsation can be felt, and none detected with the ophthalmoscope. Mr. Higgens tapped the cyst with a fine trocar and canula, and drew off about two drachms of orange-coloured fluid, semi-transparent, the latter part tinged with blood. The tumour entirely disappeared; a graduated compress was applied.

No. 12 was a senile cataract, in a woman of sixty-eight years, which Mr. Higgens extracted by a linear incision with iridectomy upwards. A clear pupil was obtained. Mr. Higgens remarked that when a patient could stand the operation without an anæsthetic, he preferred to extract downwards, as it was easier, and did away with the use of a speculum and fixing forceps; but when an anæsthetic was used, he saw no advantage to be gained by the lower section.

No. 13 was a second iridectomy on a man thirty-seven years old, with opacities in the vitreous, who had been previously operated on in January.

No. 14 was a second iridectomy in a man suffering from staphyloma cornæ following perforating ulcer. The iris was found to be adherent to the scar, and some little difficulty was experienced in detaching it.

The anæsthetic now used in the eye wards is the mixture of alcohol, chloroform, and ether, in the proportion of one, two, and three parts respectively, which was recommended by the Committee of the Royal Medico-Chirurgical Society appointed in 1863 to inquire into the action of anæsthetics. It seems to answer remarkably well for eye operations, as it does not make the patients nearly so sick as chloroform or ether; and, while it is stated to be as safe as the latter, it certainly is not nearly so unpleasant to the inhaler or exhibiter.

The medical and surgical museum of the late Mr. Turner, surgeon, of Manchester, has been presented by his executors to Owens College. The deceased gentleman bequeathed this valuable museum to his executors for the purpose of presentation to some institution in Manchester. It will be designated "The Turner Collection."

Small-pox and Vaccination in the Punjaub.—The report of the Sanitary Commissioner of the Punjaub for the week ending February 6, with reference to small-pox, is satisfactory. He states that, though the deaths from small-pox have risen from 312 to 347, the gross number of cases of this disease is very trifling compared with what it usually is at this season. There can be little doubt, he adds, that the wide extension of vaccination of late years has greatly reduced the mortality from small-pox. The small-pox epidemic at Hissar in January last has been almost extinguished by vigorous vaccination, under the direction of the Municipal Committee.

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,, ,,	*Six* ,,	0	15	0
India	*Twelve* ,,	1	10	0
,, (*viâ Brindisi*)	,, ,,	1	19	0
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The Medical Times and Gazette *is published on Friday morning, Advertisements must therefore be sent to the Publishing Office not later than One o'clock on Thursday.*

Medical Times and Gazette.

SATURDAY, APRIL 24, 1875.

THE PRESIDENTIAL ADDRESS AT THE ROYAL COLLEGE OF PHYSICIANS.(a)

The mere fact that a Presidential Address to the Fellows of the Royal College of Physicians, in Comitia assembled, has been formally published to the world at large, is an event that would command notice by reason of its extreme novelty, even had the address itself no claims on our attention. But an address from Sir George Burrows, wheresoever it may be delivered, is sure to invite and merit attentive consideration. We therefore propose not to content ourselves with only noting the publication of the Address of the President of the Royal College of Physicians to the Fellows, at the annual general meeting in March last, but also, in response to what must have been the motive of publication, to make, most respectfully, a few comments and criticisms on some parts of the Address. Much of it consists of a clear and very interesting summary of the events of the past year, which "concern the material interests and reputation" of the College, while the rest is devoted to a review of occurrences, during the same period, which affected the College in relation to the outside world; and this latter is, we imagine, the part of the Address that the Fellows had in view when they requested the President to allow it to be published.

One of the subjects here treated of is professional remuneration, "several Fellows of the College" having called the attention of the President "to the present unsatisfactory scale of remuneration to physicians practising in the metropolis," and having "forcibly pointed out that the fee which was deemed a sufficient honorarium a century ago by no means adequately compensates the modern physician for the additional time and skill devoted to patients residing in distant parts of this vast town." This sentence contains *the* grievance which may be complained of—the increased distances that have to be travelled now *in* London for the ordinary single fee. The skill devoted to patients must be the same, whether the distance be one mile or half a dozen. Now, we certainly are not going to take any exception to the tone of the President's remarks on this subject of professional remuneration as affecting physicians, for he has treated it in, we venture to say, the same spirit in which we spoke of it in our number for February 6 in this year. He points, as we then did, to the greatly increased expenses to which the metropolitan physician is necessarily put nowadays, and the greatly diminished relative value of the "long-established conventional fee"; and he dwells also, we are glad to note, on the important fact that this fee is "an honorarium." He notes that "the College have never laid down any fixed regulations as to the amount of honorarium to be expected by the consulting-physician," and he does "not presume to advise the Fellows to deviate from that principle." In fact, he only states the question and some of the difficulties that surround it, but does not propose any remedy. Out of kindness and consideration, we take it, towards those who had called his attention to the matter, the President spoke on it, but we should like to ask the Fellows whether it was quite wise to request him to publish to the world his observations, when the result of them is this: "I have long and frequently thought over this perplexing question, but, I confess, have not been able to lay down any principle which can be strictly carried out in the solution of the difficulty"? The question is, undoubtedly, a very difficult one, and a very delicate one, if it is to be made a question at all; and we much doubt the advisability of any attempt to ventilate it in public. Some of the lay world would suggest, we suspect, that the desire of the majority of physicians is not so much to see an increase of the ordinary fee, as an increase in the number of patients paying it to them; and perhaps it may also be asked how it is that the junior, and the senior and leading members of the order all expect the same fees?—how it is that there are not, apparently, some such differences among them in this respect as obtain between the junior, and the senior and leading members of the bar?

Another and a considerable portion of the Presidential Address is devoted to a compressed summary of the difficulties which have attended the attempt to form one Conjoint Examining Board for England. We have not space for more than a few very brief remarks on this; but we must confess that it appears to us that but scant justice has been done to the action of the Apothecaries' Society in the matter. The Society withdrew from further conference on the scheme, in its earlier days, because their late very able solicitor insisted that their Act of 1815 debarred them from taking part in it; but so soon as they could do so they obtained an Act of Parliament to remove their disabilities, and then they declared their readiness "to confer with and co-operate with the other medical authorities of the kingdom" in the formation of the proposed Board; but that their enabling Act was not sooner obtained was due to the action of the Government of the day, much rather than to any fault on the side of the Apothecaries' Society; and, so far as we can judge, the Society acted as loyally in the matter as any other of the medical authorities; but they did not make the mistake of attempting to do that which they could not do without an enabling Act. Their solicitor always asserted that the same difficulty would arise in the case of the College of Surgeons, and this was frequently pointed out in our own pages; and the present and latest obstacle to the progress of the formation of the Board has arisen from this very difficulty, so long and clearly foreseen and insisted on. The action of the Society of Apothecaries has, we imagine, been fully justified by the facts that the Society had to obtain, and that the College of Surgeons are now at length proceeding to obtain, an enabling Act; though it

(a) "Address of the President to the Fellows of the Royal College of Physicians, March 22, 1875." London: Harrison and Sons, St. Martin's-lane.

must be stated, in excuse of the College, that their own legal advisers—one of them one of the most eminent ornaments of the bar—assured them that their charter placed no obstacles in the way of their taking part in the proposed Board.

The statistics of the College of Physicians, as stated in the President's Address, are "encouraging and satisfactory." There are now 289 Fellows, 497 Members, and 147 extra-Licentiates and old Licentiates; but the greatest proof of the increased vigour and vitality of the College is the fact that the Licentiates of the new order number 921, as many as eighty-five having been admitted last year. This shows, as the President remarks, "how highly the College licence is estimated, and how wisely the College acted some years since in extending their connexion and influence through such a large section of the Profession,"—that is, in taking up as a part of their duty the work which in 1815 they refused, and left to the Society of Apothecaries. In speaking of the additional responsibilities and obligations towards the profession which this work entails on the College, the President eloquently reminds the Fellows that "they must, by their learning, their scientific attainments, and their honourable bearing, uphold the social status of the profession, and march forward in the van of those who are labouring to extend the boundaries of medical science, and to sustain our art upon more stable foundations."

THE GOVERNMENT SANITARY MEASURES.

Monday, the 19th inst., was a grand field day of sanitary measures in the House of Commons, no less than three of the Government Sanitary Bills having been under discussion. The Artisans' and Labourers' Dwellings Bill was again under consideration in Committee; the Public Health Bill was read a second time; and the House went into Committee on the Sale of Food and Drugs Bills, and got as far as the sixth clause. Some new clauses were added to the Artisans' and Labourers' Dwellings Bill, by which the measure was strengthened and improved. The most important of these new clauses were—one providing for an inquiry by the confirming authority, on the refusal of the local authority to make an improvement scheme; one providing for the appointment of a deputy in case of the unavoidable absence of the medical officer of health; and one, moved by Sir Sydney Waterlow, and accepted by the Home Secretary, to provide that, if the local authority shall have failed, after the lapse of five years, to properly utilise land obtained and cleared for the erection of working men's dwellings, the confirming authority may order it to be publicly sold, subject to conditions insuring the carrying out of the objects for which the land had been set aside and cleared. Some clauses also were amended, and the Bill was, at last, "amid considerable cheering," ordered to be reported as amended to the House:—the happy attainment of this stage in the progress of the Bill being no doubt facilitated by the absence of Mr. Fawcett from the debate.

On the order of the day for the second reading of the Public Health Bill, Dr. Lyon Playfair acted the part of the candid friend of the President of the Local Government Board, and, in the most "friendly spirit," pointed out that, when the Bill is regarded as an amending Act, it is found to possess most grievous defects: it leaves the law relating to nuisances unaltered, though "the Court of Queen's Bench had recently held that a nuisance must be injurious to health, and that decision made the present law to a large extent unworkable"; it scarcely touches the law relating to infectious diseases, nor does it enlarge powers which medical officers have declared to be illusory; it contains no new provisions for coping with preventable disease, and still leaves action to be taken by the Local Government Board only when a high death-rate gives the alarm; and so on. But as regards the consolidation of the law, he believed that the work of the Bill "had been done remarkably well." Mr. Sclater-Booth replied that the Bill was not intended to stereotype the existing law, that it was primarily a consolidation Bill, and as such would no doubt clear the way for the addition of those reforms in the existing law which Dr. Lyon Playfair had indicated; and that he thought that in future sessions it would be found that by this measure of consolidation the amendment of the law and the progress of sanitary reform would be greatly facilitated. We cannot give time or space for further remarks on the Bill just now; but we must notice Colonel Barttelot's fear lest the Government medical inspectors should be empowered to supervise all the local medical officers. "The local authorities," he remarked, "are perfectly willing in cases of difficulty to appeal to the central sanitary authority," and this he thinks is quite sufficient. Occurrences like the Over-Darwen outbreak of fever have arisen from the state of things approved of by Colonel Barttelot; but he would no doubt have the sympathy of Mr. Stansfeld in his dislike to medical inspectors. Local medical officers themselves would, we suspect, be thankful for advice and teaching from the Government medical inspectors as to how to prevent disease, instead of getting their help only when disease has clutched a place by the throat, and the death-rate is rapidly rising.

When the House went into Committee on the Sale of Food and Drugs Bill, the first amendment was the introduction of the word "water" into Clause 2, in order "to make it clear that water might, under this Bill, be subject to analysis"; as the clause already declared that "the term 'food' shall include every article used for food or drink by man, other than drugs," the insertion of the word "water" seems almost superfluous, but we suppose there is no harm in "making assurance doubly sure." Much time was spent in fighting over the famous word "knowingly," and it is not easy to feel quite sure as to the results of the struggle; but we believe that the "knowingly" in the first part of Clause 3, which concerns the manufacture of articles of food, was ordered to be omitted; while the second "knowingly," which applies to the tradesman, was retained. Whatever may be thought about the retention of the word "knowingly" at all, we must be thankful for its omission from the first part of the clause; and this strengthening of a very weak measure was mainly due to the efforts of Dr. Cameron, Dr. Lyon Playfair, and Mr. G. P. Villiers, the last forcibly impressing on the Committee that if "they were in earnest in putting down adulteration, they ought not to insert these unnecessary words." Mr. O'Sullivan was anxious, to amend the clause, with the special view of protecting that "branch of Irish industry," the manufacture and sale of pure whisky, and enlivened the labours of the House by a description of some terrible compound known as "silent" whisky, the effect of which upon the drinker is said to be "like a torch-light procession going down the throat"; but he was pacified by an invitation to talk the matter over with the Chancellor of the Exchequer and the practical officers of the Customs. Clause 4 was very beneficially and decidedly "amended" by the insertion of words prohibiting the mixing of any drug with any ingredient or material "so as injuriously to affect the quality or potency of such drug," the clause as it stood only forbidding the addition of substances "injurious to health." The word "knowingly" was retained in this clause, though Dr. Lyon Playfair moved its omission for the good reason that the persons affected would not be ignorant shopkeepers, but chemists and druggists, who ought to have some real knowledge of the nature and quality of the articles they sell. Mr. Sclater-Booth, however, declared that the Pharmaceutical Society objected to the amendment; and Dr. Lyon Playfair withdrew it, "in deference to what appeared to be the will of the House," so that the chemists and druggists are to be

allowed to enjoy all the benefit, protection, and convenience of ignorance.

So far, those who deprecate any limits being placed on the fullest freedom and play of all kinds of skill and art by manufacturers and vendors need not feel any fear lest the character of the Bill should be altered; *caveat emptor* is still its ruling principle.

SALICYLIC ACID—THE NEW DISINFECTANT.

In the disinfectant now rapidly coming into use—viz., salicylic acid—we have a good example of a substance investigated in the interests of pure science being suddenly turned to active and important purposes. The best account of the acid and its applications which we have yet seen is contained in a pamphlet by Dr. Squibb—perhaps the most learned of American pharmacists,—being the substance of a paper read by him before the New York Academy of Medicine. In this the author deals with the past history, and indicates the great future in store for substances of a disinfectant kind, which are at the same time harmless, or nearly so, when swallowed internally.

Beginning with the first investigation of salicin, Dr. Squibb goes on to say, salicin is a glucoside, or neutral vegetable principle discovered by Leroux in 1830, in the bark of some species of willow (*Salix*), whence its name; and it was afterwards found in various species of poplar, and in other trees and plants. Salicin was early investigated by Piria, who gave an elaborate account of its derivatives, and among these of salicylic acid. This acid was soon after prepared by Löwig and Weidmann from the flowers of *Spiræa ulmaria;* and later, a research by Professor Procter, of Philadelphia, showed that our oil of wintergreen, *Gaultheria procumbens*, was really a salicylous ether; and from this source salicylic acid was obtained by Cahours. Gerhardt, Ettling, and others contributed to the researches by which the properties and reactions of salicylic acid were accurately determined, and its composition fixed; but as yet it was but a chemical curiosity, whose potential possibilities were quite unknown. By-and-by it came to be known that this acid possessed great powers as an antiferment and disinfectant. It was more sought after, and a new method of preparing it—the one still in use—was looked for, and found in the so-called carbolic acid. And it is a very curious circumstance that a substance of well and long-established character as an antiferment should have offered to these chemists a molecular constitution so well adapted to be broken up into a still more powerful antiferment; for there is no relation whatever, either in composition, or chemical or physical properties, between carbolic acid and salicylic acid, except in their effects as antiferments, and the two may, as far as present knowledge extends, accomplish these effects by similar, or by altogether different reactions. The agent which the German chemists selected to resolve the molecule of phenol into other molecules, one of which should be salicylic acid, was dry carbonic acid or carbonic anhydride, as it is called in the new chemistry. Thus, from the action of carbonic acid on carbolic acid, salicylic acid is produced. It appears that where phenol or cresol, and perhaps others of the class of phenols, are combined with an alkali metal such as sodium or potassium, thus forming phenol-sodium (often called phenate of soda) for example, and well-dried carbonic anhydride is passed through the dry powder of phenol-sodium heated to 100° to 250° C. = 212° to 482° F., the reaction occurs which produces salicylate of sodium and other compounds. The salicylate of sodium thus formed is dissolved in water and decomposed by hydrochloric acid, which, uniting with the sodium by superior affinity, sets free the salicylic acid in the form of small crystals. These crystals are washed and recrystallised from a hot solution, and when dried form a crystalline powder of a light brown colour, somewhat resembling in colour the powder of pale cinchona bark (Kolbe). This is unbleached salicylic acid, and is probably pure enough for almost all, if not for all, the purposes to which the acid is at present applied to practical uses. The small proportion of colouring matter which it contains in this condition is held by it with great tenacity, and the further processes by which it may be obtained of various shades up to whiteness are so difficult, troublesome, and expensive that they more than double the cost of production. This bleaching may be accomplished in various ways to a certain extent, but, to get the acid quite white, Kolbe recommends that it be converted into an ether, and this ether be again decomposed. The acid imported from Germany at very high prices is occasionally quite white; but most of that sold at the more moderate prices of two to three dollars per ounce is of various degrees of whiteness, up to a very light cream colour with a reddish tinge. These varying shades of colour seem to show that bleaching processes, more or less effective, have been used with all the acid yet imported. Hence the entirely natural or entirely unbleached acid has not, so far as known, been yet used to any considerable extent; and it is a mere reasoning process, based upon the quantity and qualities of the colouring matter in the well-made unbleached acid, by which it is inferred that for most, if not for all of its present uses, this is as good as the more or less bleached product. If the well-made unbleached acid be found to subserve all the useful purposes to which the substance may be applicable; and if the substance should even in moderate degree realise the expectations of its importance in the arts, and in medicine, as indicated by all European authorities, the process of Kolbe will make it practically attainable in the necessary quantities at a far lower cost; whilst without some such process it would be of very limited use to mankind, whatever might be its powers. Whether bleached or unbleached, the acid is in minute broken acicular crystals, which give it the appearance of a granular powder, soft and smooth under the pestle or knife, but somewhat rough or resinous when rubbed between the fingers. This powder is odourless and nearly tasteless. It has, however, a sweetish and astringent aftertaste, with slight acridity in the fauces, but none in the mouth; and though tasteless, it leaves a disposition or inclination to expectorate which continues for some time.

It is practically insoluble in cold water, but is very soluble in hot water; and the water of a hot solution retains when cold, in proportion to its coldness, from about one part in 250, to one part in 500 of the solution. The presence of various neutral salts in small proportion in the water renders it far more soluble. Up to this time phosphate of sodium seems to have been chiefly used in Germany to render it more soluble in water for medicinal purposes, and it is said that three parts of phosphate of sodium will render one part of the acid easily soluble in fifty parts of water. It is much more soluble in alcohol and ether than in water. It melts at about 125° C. = 257° F., and sublimes at about 200° C. = 392° F. In common with other similar acids, it forms salts with the principal bases, but these seem thus far to be difficult to make, and their effects have not been investigated.

It is used for medical and surgical purposes either dry or in solution. When used dry it is sprinkled on to wounds, ulcers, or dressings in the form of very fine powder, in very small quantities, either simply powdered, or mixed in various proportions with some diluent, such as starch. When used in simple solution either for spraying surfaces, or for washes or gargles, it is used in tepid solution of about one part to 300 parts of water. Where stronger solutions are required for washes, gargles, or to moisten dressings, one part of the acid and three parts of phosphate of sodium to fifty parts of water have been used. When applied to wounds it appears immediately in the urine.

Its alleged advantages over all other antiseptics are—first,

that it is far more powerful and effective in smaller quantities; and secondly, that it is, in all quantities necessary for complete effectiveness, entirely devoid of irritant action upon the living tissues. It is not caustic nor corrosive in any quantity, and never produces inflammation. In large quantities it may be irritant and painful, but yet rarely surpasses a stimulant effect, while it appears to be quite neutral in the very small quantities which are yet thoroughly effective; thirdly, it is said to reach and prevent processes of decomposition which are beyond the reach of all other antiseptics or antiferments. These processes are of two kinds—namely, vital, or those in which living organisms have an important part, such as that produced by yeast and many of those which occur in putrefaction; and chemical, or those which occur independent of vitality, as the production of the volatile oils in mustard and bitter almonds, the effect of diastase, etc. Now, while carbolic acid and other antiferments are azymotic, or completely arrest or prevent fermentations of the first kind, they are powerless with the chemical processes. Salicylic acid is said to be more effective with the vital ferments, and equally effective with the chemical.

Fourthly, in quantities said to be thoroughly effective, it is entirely odourless and tasteless, and harmless, whilst it has no poisonous effect in any reasonable quantity.

It prevents or arrests the souring of worts, washes, and beers of the brewers, and prevents or arrests the putrefactive agencies which are so troublesome and destructive to the glue manufacturers; and these and similar trades have thus far seemed to be its principal consumers. Separate portions of fresh milk set aside to become sour, one to which 0·04 per cent. of salicylic acid was added soured thirty-six hours later than the other. Urine thus protected was on the third day still clear, and free from ammoniacal odour.

Varying proportions of the acid added to accurately measured separate portions of sweet milk, and these carefully observed afterwards until they sour—or, by the use of meat-juice instead of milk, observed closely for signs of putrefaction—would offer good indications of the quantities required to arrest these varieties of fermentation.

Professor Thiersch, of Leipzig, used it upon contused and incised wounds, and in operations, with excellent general results, destroying the fetid odour of cancerous surfaces and pyæmic ulcerations. To such uses this writer would add the suggestion that for washing out the cavities of the abdomen and chest after those operations which tend so strongly to septicæmia, solutions of salicylic acid would seem to offer very great advantages should it prove to be as bland and unirritating as it is stated to be, and yet so effective.

In this country, salicylic acid has not been as yet much used; but it has, we understand, been introduced by Mr. Callender at St. Bartholomew's, so that we may hope before long to hear his experience of it. Those who may desire to institute investigations with it for themselves, may obtain a supply of the pure bleached acid from MM. Domeier and Sons, of Basinghall-street.

THE WEEK.

TOPICS OF THE DAY.

A VERY gratifying and important meeting took place at the Mansion-house on Monday, presided over by the Lord Mayor, and attended by a large number of Aldermen, Common Councilmen, and other gentlemen, for the purpose of presenting Dr. Sedgwick Saunders, late Chairman of the Guildhall Library Committee (under whose advocacy the building was opened as a free library to the public), with a suitable testimonial in recognition of that event. The Lord Mayor, in some felicitously-put observations, opened the proceedings. Dr. Sparrow Simpson, one of the secretaries of the Testimonial Committee, read the address, which was presented to Dr. Saunders. He stated that the subscriptions to the fund had amounted to £400, which amount, after the deduction of the cost of the splendid pair of candelabra, also presented to Dr. Saunders, they had great pleasure in handing to Dr. Saunders with a purse. The Cordwainers' Ward, which Dr. Saunders had represented on the Council for some years, had supplemented the gift with a splendid piece of plate with an appropriate inscription, which was presented by Mr. Hatton, on behalf of the Ward, in acknowledgment of the manner in which he had discharged the important duties of Officer of Health for the City. Dr. Saunders, with some emotion, suitably acknowledged both testimonials.

Most persons will remember, in one of Tobin's plays, that a poor apothecary in a small village enters into a compact with the landlady of the village inn that he will keep a patient there in the house as long as possible under his care, in order that the house might receive the benefit of lodging and boarding him. The Neapolitan landlords find it all but impossible to obtain the services of an English physician when they are required for an inmate of the house or hotel. Bribes are given to hotel commissioners and others to prevent letters or messages being forwarded to the medical man to whom they are addressed. Several cases in which much mischief has resulted from the attendance of the "native" practitioner are mentioned in a letter to the *Times* newspaper of the 21st, the following amongst the rest:—"An English doctor was sent for, and the answer brought was that he was out of town,—which was not the case. A lady was attended by the medical man introduced by the people at the hotel. She was said to have fever, and two or three visits a day were paid to her by the doctor. The husband was not satisfied with the treatment adopted, and procured other advice. It turned out that the so-called fever was a case of simple jaundice, and there can be no doubt that the effects of the high doses of quinine administered proved injurious. Another lady sent for a medical man to attend her husband in an illness which proved fatal. A doctor was brought, and a day elapsed before she discovered that he was not the person for whom she had sent. A gentleman suffering from fever was attended by a medical man, who ordered him to keep his bed. He received three visits daily. He was able, notwithstanding, to walk a considerable distance, and satisfy a friend that he was perfectly well. So common, indeed, has it become to introduce medical men to patients who are not those sent for, that we are assured the only course it is now safe to follow is for one of the family or a friend to take a note or card to the private dwelling-house of the doctor they wish to see, to ask the medical man who comes for his name, and subsequently to take measures to identify him."

Dentists, as a rule, are well paid, and some of the more eminent receive very large fees for their services. It is well, then, when a fair and reasonable charge is made for good work, and this can only be obtained by resort to legal proceedings, that a dentist should receive support and sympathy from the public. A case of this kind was tried last week at the Court of Record, Scarborough, in which Mr. Peacock, a dentist, in large practice in that town, sued Mr. Harrison, a surgeon residing near Hull, for attendance upon his daughter. This attendance consisted in filling with gold one of the molar teeth, as well as preparing the next tooth to it—which was a dead tooth,—so that it might be operated on upon a future day. An appointment was made to carry out this last step, but was not kept by the defendant. After a time application for payment was made, and the demand resisted on the ground that a guinea was ample payment for the work done. This was shown by the plaintiff to be somewhat absurd, inasmuch as the young lady was under operation for four

hours and a half. Eventually, after some contention of evidence as to the charge, a verdict for the full amount claimed was given.

The Corporation of London, appreciating the valuable and important services of Dr. Harry Leach, their Medical Officer of Health for the Port, last week increased his salary from £400 to £525 per annum.

PROPOSED TESTIMONIAL TO SEÑOR MANUEL GARCIA.

It may seem strange that an instrument now so regularly and successfully used in our profession as the laryngoscope was invented, one might say, the other day, and that its real inventor has never been thanked or rewarded. In the month of September, 1854, Señor Garcia (to whom the idea of employing mirrors for studying the interior of the larynx during singing had previously occurred) determined to clear up his doubts concerning the possibility of inspecting the larynx. His efforts were crowned with success, and the following year he presented a paper to the Royal Society of London, entitled "Physiological Observations on the Human Voice." This paper contained an admirable account of the action of the vocal cords during inspiration and vocalisation; some very important remarks on the production of sound in the larynx; and some valuable reflections on the formation of the chest- and falsetto-notes. Señor Garcia's laryngoscopic investigations were all made on himself—indeed, he was the first person who conceived the idea of an autoscopic examination.

Señor Garcia's communication to the Royal Society, though received with apathy, if not incredulity, in England, was destined to create a new era in the physiology and pathology of the larynx. His "Observations on the Human Voice" (*Philosophical Magazine and Journal of Science*, vol. x., p. 218, and *Gazette Hebdomadaire*, November 16, 1855, No. 46) passed into the hands of Dr. Türck, of Vienna, who was at once struck with their importance; unfortunately, however, he soon became discouraged by technical difficulties, and it was left to Professor Czermak to succeed in applying the laryngoscope to the investigation and treatment of disease.

Although attempts to examine the larynx on the living subject had previously been made by Bozzini, Babington, Liston, Avery, and others, who had in some cases tried to use laryngeal mirrors, and in others even employed imperfect laryngoscopes, these efforts had not led to any practical result; and it was not until Señor Garcia invented the instrument afresh that its importance was recognised. Indeed, the brilliant results obtained by Garcia, to use the words of the late Professor Czermak, "excited only mistrust and doubt" at first, and it was not till his invention had been taken up by Türck and Czermak that its value was perceived. The history of the subject, however, clearly shows that to Señor Garcia must be attributed the enduring honour of re-inventing the laryngoscope, and of proving that it could be used for the examination of the vocal cords on the living subject. Others before him had invented laryngoscopes, but they had not succeeded in seeing the interior of the larynx. Unaware of the previous fruitless efforts, he at once obtained complete success.

To Professor Czermak is undoubtedly due the great credit of introducing the laryngoscope into medical practice; but it cannot be denied that to Señor Garcia must be assigned the honour of both "making the suggestion and of proving its value."

It may, indeed, be truly said that Señor Garcia's investigations have not only exercised an important influence on the art of vocalisation, but that his discovery has been the means of relieving a vast amount of disease and of saving thousands of lives. Yet up to the present moment there has been no public recognition of his invaluable contribution to humanity.

In order, in part, to avert what is really a kind of national disgrace, a committee, consisting of the following gentlemen, has been formed with a view of presenting a testimonial to Señor Manuel Garcia:—*Chairman:* The Right Hon. Lord Coleridge. *Treasurer:* George Critchett, Esq., 21, Harley-street. Sir Julius Benedict; Edward Boursot, Esq.; William Bowman, F.R.S.; Oakley Coles, Esq.; Professor Donders; the Right Hon. the Earl of Dunmore; the Most Noble the Marquis of Ely; the Right Rev. the Lord Bishop of Exeter; the Rev. Dr. Farrar, F.R.S.; Sir William Fergusson, Bart., F.R.S.; Monsieur Charles Gounod; Rev. H. R. Haweis; Henry Irving, Esq.; Rudolf Lehmann, Esq.; Professor Owen, F.R.S.; Dr. Bland Radcliffe, F.R.S.; Alfred De Rothschild, Esq.; C. William Siemens, Esq., D.C.L., F.R.S.; Michael Spartali, Esq.; Arthur Sullivan, Esq.; Mons. Ambroise Thomas; Professor Tyndall, LL.D., F.R.S.; with power to add to their number. *Hon. Sec.:* Morell-Mackenzie, M.D., 13, Weymouth-street, Portland-place, W. Subscriptions will be thankfully received by the treasurer or hon. secretary.

BILL FOR THE REGISTRATION OF FOREIGN MEDICAL DEGREES HELD BY WOMEN.

This petty patchwork attempt at legislation, which is backed by Mr. Cowper-Temple, Mr. Russell Gurney, and Dr. Cameron, is entitled, "A Bill to amend the Medical Act, 1858, so far as relates to the registration of women who have taken the degree of Doctor of Medicine in a Foreign University," and it names the favoured universities—those, viz., of France, Berlin, Leipzig, Berne, and Zurich. The degrees are still to remain unregistrable when not held by women; no power is asked for to admit to the privilege of registration the degrees of any other foreign universities of good repute, or of any colonial university; and no choice in the matter is to be left to the Medical Council. The Royal College of Surgeons of Edinburgh have entrusted to Dr. Lyon Playfair a petition against the Bill, in which, after noting the narrowness of the scope of the measure, it is pointed out that it may be a fair question for consideration whether the degrees of certain universities of good repute, both foreign and colonial, should not be allowed the privilege of registration in this country. At all events, if such permission be given, it should be left to the Medical Council to decide, after due inquiry, what degrees should be considered worthy of registration. The petitioners also observe "that it is the more necessary that such authorised inquiry and decision by the Medical Council should be made essential, seeing that there are not only bad degrees among the foreign degrees, but in some foreign countries—Germany, for example—university degrees do not qualify for practice in these countries, unless the holders of them shall have also passed the *Staats-examen*." They conclude by stating, "that, to pass a measure such as the Bill in question, brought in by private members for the avowed and sole purpose of admitting to the Medical Register women who have taken, or may hereafter take, degrees in certain foreign universities, and that independently of inquiry and decision by the Medical Council, would be inexpedient and partial legislation, and inconsistent with the great object sought to be obtained by the existing Medical Act—viz., to enable the public to distinguish qualified from unqualified practitioners." Probably other medical authorities will also present petitions against the Bill; but we are glad to be able to state that we have excellent reasons for believing that the Bill has no chance of passing, as the Government have decided against affording any countenance or support to such a piecemeal attempt to amend the Medical Act.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

The President and Council of the College entertained his Grace the Lord Lieutenant of Ireland, K.G., and a numerous company of distinguished guests, at a *conversazione* on Thursday evening, the 15th inst. All the principal rooms in the

College were thrown open. In the library, Professor Cameron exhibited an apparatus showing the influence of magnetism on light. He also exhibited some of the rarer elements, and performed a series of experiments illustrative of the dissociation of ammonium salts, and of the detection of adulteration by fluorescence. Mr. George Porte exhibited, by means of the lime-light microscope, magnified views of the compound eyes of the gnat, fly, and beetle; typical antennæ, typical tongues of insects, etc. In the board-room, Dr. Frazer exhibited wax models of medals made by the Mossops, and a collection of medals in various metals; *Cibotium barometz*, or Tartarian lamb, from Pekin; a human skull covered with oysters; the North American calumet; programmes of Handel's oratorios performed in the Rotunda Hospital; bones of the fossil elk; bronze mortar of 1654; and prepared ferruginous cotton. Mr. Arthur Andrews exhibited a specimen of an exceedingly rare entomostracan. Dr. John Barker exhibited some glass models of hydrozoa and a nest of carpenter bee. Professor M'Nab exhibited embryos of shepherd's purse (*Capsella bursa-pastoris*) in different stages of development. Dr. David Moore exhibited a collection of rare flowers. Professor M'Alister exhibited a pigmy hippopotamus from Liberia, etc. Mr. Wm. Archer exhibited various microscopic preparations; Dr. Bookey, an articulated human cranium, and a butterfly formed of phosphorescent salts; Mr. Draper, specimens of *Eucalyptus globulus*; and Professor Barrett, a number of scientific instruments of great interest. His Grace the Lord Lieutenant, accompanied by the Hon. Gerald Luke Dillon, and attended by Captain Becher, A.D.C., arrived shortly after nine o'clock.

TRANSPLANTATION OF BONE.

A NOVEL description of transplantation is mentioned in the last number of the *Centralblatt für Chirurgie* (April 10, No. 15) as having been described by Nussbaum at a surgical conference held at Munich, in which he discussed certain forms of mal-union after fractures, with special reference to what is known as pseudarthrosis, and the treatment applicable under such conditions. If, after the loss of a considerable quantity of bone, the fragments are widely separated and possess only a ligamentous union, he suggests that a piece of bone should be transplanted from one of the fragments to supply the deficiency, and he has accomplished this in one case with a successful result. This was in an officer who had sustained an extensively comminuted fracture of the ulna from a gunshot injury, which, after necrosis and separation of the small pieces, had healed, leaving a false joint with the ends of the fragments two inches apart, and united only by a slender ligamentous band. Although the radius was unbroken, there was considerable unnatural mobility and great impairment of the usefulness of the arm. In performing the operation the seat of fracture was first exposed, and then, after removing the intervening fibrous band, a piece of bone two inches long and involving half the thickness of the ulna was separated from the upper fragment by means of a saw and chisel, so that it was left adhering only to the tip by means of a narrow bridge of periosteum; it was then brought down so as to occupy the interval between the fragments, sutures were placed in the wound, and the limb was supported in a plaster-of-Paris splint with a window. All went on well after the operation; the wound closed in the course of a few weeks after the separation of a minute sequestrum, which only amounted to about one-tenth of the transplanted portion. "The piece of bone which had been transplanted had united, and could be distinctly felt," and, after a while, "the firmness of the now uninterrupted ulna was clearly established." After six months the use of the arm had so far returned that the patient was pronounced fit for service. At the end of his communication the author discusses the various operations for rectifying angular union, and he recommends one founded on that performed by Langenbeck with a small saw. After making a short incision at the seat of fracture, the bone is divided for three-quarters of its thickness with a small chisel, and when the external wound has healed the remaining piece of bone is completely broken through. The advantage of the chisel over the saw consists in the fact that it does not, like the latter, leave sawdust in the wound.

RUMSEY TESTIMONIAL FUND.

AT a meeting of the committee, held on Tuesday, April 20, the following subscriptions were announced:—

	£	s.	d.
B. St. John Ackers, Esq...	50	0	0
Sneade Brown, Esq. ...	26	5	0
Cæsar H. Hawkins, F.R.S.	21	0	0
F. Sibson, M.D., F.R.S. ...	10	10	0
Sir J. Paget, Bart, F.R.S...	10	10	0
J. Simon, F.R.S.	10	10	0
W. Farr, M.D., F.R.S. ...	10	10	0
Sir W. W. Gull, Bart., M.D., F.R.S.	10	0	0
Sir E. Lechmere, Bart. ...	10	0	0
W. A. Greenhill, M.D. ...	10	0	0
Geo. Buchanan, M.D. ...	5	5	0
Berkeley Hill, M.B., F.R.C.S.	5	5	0
A. Smee, F.R.S.	5	5	0
R. Rawlinson, Esq., C.B....	5	5	0
W. H. Michael, Esq. ...	5	5	0
W. H. Corfield, M.A., M.D.	5	5	0
R. Richardson Gardner, Esq., M.P...	5	5	0
Sir W. Jenner, Bart., M.D., K.C.B.	5	5	0
E. C. Seaton, M.D... ...	5	5	0
A. Carpenter, M.D. ...	5	5	0
G. E. Paget, M.D., F.R.S.	5	5	0
A Grateful Friend... ...	5	0	0
E. A. Parkes, M.D., F.R.S.	5	0	0
Lt.-Col. A. Rotton... ...	5	0	0
R. Ceely, F.R.C.S.... ...	5	0	0
C. O. Baylis, M.D.... ...	5	0	0
Rt. Hon. Lyon Playfair, C.B., M.P., F.R.S. ...	5	0	0
W. A. Guy, M.D., F.R.S...	5	0	0
Rt. Hon. Earl of Shaftesbury, K.G.	5	0	0
Right Hon. W. Cowper-Temple, M.P.	5	0	0
Miss Nightingale	3	3	0
A. P. Stewart, M.D. ...	3	3	0
J. Liddle, Esq.	2	2	0
W. Clode, Esq.	2	2	0
James Lewis, Esq... ...	1	1	0
C. W. Johnson, Esq. ...	1	1	0
C. Lingen, M.D.	1	1	0
J. T. Clover, F.R.C.S. ...	1	1	0
Dublin—			
R. McDonnell, M.D., F.R.S.	5	5	0
John McDonnell, M.D. ...	10	10	0
Cheltenham—			
J. Walker, Esq.	25	0	0
Dr. Kerr	10	10	0
Dr. Haviland	10	10	0
Baron de Ferriere	10	0	0
Dr. Rooke	5	5	0
W. M. Tarrit, Esq... ...	5	0	0
Dr. Williams	5	5	0
The Misses Cowell... ...	5	5	0
Rev. W. Gudge	5	0	0
Rev. F. Poynder	5	5	0
Dr. Wilson	5	5	0
F. Longe, Esq.	1	1	0
Dr. Smith	5	5	0
Dr. F. A. Smith	2	2	0
J. Middleton, Esq... ...	5	5	0
Dr. Colledge	5	5	0
B. Tristram, Esq.	5	5	0
Rev. Dr. Jex-Blake ...	1	1	0
W. H. Gwinnett, Esq. ...	5	5	0
Newcastle-upon-Tyne—			
G. H. Philipson, M.A., M.D.	5	5	0
Birmingham—			
Balthazar Foster, M.D. ...	2	2	0
Pye H. Chavasse, F.R.C.S.	3	3	0
Manchester—			
Sir J. L. Bardsley, Kt., M.D.	10	0	0
E. Lund, F.R.C.S.... ...	5	0	0
Bristol and Clifton—			
J. S. Metford, Esq... ...	0	5	0
J. T. Caddy, M.D., R.N....	0	10	0
C. H. Fox, M.D.	0	10	0
J. T. Bridgman, Esq. ...	1	1	0
W. J. Fyffe, M.D... ...	1	1	0
E. C. Board, Esq.	1	1	0
Bath—			
F. Mason, Esq.	1	1	0
J. F. Bartrum, F.R.C.S., J.P...	1	1	0
R. S. Fowler, F.R.C.S. ...	0	10	0

Subscriptions may be forwarded to Dr. Buchanan, New Government Offices, Whitehall, to the Honorary Secretary, or to Messrs. Robarts, Lubbock, and Co., bankers, Lombard-street. Cheques should be made payable to the "Rumsey Testimonial Fund or bearer," and crossed "Robarts, Lubbock, and Co." Post-office orders should be drawn on the Curzon-street Post-office, and forwarded to the Honorary Secretary, W. H. Corfield, Esq., 10, Bolton-row, Mayfair, W.

PURIFYING THE THAMES.

THE Conservators of the River Thames are to be congratulated upon having at length taken steps for preventing the wholesale pollution of the stream. The threat of heavy penalties to be enforced against them has induced the Corporation of Kingston-upon-Thames to enter into arrangements with the Native Guano Company for dealing with the sewage of the town. It is proposed to erect the necessary works for carrying out this arrangement on the aits below Kingston-bridge, which are reported to be exceedingly well adapted for the purpose. As no reform in the present day, sanitary or otherwise, can be carried out without the usual amount of opposition, it would appear that special meetings have already been held in the neighbourhood, at which opinions adverse to the undertaking have been freely expressed. The Hampton Wick Local Board have resolved to write to the Charity Commissioners and the Municipal Charity Trustees, requesting them to withhold their assent to the sale of their interests in the aits until it shall have been ascertained whether the Company's works will be of an

offensive character, and injurious to the welfare of the neighbourhood. If, however, it can be shown that the operations of the Native Guano Company are unattended with any results which would make them a nuisance, or dangerous to the health of the district, it is sincerely to be hoped that "vested interests" will not be allowed in this case—as in so many others—to stand in the way of the first attempt on a large scale to purify the river from which such a large portion of the water-supply of the metropolis is drawn.

THE CONCERT IN AID OF THE MIDDLESEX HOSPITAL.

The concert at the Albert Hall, which was given on Saturday, March 20, by the Amateur Orchestral Society, proved to be a great success in every respect. It was the third concert of the present season by this Society, the President of which is H.R.H. the Duke of Edinburgh, who is also one of the first violins. The first of this year's series was on behalf of St. Thomas's Hospital. The steady progress which has been made in the orchestral portions of these concerts was especially manifested on this occasion; and while it reflects great credit on the Society and the zealous conductor, Mr. George Mount, it of course was the chief element in making the performance a musical success. To this end, however, the *larghetto* of Mozart's clarionet quintet, played by Mr. Leonard Baddour, the songs by Mr. Lionel Levy, Mdlle. Riva, Miss Emrick, and Miss Augusta Roche, as well as the effective organ solos played by Mr. Bambridge between the first and second parts while the company promenaded in the arena, all greatly contributed. Through the patronage of their Royal Highnesses the Princess of Wales and the Duchess of Edinburgh, and the large and brilliant attendance which well-nigh filled the huge hall, the pecuniary result of the concert was also highly satisfactory. We understand that the Middlesex Hospital has profited considerably by the laudable exertions of the Amateur Orchestral Society, and that more than £225 has been handed over to the treasurers of the Hospital.

LONDON ANTHROPOLOGICAL SOCIETY.

At the meeting of this Society on the 9th inst. (Dr. Charnock, F.S.A., President, in the chair), after announcement of the election of twelve new Fellows, Mr. C. O. Groom Napier, F.G.S., read a paper entitled—"Where are the Lost Tribes of Israel?" and proceeded to inquire into the various theories put forth to identify the long-lost tribes with existing nations. After showing the merits and demerits of each theory, he followed the line of argument adopted by Wilson, Carpenter, Hine, and other supporters of the "identification," and sought to prove that the British Celts were Israelites, who had come to this country with the Phœnicians by sea; and that the Angles and Saxons were descended from the Getæ and Massagetæ, who were, in fact, the ten tribes carried into captivity by the Assyrians; and that consequently the greater part of the English-speaking populations of the world were Israelites, and as such are entitled to the preponderance which they are supposed to enjoy. The author's conclusions were severely criticised by Mr. A. L. Lewis, Mr. Hine, Mr. Tipper, Mr. C. H. E. Carmichael, M.A., and Dr. Carter Blake. The discussion was adjourned for a month.

THE PATHOLOGICAL SOCIETY.

At the meeting of this Society on Tuesday last, the discussion on the Germ Theory of Disease was continued. Among the speakers were Dr. Maclagan (of Dundee), Dr. Dougall (of Glasgow), Dr. Crisp, Mr. Hutchinson, and Mr. Knowsley Thornton. A full report of the addresses of these gentlemen shall appear next week. It is understood that the next meeting will be the last of the series devoted to the subject, and that Dr. Charlton Bastian will have the right of reply in the beginning of the evening.

MUNIFICENCE OF MR. THOMAS JESSOP, OF SHEFFIELD.

Mr. Thomas Jessop, one of the Aldermen of Sheffield, and President of the Sheffield Hospital for Women, has intimated to the Committee of Management of that institution his intention to provide a sum of £10,000 for the erection of an entirely new building. Early in 1874 Mr. Jessop placed a sum of £2000 in the hands of a trustee for the purchase of a new site for the Hospital, and the premises known as Brooklyn House were secured. At that time the Committee intended to make such alterations only as were necessary to adapt the existing buildings to the purposes of the Hospital, but Mr. Jessop's munificent gift enables them to commence the new building forthwith; and the architect, Mr. Webster, has been instructed to invite tenders for the execution of the works according to the designs and plans prepared by him. Mr. Jessop has also intimated his intention to supply all the additional furniture that may be necessary when the new building is completed.

ACTION FOR MALPRAXIS.

An action of rather an unusual character was tried before the Salford County Court Judge last week. A dentist was sued by a patient for £30, compensation for injuries sustained through negligence and unskilful extraction of a tooth. The evidence showed the plaintiff had suffered much at the time of and since the operation. Two surgeons, called as witnesses, stated that the tooth in question was one which ought to have been drawn without difficulty by a skilful practitioner. For the defendant it was urged that the plaintiff seized him by the wrist, knocked his arm up, and forced the forceps into her gum, while he was in the act of drawing the tooth. The decision of the Judge was that the tooth was not drawn with reasonable skill, and he awarded the plaintiff £20 as compensation.

HEALTH OF MARYLEBONE.

Dr. Whitmore, Medical Officer of Health for Marylebone, in his report for the past month remarks that throughout the entire winter the number of deaths from bronchitis, pneumonia, and phthisis was excessive, and even during the month just ended, although the mean temperature was rather more than 40°, the deaths from bronchitis alone numbered 80. In agreeable contrast to this we find a greatly diminished mortality from diseases of the zymotic class—measles, scarlatina, and typhoid fever caused only 5 deaths; diphtheria was fatal in 3 cases, croup in 4, and whooping-cough in 11; and during the last week of the month, with the exception of one fatal case of whooping-cough, no death whatever was registered from any one of the entire class of zymotic diseases,—and this in a population of 160,000 is as remarkable as it is gratifying.

CONTEMPLATED EYE HOSPITAL FOR SHEFFIELD.

An influential committee has been formed in Sheffield for the purpose of founding a public eye hospital in the town. At present there are two small institutions in Sheffield where diseases of the eye are specially treated, but these partake more of the character of private dispensaries than of public hospitals, and it is felt that a really efficient eye hospital should now be added to the public charities of the town, and that it should be connected either with the General Infirmary or the Public Hospital. Several of the medical staff of the Infirmary and the Public Hospital are in favour of the scheme.

PUERPERAL FEVER AT NANTWICH.

It is stated that an epidemic of puerperal fever is raging at Nantwich (Cheshire), and that eleven women have recently died of the disease. Doctors who have had cases in their practice will act wisely in abstaining from obstetric work for a time, not only in justice to their patients, but with a view to escape criminal prosecution.

THE AMERICAN MEDICAL ASSOCIATION.

THE twenty-sixth annual session of the American Medical Association will be held in Louisville, Kentucky, on May 4. The delegates from the various State Medical Societies will include the *élite* of the profession in America. Among those who have been appointed to preside over sections are Dr. Austin Flint, of New York; Dr. W. H. Byford, Chicago; Dr. E. M. Moore, Rochester; Dr. Jerome Cochran, Mobile; Dr. H. J. Bowditch, Boston. Dr. Lewis Sayre, New York, will preside over the committee appointed to report on "The Treatment of Fractures."

NORTH LONDON MEDICAL SOCIETY.

A MEETING of medical practitioners was held on Wednesday evening, April 14, at the "Athenæum," Camden-road, to confirm the proceedings of previous meetings held for the purpose of establishing the above Society. The ordinary meetings of this Society will be held at the "Athenæum" on the second Wednesday in each month, from October to May. It is proposed at these meetings to discuss short papers and records of cases. The following gentlemen were elected officers of the Society:—*President:* W. B. Kesteven, Esq. *Vice-President:* T. S. Dowse, M.D. *Treasurer:* R. H. Hilliard, M.D. *Secretary:* W. H. Kesteven, Esq.

PERSIAN HONOURS TO A PHYSICIAN.

IN recognition of the medical services connected with members of the Embassy and other distinguished persons during his Majesty the Shah's visit to this country, his Majesty has conferred upon Dr. Vincent Ambler the Imperial Order of the Lion and the Sun.

PARLIAMENTARY.—WATER SUPPLY—CONTAGIOUS DISEASES (ANIMALS) ACT—ARTISANS' DWELLINGS BILL—PUBLIC HEALTH BILL—SALE OF FOOD AND DRUGS BILL.

IN the House of Commons, on Thursday, April 15,

Mr. Sclater-Booth, replying to Sir G. Jenkinson, said that he stated very recently what new powers and facilities in respect of water-supply to towns and villages were proposed to be conferred by the Public Health Bill of this session. The Government have no further legislation to propose on the subject at present, and have not yet had time to consider the proposal for a Royal Commission on the subject.

Mr. W. Egerton asked the Vice-President of the Privy Council whether, in the monthly return published by the Veterinary Department of the Privy Council Office, under Section 22 of the Contagious Diseases (Animals) Act, 1869, he would state in addition—(1) whether the foreign ports from which the animals are brought are in scheduled or unscheduled countries; (2) the number of the healthy animals brought in the same vessel with the diseased animals, and the mode in which such healthy animals have been disposed of, whether by slaughter or otherwise.

Lord Sandon, replying for the Lord President of the Privy Council, said he was authorised to say that the additions which his hon. friend desired would be made to the monthly return.

The debates in the House of Commons on Monday night were almost confined to topics of medical interest. Considerable progress was made with the three most important Government sanitary measures. The least bulky of them—the Artisans' Dwellings Bill—passed through Committee. Some most desirable amendments were passed, giving more power to the central authority over an apathetic board of guardians.

Mr. Cross moved, after Clause 12, a new clause providing for an inquiry by the confirming authority on the refusal of the local authority to make an improvement scheme.

Mr. Torr moved the insertion of a clause providing for the appointment of a deputy in case of the unavoidable absence of the medical officer of health.

Sir S. Waterlow moved, after Clause 7, to add:—"If within five years after the removal of any buildings on the land set aside by any provisional order as sites for working men's dwellings the local authority shall have failed to sell or let such land for the purposes prescribed by the scheme, or shall have failed to make arrangements for the erection of the said dwellings, the confirming authority may order the said land to be sold by public auction, subject to the conditions imposed by the scheme, and to a special condition on the part of the purchaser to erect upon the said land dwellings for the working classes, in accordance with plans to be approved by the local authority, and subject to such other reservations and regulations as the confirming authority may deem necessary."

All these amendments were agreed to.

Certain amendments having reference to the levying of rates for the proper carrying out of this measure were also considered.

On the order of the day for the second reading of the Public Health Bill, Dr. Lyon Playfair criticised the main provisions. The consolidated clauses, he considered, had been done remarkably well, but he objected to some of the proposed amendments, as these did not appear of sufficient importance to warrant us in accepting this as a piece of permanent or final legislation. If towns were forbidden to drain into rivers, as they probably would be, the whole law affecting sewerage would have to be altered. The Bill did not deal with the water-supply of rural districts, although much reform was needed in that direction. The law relating to nuisances was not altered, and that relating to infectious diseases was scarcely touched. The present law was perfectly incapable of coping with great evils. We had annually 125,000 preventable deaths and three or four million preventable cases of sickness. We had acquired experience with reference to the propagation of infectious diseases, which might reasonably have been expected to be applied in this Bill. In Scotland, a woman who was recovering from scarlet fever milked the cows of a dairy which supplied forty families, and into all these families scarlet fever was introduced; one household was a school, the children of which were dispersed without any disinfection. In Marylebone, two years ago, an outbreak of typhoid fever was attributed to the milk from a dairy farm. In another case typhoid fever was disseminated by water, which was carried in pipes under the surface of a field manured with night-soil. If this were merely a consolidation Bill, it would not be surprising that it did not meet cases of this kind; but these were grave defects in a permanent and final Bill. Indeed, with regard to epidemics and infectious diseases, it proceeded upon a wrong principle, and that was this: that the Local Government Board did not take cognisance of the prevalence and increase of diseases, but delayed its action until deaths were recorded. There were no provisions in the Bill under which the medical officers of health would be informed as to the diseases which were being treated at the public expense; and, indeed, it might be said generally of the law on the question of medical officers, that, although it was not satisfactory to any person, it was proposed to re-enact it in the Bill before the House. When his right hon. friend the member for Halifax introduced a measure on the subject, the law was in a state of chaos, and even now it was not proposed to define the qualifications which were to be possessed by practitioners who desire to obtain appointments as officers of health. It was proposed by the Bill to enable the Local Government Board to make unions of districts for the appointment of medical officers of health; but there was no provision as to management, and the result would be in many cases that there would be no sort of management or control over the officers appointed, who would either perform or neglect their duties as they thought fit.

Mr. Sclater-Booth, in reply, stated that the Government did not intend at the present moment to propose any violent changes in the sanitary legislation which had been so recently adopted, and the best policy, in their view, was to set out in a comprehensive and intelligible manner the whole of the existing sanitary statutes. In performing this task they very soon found that it was absolutely necessary to insert amendments in order to reconcile the conflicting and sometimes unintelligible provisions of the various Acts. If the present Bill was passed, he would not shrink from proposing such further amendments as might be shown to be necessary. The public are being rapidly educated in matters of sanitary importance, and there is great reason to be satisfied with the progress made. He did not think it would ever be desirable for the Local Government department to direct in detail the action of local authorities. Subsequent legislation, though necessary, must not be too sweeping, as the public must to some extent be prepared for the change.

Dr. Lush trusted that the House would not only read the Bill a second time, but would aid the right hon. gentleman in

Committee in making it as perfect as possible. The country was not at present ripe for any large sanitary legislation.

Mr. Stansfeld felt called upon to say that, treating it as a consolidation Bill, it was an accurate and respectable piece of work, and would be an extremely useful measure.

Mr. Reed, replying to Colonel Barttelot, said there was power in this Bill to rate separately any district which would benefit by an improvement, and the Government had no idea of constituting a great central authority of medicine. The Bill was read a second time.

The House then went into Committee on the Sale of Food and Drugs Bill. Various amendments were proposed with a view of making it more stringent.

Mr. W. Stanhope moved that the word "water" should be inserted after "drugs" in Clause 2, to make it clear that water might, under this Bill, be subject to analysis,—which was agreed to.

On Clause 3, Dr. Cameron moved the omission of the word "knowingly" in the fourth line on the page, because if it were necessary in order to obtain a conviction to prove that a vendor of adulterated articles knew they were adulterated, it would be impossible to obtain a conviction. This was also agreed to.

Sir A. Lusk proposed the insertion, in lieu of the word "of," of the words "not exceeding," with a view of leaving it to the discretion of the magistrates whether a lesser penalty than £50 might not be inflicted,—which was agreed to.

On Clause 4, the section referring to the adulteration of drugs was modified to the extent that no admixture could be allowed which might "injuriously affect the quality or potency of such drug."

Dr. Lyon Playfair moved the omission of the word "knowingly" from the 4th Clause as applying to chemists and druggists; but in consequence of representations from the Pharmaceutical Society, who could scarcely be supposed to desire the sale of adulterated drugs, against the principle of the amendment, the motion was withdrawn.

On Clause 5, Lord F. Cavendish moved to amend the clause by inserting, after the word "appearance," the words "unless such matter is used to conceal the inferior quality of the article,"—which was agreed to.

Clause 5 was then agreed to, upon which the Chairman was ordered to report progress.

ABSTRACT OF THE

LETTSOMIAN LECTURES ON THE SURGERY OF THE ARTERIES.

DELIVERED BEFORE THE MEDICAL SOCIETY OF LONDON, 1875.

By C. F. MAUNDER, F.R.C.S.

Lecture II., Part III.

In our last issue abstracts were published of Lecture II., Part II., and of Lecture III.; it is necessary, in order to complete our account of the lecturer's opinions upon the ligature, to give a short epitome of the third part of Lecture II., which has not previously been noticed by us.

After referring to the experience of Mr. Lister, which has been favourable to the catgut ligature, and to that of Mr Ebenezer Watson, Mr. Spence, and Mr. Holden, which has shown that this kind of ligature is liable to be attended by peculiar and unsatisfactory results, Mr. Maunder went on to remark—"Now, these instances of failure naturally tend to encourage distrust of the catgut ligature, and more especially when the accidents are peculiar, and such as are not met with in the use of silk. . . . These recorded accidents" (of Watson, Spence, and Holden) "teach us one very important fact, that however possible it may be to obliterate an artery in the lower animals, as was done by Jones, and which was suggested by him as possibly applicable to the human subject, by the *momentary* ligature, disastrous failure must be expected, and this method must not be repeated. With our present experience of the catgut ligature, one cannot, therefore, agree with Mr. Lister, that it is probably a 'matter of indifference' whether or not the wall of the vessel be left intact in tying it. So long as the ligature of an artery cannot be guaranteed against the minimum degree of suppuration, ulceration, and sloughing, and while the catgut may melt away before repair has taken place, so long will its employment be attended with anxiety. For the surgeon distrustful of catgut, there is yet one resource well worthy of further trial. I allude to the antiseptic silk ligature cut short. Mr. Lister's first application of the antiseptic ligature was that of silk, cut short, to the external iliac artery of a female fifty-one years of age." Ten or eleven months afterwards, the patient died, and a remnant of the ligature, with something very like pus near it, was found. Mr. Maunder's own case was operated upon in a similar manner to Mr. Lister's; the man is still alive, six years after the operation.

After mentioning the unsatisfactory employment of silk and gut, cut short, by Cooper, Guthrie, and Laurence, the lecturer continued—"But it is quite possible that the silk ligature, cut short and used antiseptically, may, in the majority of instances, remain quiescent; and by maintaining its hold upon the artery for a sufficient length of time to admit of repair, as we know it will do, will supersede even catgut. For my own part, I am disposed to repeat the use of catgut until further experience declares against it, using a large size for an artery in continuity."

Mr. Lister now advises the use of a drainage-tube for the first few days; and Mr. Maunder considers that an antiseptic silk or catgut ligature, tied in the usual way, and left hanging from the wound so as itself to serve the purpose of a drainage-tube, may commend itself to some surgeons.

In resorting to the antiseptic method, it ought to be carried out in all its details in order to avoid bringing it into discredit, and also because Astley Cooper, Porta, and others, tried catgut (not antiseptically), but reverted to silk. Mr. Maunder wishes it to be distinctly understood that his remarks refer to, and his cases were instances of, the use of this ligature to arteries in their *continuity*. It has been used, he says, and he believes with advantage over silk, to the extremities of divided arteries; but the conditions of the ligature do not correspond in the two cases. In a stump, by retracting and contracting, the artery is soon in a state of rest, and blood passes into it only in proportion to the wants of a diminished limb: thus an opportunity for resisting hæmorrhage and repairing injury is quickly afforded. On the other hand, the vessel ligatured in continuity remains in a state of tension for a longer or shorter period, and the above-mentioned conditions are consequently postponed. Mr. Maunder suggests that the catgut ligature should be employed *double*, and the artery at once severed between the two ligatures; in this way it will be placed in repose immediately. He concludes his remarks on the ligature by saying, "After mature consideration, I arrive at the following conclusion:—*That the fate or behaviour of a given antiseptic catgut ligature, applied to the continuity of an artery, cannot be foretold.*"

FROM ABROAD.

M. Andral on Diabetes.

M. Andral, whose investigations early in the present century gave so powerful an impulse to physiological chemistry, which has since made such rapid strides, will, to most of our readers, seem to be springing from the tomb, so close has his retirement been for many years past. All who are aware of the careful and conscientious work he did in his day will rejoice, even thus late, at another contribution from his pen. Finding diabetes to have become almost, so to say, a topic of the day, he has communicated to the Académie des Sciences an analysis of eighty-four cases, of which he has preserved written accounts, discarding all others which he had trusted only to memory.

Of these 84 cases, 2 at the period of observation were between the ages of three and five, 3 between ten and twenty, 12 between twenty and thirty, 20 between thirty and forty, 20 between forty and fifty, 13 between fifty and sixty, 12 between sixty and seventy, 1 at seventy-three, and 1 at seventy-eight. Thus, glucosuria, very rare prior to twenty, becomes less so between twenty and thirty, is at its maximum between forty and fifty, and continues to be often met with between fifty and seventy, after which it becomes quite exceptional; that is, the greatest frequency of the disease coincides with the epoch at which the organic forces are

in greatest activity. But the ages thus specified were not those at which the diabetes first made its appearance—which were in 12 before thirty, in 40 between thirty and sixty, and in 8 between sixty and eighty. There were 52 males to 32 females.

Several of these cases exhibited the influence of the nervous system in producing or aggravating the disease. Thus, under some moral emotion the quantity of sugar would become augmented in the course of the twenty-four hours from twenty grammes to ninety-six grammes per litre; and in some very rare cases the first manifestation of diabetes followed closely upon the operation of such cause. One woman became diabetic after having inspired so large a quantity of ether during several months that she was often in a kind of intoxication; and in another the diabetes followed disturbances of the sensibility, which exhibited themselves in the forms of partial anæsthesia and multiple neuralgias. One man was epileptic and another paraplegic before becoming diabetic. In two cases a traumatic lesion preceded the glucosuria, the lower part of the occiput in one case and the nucha in the other being the seat of injury. In three cases there was paralysis of the upper limbs without any alteration in the sensibility.

M. Andral has been able to trace the diabetes to defective nutrition in but very few cases, and he observes that "during the many years that I have attended persons of all classes of society in and out of hospitals, I have met with a larger number of cases among the well-to-do than among the poor. Now, the food constitutes one of the differences between these two classes, being often insufficient and in great part vegetable in the latter, and in the other proportioned to the wants of the economy, and often exceeding these, and in great part animal in its nature. I have also found more than once that persons, before they became diabetic, were remarkable on account of the strength of their constitution, some of them having much *embonpoint*. Whatever, then, may be the intimate disturbance which induces—first in the blood, and consecutively in the urine—an excess of sugar, it would seem, in more than one case at least, that this hyperglycæmia and this glucosuria, so far from representing a diminution of nutritive activity, may manifest an exaggeration of this. This idea, which is Prof. Claude Bernard's, is supported by another remarkable fact—viz., the disappearance of the sugar from the urine in the last stage of the existence of diabetic persons, as I have been able to assure myself more than once."

Other disturbances than that of the nervous system may precede diabetes; and thus, although in most of the 84 cases the diabetes manifested itself in the midst of good health, yet in 3 subjects it had been preceded by dyspepsia, in 8 by phthisis, in 5 by asthma, in 3 by organic disease of the heart, in 2 by nephritic colic, in 3 by typhoid fever, and in 1 by cholera. When diabetes becomes complicated by another disease, it may temporarily disappear, as was the case with a man as long as he was suffering from febrile angina, and with a woman the subject of severe dysentery. Was the cause here the modification of the nutritive action during fever, or the suspension of alimentation?

As is well known, the urine is of greater density in diabetes than in any other disease. Whenever it contained more than twenty grammes per litre, the areometer has always marked more than 1030, standing in a great number of cases between 1032 and 1038, and often between this last figure and 1042. In fever cases it has been between 1042 and 1045, and once it marked 1047—the maximum observed. As the result of comparative observations, it may be concluded that wherever it is of a higher density than 1036, glucosuria exists. The amount of sugar in the eighty-four cases has varied from 6 to 100 grammes per litre; and as these patients discharged several litres in the twenty-four hours (in one of them 480 grammes of sugar, in another 720, and in a third 800 grammes were so expelled), it is evident that, in such cases as these, it cannot be only feculent alimentary substances that furnish such an amount of glucose. Moreover, successions of analyses have shown that, irrespective of the influence of all treatment, the quantity of sugar may greatly vary at closely approaching epochs, and that it may alternately disappear and return. It is under this last circumstance especially that it comes to pass that glucosuria may persist for a great number of years without serious damage to the health, while in other cases diabetes runs almost the course of an acute disease. M. Andral has known it prove fatal in scarcely five weeks after its first appearance.

The general circulation, except when complications existed, has not been notably disturbed, the pulse generally ranging from 60 to 80, and never having been less than 56. But, on the other hand, the capillary circulation has often suffered, as exhibited in red and swollen gums, injected conjunctivæ, erythematous patches of the skin, and passive congestion of the lungs—a frequent cause of death in diabetes. "Can I venture to attribute all these congestions to the sort of difficulty which the blood, loaded with sugar, may find in traversing the capillaries, or do they depend upon defective action of the vaso-motor nerves? And, after all, are they other than hypotheses, these expressions of too thick or too fluid blood, by which formerly so many morbid conditions were too easily explained without sufficient proof? And if I put the question, it is because it seems to me accessible to the combined researches of clinical medicine, experimental physiology, and chemistry. And if an affirmative conclusion be determined upon, we must arrive at this conclusion: that there is an order of hyperæmias which finds its explanation in the blood itself."

In the diabetic subjects upon whom autopsies have been performed, most marked congestion of the liver and kidney has always been found, which M. Andral regards as a consecutive result of the excessive functional activity of these organs. Two other facts, which have been also observed in most of the cases, have much struck him. One of these was a singular induration of the spleen, its parenchyma being so dried up that not a drop of liquid followed incision and pressure. The other was the appearance of commencing tubercular granulations in the pulmonary parenchyma, their slight development probably indicating that they had been developed subsequently to the glucosuria, under the influence of the debility consequent on this.

The treatment generally followed in these eighty-four cases consisted in the use of alkaline drinks and in alimentary regimen composed chiefly but not exclusively of animal substances, to which were added some herbaceous vegetables and ordinary bread. During this treatment the sugar disappeared not to return again in only five cases. In some others it also disappeared but to return again; while in others it remained as abundant as before, or even increased. In these last cases an exclusively animal regimen, unaccompanied by any feculents whatever, was rigidly enforced, and yet the sugar continued to appear. Moreover, this regimen cannot be continued indefinitely, for after a time the patients become so disgusted with it, that, whether we will or not, we must give it up.

M. Andral terminates his paper with some considerations as to how far his clinical experience corroborates the theory of diabetes founded by M. Claude Bernard on the results of experiments. He is of opinion that this is the case only to a very limited extent.

GENERAL CORRESPONDENCE.

THE STATISTICS OF PROF. SPENCE'S OPERATIONS.

LETTER FROM MR. GEORGE KIRKWOOD.

[To the Editor of the Medical Times and Gazette.]

SIR,—In drawing up the statistical report of Professor Spence's operations, which was published in the *Medical Times and Gazette* March 13, the following cases were accidentally omitted:—

	No.	Recovered.	Died.
Excision of half of lower jaw .	2	2	0
Castration	3	3	0

Your inserting this in your journal will oblige

Yours, &c.,

GEORGE KIRKWOOD.

1, Windsor-street, Edinburgh, April 10.

UNILOCULAR OVARIAN AND EXTRA-OVARIAN CYSTS.

LETTER FROM MR. KNOWSLEY THORNTON.

[To the Editor of the Medical Times and Gazette.]

SIR,—In reply to Mr. Lawson Tait's letter in your journal of April 17, I would call his attention to the fact that it is when speaking of the "groups of cells" that I state my belief that their presence is an indication for the immediate removal of the tumour, lest their escape through the tapping puncture should cause their dissemination over the general peritoneal

surface. Since the publication of my paper we have had at the Samaritan Hospital a striking proof of the danger of such a result in a patient where tapping had been performed twice previously in the country during the last three years, and I was able from microscopic examination of the fluid, procured by tapping after the woman came into hospital, to give a most accurate diagnosis in support of suspicions which Mr. Spencer Wells entertained from the physical signs before and after tapping. So far as my experience goes—and it is gathered from a careful examination of a very large number of specimens of ascitic and ovarian fluid, besides more than 100 ovarian tumours—I must distinctly differ from Mr. Tait's opinion that such groups of cells or cells as I have figured will be found in "*any* ovarian tumour of truly follicular origin." I am obliged to him for his suggestion that I have "*unconsciously depicted*" a stoma in one of my figures. I think here the answer that I differ from him is amply sufficient. I am very familiar with the writings, methods of preparation, and beautiful plates of Dr. Klein; and I am perfectly aware that in chronic peritonitis, as in other diseases, such as cancer of the peritoneum, cells very similar to *some* of those I figure may be found, but I believe anyone with moderate experience in the microscopic examination of these fluids will not find it difficult to distinguish the peculiar groups indicating the ovarian papilloma. The case which Mr. Tait gives at the end of his letter is a confirmation of an opinion which I strongly hold—that, provided ovarian cysts containing these papillomatous growths are removed without a chance of peritoneal infection, they will be found as perfectly curable by operation as other forms of ovarian tumour.

Perhaps I may be permitted, though my letter is already somewhat lengthy, to answer Dr. Bird's letter of March 31 before I conclude. In doing so it is only necessary for me to point out that the parts of the differential diagnosis of broad ligament cysts which he claims for his brother were already a part of every good work on the subject before Mr. Spencer Wells called the attention of the Pathological Society to the value of the microscopical examination of the fluids; and it is only so far as the aid rendered by the microscope is concerned that anything "new" is claimed. This will, I think, be clear to anyone who does me the honour to read my paper; as will also the fact that without the microscopic work the whole thing would be like a representation of *Hamlet* with the character of the Prince left out. I am, &c.,

J. Knowsley Thornton.

83, Park-street, Grosvenor-square, April 20.

NAPIER'S VESICAL INSTRUMENTS.

Letter from Mr. William Donald Napier.

[To the Editor of the Medical Times and Gazette.]

Sir,—Will you be so good as to allow me, through the medium of your journal, to inform those members of the profession who may be desirous of obtaining my instruments for the detection and removal of vesical calculi, or self-retaining catheters, that they may all be procured on application to Messrs. S. Maw and Co., 11, Aldersgate-street, E.C.; and, at the same time, to offer my apologies to those who, owing to mechanical difficulties connected with the manufacture of the indiarubber portion of the instruments, have not until now received acknowledgments to their applications to be supplied with them. But for the valuable assistance rendered by Mr. Jaques, representative of the firm of Messrs. Warne and Co., Tottenham, who has devoted much time and personal attention to bringing the original conceptions to maturity, the instruments must have been much longer in completion; and to his unfailing exertions I am greatly indebted for the perfection of finish that has been attained. I am, &c.,

William Donald Napier.

22, George-street, Hanover-square, April 20.

A Simplified Chemical Nomenclature. — The *Medical and Surgical Reporter* says, "Our chemical readers will doubtless be pleased to learn that a series of acids has been investigated by Dr. Hayduck; one is 'orthoamidotoluenesulphonic acid,' and another 'diazorthoamidoparatoluenesulphuric acid.' A knowledge of this is not indispensable to the practice of medicine. The action of tin and hydrochloric acid on nitrobromacetanilide gives rise to the hydrochloride of 'ethenylbromophenylenediamine.'"—*New York Med. Record.*

REPORTS OF SOCIETIES.

ASSOCIATION OF MEDICAL OFFICERS OF HEALTH.

Saturday, March 20.

Dr. George Ross in the Chair.

Some New Researches on the Cause and Origin of Fever from the Action of Septinous Poisons.

Dr. B. W. Richardson read a paper on the above subject. The author commenced by giving a *résumé* of that which he had read before the Society in 1865. In that communication he had shown, from a series of experiments made with the serous fluids derived from a patient suffering from pyæmic fever, and under the care of Mr. Spencer Wells, that such fluid when inoculated into healthy animals produced a distinct and fatal disease, which disease could be transmitted to other animals through several series or generations. To the poisonous matter thus produced he had given the name of septine; and he had laid before the Society specimens of salts obtained from the septinous matter—viz., a hydrochlorate and a sulphate; both of which possessed poisonous properties similar to those belonging to the mother liquor. He had inferred therefore that the poisonous substance was of an alkaloidal character. He had also, in the same paper of 1865, stated the following conclusions as the result of his experimental researches:—1. All the organic disease-producing poisons are modified, *i.e.*, poisonous secretions. 2. The secretions are rendered poisonous by two processes—(*a*) by contact with organic poison pre-existing; (*b*) by direct decomposition. 3. The poison of each secretion possesses several qualities; it can only be absorbed by particular channels, and it can only provoke further disease by coming in contact with a secretion allied to that from which it was itself derived. 4. The reproduction of the poisons depends on the continuance of the process of physical changes in a continuous secretion. The force of secretion is the force of reproduction. 5. The poisons kill by various means—(*a*) by the secretion causing obstruction of necessary function; (*b*) by exhaustion from excessive secretion; (*c*) by extreme irritation of nerve and reflex injury; (*d*) by the absorption of the poisoned secretion into the blood, and disorganisation. From this point Dr. Richardson went on to describe that since the announcement of the facts had been put forward originally respecting septine, similar results had been obtained by Coze and Felz, Davaine, Behier, Vulpian, and MM. Thin and Clementi. It had further been discovered by Davaine that the intensity of the poisonous matter increased in the most marked degree, and in a manner that seemed to defy computation, with the transmission of the poison through fresh series of animals. The author had proceeded to the details of his new research, illustrating it step by step by experiment. He had put to himself the question, Why does the poisonous septinous matter produce a definite order of morbid symptoms, and why specially does it produce fever? In the first parts of this inquiry he had put aside altogether the animal body, and had tried to learn what effect the poisonous substance would exert when it was brought into contact with other organic bodies of unstable composition. Would it act like a ferment on saccharine substances? Would it modify the process of acetification? Would it interfere with the oxidation of readily oxidisable matters? Without entering into details that were negative, he found (he said) one affirmative fact from his experiments upon which he should base, to-night, a new theory on the cause of the fever and other symptoms that occur in the living animal under the influence of septine. He found that it was the property of all the septinous poisons to liberate oxygen from that solution of oxygen known as peroxide of hydrogen. This fact was illustrated by showing the action of minute portions of pyæmic poison, vaccine, pus, decomposing blood, and other similar bodies. The solution, which contained ten volumes of oxygen, was placed in tubes, and was inoculated with the various specimens of septinous matter, with the effect in each case of causing a rapid evolution of the oxygen. The same result was produced by the action of fibrine on cellular tissue, but was shown to be negative with mucus, upon which fact the author incidentally remarked that a new diagnostic test between mucus and purulent matter is established. The septinous

matter in every form seemed, from its action upon peroxide, to have been derived either from fibrine or from cellular tissue, or from derivatives of these bodies. From the action of the septinous products on oxygenised water, the author indicated their action on oxygenised blood. To a specimen of blood which had been charged with oxygen he added solution of the peroxide to saturation. Into this he now plunged a thermometer, the bulb of which was armed with a little fibrine. Upon this oxygen began to liberate from the blood with evolution of heat, the mercury in the thermometer rising four degrees. After adding some other experimental facts, and summing up the results of all the facts he had placed before the Society, Dr. Richardson stated the theory at which he had arrived as to the effects of the septinous matter on the living organism, with special reference to the febrile state. The theory was that the septinous product acts upon the blood in the extreme circulation, when it has accumulated in sufficient quantity, by liberating a portion of the oxygen. Upon this occur the same phenomena as had now been observed in experiment; but as the poisonous organic product is itself destroyed in the process, the effects it produces may remit until a new charge of the poison has been produced in sufficient quantity to cause a repetition of the febrile state. Thus the theory suggested a simple reason for the remittency of fevers. The various phases of febrile disturbance were next adverted to. It was indicated that in some instances, as in the most malignant forms of small-pox, the blood may be so charged with septinous matter as to be unable to take in oxygen in the process of respiration; then death takes place, as by asphyxia, after a brief period of febrile heat. In another variety of cases the liberation of the oxygen is so persistent that remission of the fever is hardly perceptible, and in other exceedingly light cases where the quantity of poison is very small and is not reproduced, one sharp paroxysm of febrile phenomena may be all that is witnessed. In cases of abscess or of cavity in the lung this same order of phenomena may be observed in a modified degree. The lecturer continued by showing that some chemical agents added to water charged with the peroxide solution tended to fix the combination and to neutralise the action of substances which liberate the oxygen. An experiment illustrating this fact by the action of quinine brought the lecture to a close.

Dr. Day understood the author of the paper to say that if the temperature rose above 4° in surgical fever it was probably due to the presence of septinous matter. He could not see by what law such limitation should be regulated. He had often known the temperature run up to 105° after ovariotomy, and the patient recover. There were none of the other attendant symptoms common to the pyæmic condition, and the rapidity in the fall of the temperature in many cases bore testimony to the fact that the elevation in temperature did not arise from any septicæmic change. Dr. Richardson's explanation of the action of quinine in controlling the temperature in these cases was highly interesting. Dr. Day believed that quinine exerted only a slight influence in bringing down the temperature. In some forms of fever it was of value, but it could not be relied on in those cases of surgical inflammation, or of high temperature due to septic or other changes in the blood. Blood-letting had a certain effect in bringing down the temperature: in some cases, when the temperature was rising, it appeared to arrest such rise at once; in others it insensibly brought it down; in others, again, there was a gradual elevation of temperature for some hours after blood-letting, to fall to the normal point after it had attained perhaps to 105° or 106°. He placed great reliance in venesection after some surgical operations, like ovariotomy, where it was performed early, before there was time for those fibrinous depositions to take place, with which we are now too well acquainted. When such separation had taken place in the blood, he feared the stage for blood-letting had passed. Dr. Day was now inclined to think that the cold pack was the only certain remedial agent on which we could rely for the reduction of temperature. He had lately witnessed a remarkable case by this method of treatment, in which life was prolonged for five days after the temperature had reached 107°. The patient could not have lived twenty-four hours if the pack had not been used. Dr. Wilson Fox, in his valuable work "On Hyperpyrexia," relates two cases of recovery from acute rheumatism by the use of the cold pack, in which the temperature reached in one case 110°, and in the other 107·3°. On this evidence he was inclined to lend his support to such treatment. Dr. Day believed, however, that a remedy introduced by Dr. Richardson (liq. ammoniæ) had in some cases, when employed early, a decided effect in maintaining the fluidity of the blood, and so preventing those fibrinous concretions in the heart, or lungs, or brain with which we are now too familiarly acquainted.

Dr. Thin remarked that in malarious fevers quinine invariably reduces the temperature, and referring to the subject of bacteria in the blood, was understood to say, that with Dr. Clementi he had observed, from various experiments, that animals dying of disease induced by septinous matter did not always present bacteria.

Dr. Sansom thought that Dr. Richardson had not put forward sufficiently the opinions of foreign investigators. Dr. Davaine's experiments tended to prove that the active agents in contagious matter are bacteria, or solid carriers of infection, whereas Dr. Richardson asserted that the active agent was a fluid or a soluble substance. Professor Chauveau and Dr. Burdon-Sanderson had demonstrated with absolute certainty that the poisonous activity does not reside in the liquids, but only in solids which are in suspension. It is not essential that bacteria or carriers of infection in contagious fluids shall be visible to the eye. Dr. Sanderson has shown that bacteria, which propagate in myriads in aqueous media, are transmitted from place to place by the air, and yet they are not discoverable in the air itself. So many careful investigators at home and abroad having demonstrated that the agents of contagion are solid and non-dialysable, we ought to hesitate very considerably before overthrowing all their conclusions and accepting the dictum that they are soluble alkaloids. Dr. Thin's investigations were of much interest; but they corroborated and extended the conclusions of Davaine. These observers reasoned differently from like premises—Davaine ascribed all the active agency to bacteria, and asserted that their potentiality increased by transmission from animal to animal.

In reply to Dr. Day, the lecturer stated that there was no doubt a form of fever due to surgical operation, from which patients did not recover rapidly. Clearly, there were two forms of septinous poisoning from which patients rarely recovered:—1. Where the fibrine separates from the blood, the body becomes cold, and death takes place. 2. Where the poisonous action begins with high fever, and ends rapidly in convulsions and coma, like an asphyxia. In replying to Dr. Sansom at some length, Dr. Richardson observed that facts must be accepted as such by both of them; but when Dr. Sansom came to the subject of bacteria as being the active agents, facts were left, and then they diverged. Dr. Richardson asserted that where bacteria are present, they are coincidences, not causes. "Where the carcase is, there will the eagles be gathered together." Is this poison?—asked Dr. Richardson (referring to vaccine lymph)—is the poison of the cobra bacteria? The subject of bacteria, he said, is a question of natural history, and, he thought, should not be introduced, except incidentally, into the present inquiry. It had always retarded original research. That the septinous poisons may be diluted with water to a given extent, and yet remain active up to an extreme of dilution, was one of the most important and curious facts in the researches that had been carried out. So also was the fact that at a certain degree of dilution the action of the poison ceases absolutely. Both facts had been known for a long period of time, and were amongst the best proved. They went entirely to the support of the physical argument he had endeavoured to set forth.

OBSTETRICAL SOCIETY OF LONDON.

Wednesday, April 7.

W. O. Priestley, M.D., F.R.C.P., President, in the Chair.

On the Relation of Puerperal Fever to the Infective Diseases and Pyæmia.

At a very full meeting of the Society held on Wednesday, April 7, Mr. Spencer Wells opened the discussion previously announced by an address (given by us at page 436).

Dr. Leishman: Mr. President, in availing myself of the opportunity which the courteous invitation has permitted to me of taking part in this discussion—for I presume there can be little doubt that the remarks of to-night will more or less take the form of a discussion—I am a little taken aback in your having selected me as the first speaker after the distinguished essayist of this evening. I confess, however, that I

have a peculiar satisfaction in being able to speak to-night on this subject. I may say I have in some measure a personal satisfaction in speaking, upon various grounds. I think I shall have the support and sympathy of every person present whose duty it has been to teach the subject of obstetrics, and still more, perhaps, I may have the support of those who have had occasion to write upon this particular department of obstetrics, when I say that, when in their lectures they approached the subject of puerperal fever, they have felt that they were approaching a subject with which they were in a great measure incompetent to deal. It is not for me to explain, nor would I presume for a moment to indicate, the reasons of this in all their bearings; but I can well understand, and from experience I can assert, that the difference of opinion which has at all times existed on this subject has been the main reason of this confusion. I have a strong personal feeling in regard to this subject, because I have, to some limited extent, disseminated views which I now feel to have been erroneous; and I am, therefore, glad to have this opportunity, before such a distinguished body of my fellow-practitioners, of disclaiming, and in a sense abjuring, certain errors which I have had some share in disseminating among the juniors of the profession. I have regretted every day since I wrote on the subject that I had not more thoroughly investigated the evidence of the pyæmic source of puerperal fever; for the more I have done so, the more convinced have I become that, in a large proportion at all events of these cases, there is strong evidence to lead us to believe that they have their origin in pyæmic or septicæmic infection. I am not prepared to go the length which I believe many writers in Germany and some in this country have gone, in supposing that we are permitted to accept this pyæmic theory as the solution of all our difficulties; that by admitting pyæmia, or septicæmia, or ichorrhæmia, or whatever you choose to call it, as the cause of puerperal fever, we get rid of all our difficulties; and that for what we have hitherto considered *chaos*, we may in future read *cosmos*. I do not believe that it is so; for there are points of difficulty which must arise in the mind of every man of experience which have yet to be solved. I admit, and I should like to admit with all possible emphasis on an occasion like the present, that I believe the pyæmic or septicæmic origin of many cases of puerperal fever has been fully and thoroughly established; but I am not at all sure that this will account for all the cases that come before us in practice. There are cases in which a patient in the puerperal state unfortunately becomes the subject of diseases of specific origin. I may mention, as an illustration, scarlatina. A patient becomes infected with the specific poison of scarlatina. There is nothing in practice which we dread so much, and the result unfortunately proves that our dread is well founded. But, in the later history of such cases, I have had a difficulty in discovering any difference between the cases which we may suppose to have a specific origin and those which have proceeded from a specific poison. Again, there is another class of cases in which it would appear as if the original symptoms were more those of a local inflammation, be it metritis or peritonitis, localised or general; and in all these instances, whatever the initiatory symptoms may have been, in so far as my experience enables me to form an opinion, I have again a difficulty in separating those cases, as far as the final symptoms are concerned, from those in which puerperal fever is dependent on pyæmia or septicæmia. These I take the liberty of presenting to the Society merely as the difficulties which have suggested themselves to my mind, having naturally, and as a matter of necessity, had the subject under consideration for a long time. I well know that in what I have written on the subject I have stated views which I am not prepared to support; I therefore began by frankly withdrawing something of what I had previously written. And perhaps what I now state may enable those members of the Society, if there be any such, who have done me the honour of perusing what I have published, to correct these views. There are other points which suggest difficulties. We have frequently been informed that these diseases are likely to be engendered by decomposing animal matters, from whatever source the decomposition may originally arise. It has been very commonly asserted, and rules in fact have been framed, bearing upon the question in those countries more particularly in which puerperal fever is most common, that students who dissect are liable to convey this infection. I have not the slightest idea of calling in question the accuracy of this assertion; but what I should like to point out is this, that if this were so certain and so frequent a method of communicating the disease as some would suppose, we should have far more puerperal fever in the practice of students who dissect. Then, again, if we are to assume this question of pyæmia as identical with puerperal fever, we know what pyæmia is in a surgical hospital. I presume it was the prevalence of pyæmia in surgical hospitals which led the late Sir James Simpson to write his celebrated papers on hospitals. Pyæmia in a surgical hospital is a dreadful scourge. It may be conveyed by the surgeon; it may be conveyed by dressers, by nurses, by anybody; and beyond a doubt it may be conveyed, as Professor Lister has so clearly shown, through the atmosphere. I consider that that is a point which nowadays is demonstrated. Yet in surgical hospitals, pyæmia is not such a scourge as puerperal fever is in lying-in hospitals. If you have the disease once existing in a lying-in hospital, you have it communicated with a frequency, with a fearful fatality in point of result, which it is appalling to contemplate; so much so, indeed, that I think I scarcely exaggerate matters when I say that, in some continental towns, the condition of a woman entering a lying-in hospital for attendance and care during the puerperal period is something like this—that she must be content to incur the risk of a patient who takes typhus fever, in the discharge of this purely physiological function. Now, this identity of pyæmia and septicæmia with puerperal fever may be established within certain limits, or it may not; but it appears to me that there is an intensity in the infection, that there is a peculiarity in the conditions, or there may be (as has often been said) in the woman in the puerperal state a peculiar condition which renders her specially liable to impressions which we know very little about, that may account for all this. These are points which, in connexion with those that have been formulated so kindly and ably for us by Mr. Spencer Wells, it appears to me should be taken under the consideration of the Society. I am unwilling to take up the time of the Society longer. There are many points on which I should like to speak; but I should be sorry to carry the forbearance of the Society even to the limits in point of time which you have laid down. I cannot, however, sit down without congratulating the Society as a body on the fact that this important subject, perhaps one of the most important of the present day, has been in this prominent manner brought under the notice of the Society in the temperate and dispassionate manner that it has been to-night, rather inviting discussion than stating broad and distinct views with which we must agree, or from which we must be prepared absolutely to dissent. And I would almost venture to predict that the result of the discussion which has been inaugurated to-night, arguing from the interest which it seems to have awakened in all quarters, will be a result which will be for good, for abiding good, on the future history of obstetrics.

Dr. Newman: In rising to speak, I may say that I meet the requirements of your courteous invitation in two respects. I am a medical practitioner, and I have come from some distance—I cannot say with the express object of being present to-night, but, at all events, I am glad that the opportunity should offer itself to me of listening to the discussion this evening, on a subject of so much importance to us all. You will pardon me if, in speaking on the matter, I may seem to speak too egotistically. I simply say that, after some twenty years of tolerably hard country work, first in a village, then in a country town, in general practice and hospital practice, I have come to certain conclusions which may or may not be correct, and which I should have a difficulty in following out one by one, giving you the arguments that have brought me to those conclusions. In taking the propositions which Mr. Spencer Wells has formulated for us this evening, I may say, in the first instance, that I should hold strongly that there is no such thing as a definite puerperal fever, so called. In the next place, I should say, with equal decision, that in a large number of cases of puerperal fever—I have traced it in my own personal experience, and have known it in the practice of other gentlemen with whom I happen to have been associated—there has been a distant, it may be yet a definite, link in the occurrence of possible transmission to the patient of some definite infecting poison. I cannot give a much more striking instance of it than this. Some years ago, I saw a lady who was exceedingly ill with puerperal fever. Two days after my visit she died. The opportunity was afforded me of close inquiry, I might almost say exhaustive inquiry, into the history of the few days or few weeks that preceded her delivery. It turned out that there had been a visit paid by her to the house of a neighbour in the

same village, and a child in the house was at that moment suffering from scarlet fever. She knew nothing of it: she simply knew that the child was ill. She paid no attention to it, and, until the inquiry was pushed as closely as it could be, there had been no association in the mind of the patient, or in the mind of the medical attendant (for he came from a distance), or of anyone connected with her, that that could have been the cause of the disease that led to the fatal issue. I should take that simply as a type, and say that my impression is that, in a large number of instances, of some of which I have notes, and of some none, the condition in question has its origin in direct or indirect communication with some infective process. There is another set of cases—and I am again drawing on my memory for a very clear one that I happen to have seen—where I believe that a local inflammatory mischief may unquestionably kill, by its production of a definite pyæmic condition, as certainly as it would kill in the instance of a surgical operation followed by pyæmia. I was asked some time ago to see a woman who had been suffering for two months. She was supposed to have been three or four or five months pregnant, and she had been suffering for two months from a certain amount of hæmorrhage. She had lost so much blood, and her general condition was so bad, that one felt that the only thing to offer her a reasonable chance was at once to empty the uterus. This was done by her own attendant at my suggestion, in the first instance by the dilatation of the os uteri, then by manual removal of the fœtus or ovum, and the secundines. Within three days she had rigor; and when I saw her subsequently she had all the symptoms of pyæmia. She had an abscess in the shoulder-joint, an abscess in the wrist, and not a few collections of matter in different portions of the body. That again I should take as a type of another set of cases, where I believe a morbid process, which we are satisfied to call puerperal fever for want of a better term, had its origin in a direct local lesion. That lesion may have been produced by enforced dilatation, and the forcible removal of the retained material, but still, there the condition was. I have further to say—and here I am referring to what has fallen from the preceding speaker—that one has very much to bear in mind that even in our present state, with fairly cared-for houses and the rest, there is not uncommonly such a condition of sewer air permeating the houses, that the general state of a parturient woman before her delivery is below par; hence the greater tendency on her part to absorb—if I may use the word—infective material, however it may be presented to her. I would further add that there can be very little question that the activity of the vital processes would certainly seem to be associated from the very earliest condition of pregnancy to its close,—that the history of every pregnant woman must be understood, by a no far-fetched analogy, to have a material influence upon the question before us. Given a woman in whom all the processes, nervous, vital, circulatory, mental, if you like, are materially excited or altered in their condition of reasonable health; and I should maintain that in that phase alone we have much to look for in the way of an explanation of the reasons why poisons that run a different course, or at all events a slower course, under more ordinary states of everyday life, run, when they have to deal with a parturient woman, a course of far more severity and far greater rapidity, and, unhappily, far greater fatality. One more remark, and I have done. It seems that one should take into consideration, at all events, that one should not hastily dismiss the mental conditions which not uncommonly associate themselves with pregnancy. On this ground it happened to me some years ago to tabulate—I never did anything more than tabulate—a certain number of cases of puerperal fever that had occurred to my own knowledge. I think I may say that in a good number of them there were, at all events, the elements of distinct mental disturbance. I do not refer to mental disturbance in the sense of insanity, but in the sense of distressing circumstances, of the condition of pregnancy being a result of seduction, and many other reasons which will occur to gentlemen present. These do unquestionably seem to me to play a material part, at all events, in predisposing the system to the virulent development of septic poisons, however they happen to be introduced. I have to apologise to the Society for the very imperfect manner in which I have spoken. I began by saying that I would simply give my own personal impressions. I ask the Fellows to be good enough to accept them, and to give to them the very small value that they actually possess. I had no intention, when I thought of coming to the Society, to join in any way in the discussion; and I may almost say that, if I had not had a direct personal invitation, I should hardly have dared to do so.

Dr. Braxton Hicks: I presume that by the discussion in which we are engaged we shall not be able to clear up all the ambiguities and uncertainties with which this subject is surrounded. I take it that the principal advantage of such meetings is that the current opinion of observers may be brought out, and thus a certain impetus is given to the progress of knowledge, which would not have taken place had each speaker waited to mature his opinions. Hence it follows that opinions expressed under such circumstances have more or less the disadvantage of imperfection, though it may be that the hints thrown out by the various speakers will stimulate thought in others, and, indeed, in themselves. The difficulties of this subject have been somewhat retarded by two means: 1st, most of the older observations were made in hospitals, and thus, if we admit that the disease is contagious, the character of the cases in each epidemic is similar. Thus, some have said puerperal fever was erysipelas, diphtheria, etc. Another retardation arose from the very means by which information was obtained; namely, from the post-mortem room. For, according as one appearance was more prominent, so it was considered the essence of the complaint; thus peritonitis, enteritis, phlebitis, etc., were considered the real disease, instead of being looked to as effect. Not that I would underrate the value of these investigations, carried on as they were at much personal risk, but to point out that these opinions prevented the observer from looking in the real direction, namely, to the clinical facts, derived not only from hospital, but from all the variable conditions of home attendance. However, the general post-mortem appearances having now been ascertained and well known, it is to the clinical study of the disease I would now urge the attention of obstetricians, leaving the inquiry as to the exact nature of the poison as a separate one, simultaneously carried on, but still separately. By this means we shall proceed with more distinctness of purpose. I have already, in a paper called a "Contribution to the Knowledge of Puerperal Diseases," endeavoured to show the clinical aspect of the conditions classed under the general head of "Puerperal Fever," taken from the various circumstances of home attendance in all classes of the community. I would not again detain the attention of this Society by alluding to the facts there shown, did I not consider them to have a great bearing on the subject of the paper of this evening, and that from further inquiries the results there set forth may be taken as a fair average of practice as seen in consulting practice. There is no doubt but that they represent the severer cases; but I must here point out an error into which many fall in estimating the extent of the influence of circumstances on the puerperal woman by the death-rate. It is not by the death-rate we can judge. I should say, broadly, that where one dies, three or more are retarded in their recovery by either a more or less mild state of fever, or by the secondary effects well known to us, as cellulitis, phlegmasia, etc. Not till these also are calculated in, can we recognise fully any influence brought to bear on the puerperal woman. Now, the cases brought forward in that paper were those of simple labour: I did not include any about which I had made no inquiry as to the surroundings, either those which existed before or after. I found that, out of eighty-nine, sixty-eight had been connected in some kind or another with animal poisons, —more than three-fourths. Of these sixty-eight, more than half—namely, thirty-seven—had been connected with scarlatina in one way or another. Amongst the remainder, erysipelas, diphtheria, and offensive state of the discharges were prominent; of the remaining twenty-one I could trace no definite history in regard to zymotic diseases; but it would be difficult to say how many may not have been influenced by them, seeing it is hard to tell in many cases of zymotic diseases whence the source of infection had come. Some undoubtedly had been exposed to mental depression or excitement, were in low condition of health, or otherwise in conditions not favourable to recovery from any great disturbance. But of the first class it may be asked, Are these really cases of puerperal fever? Are they not properly cases of puerperal scarlatina, diphtheria, erysipelas, and so on? Let us, then, for the moment exclude them; though in doing so we are excluding three-fourths of what have been received as cases of puerperal fever—at any rate, with the exception of the well marked scarlatina cases. Let us examine the remaining twenty-one. Shall we exclude or include those of them which have been brought on by sudden mental disturbances, as fright, annoyance, and anxiety? They probably amount to a fourth. If we

exclude them, we shall be excluding cases like those which have been called "puerperal fever," and yet, unless these influences generate the fever, we must exclude them. Again, some four of the fifteen left were ill before labour set in, and these can scarcely be looked upon as cases of puerperal fever. Some of the yet remaining eleven possibly may have had an influence from a zymotic disease, as I have already hinted. Some were of traumatic origin, not toxæmic; and, allowing three for these, we reduce the total of unexplained origin to eight. Now, I would ask, Where is the proof of the existence of a separate entity such as is ordinarily understood by puerperal fever? and close upon this result, I maintain, will be arrived at, if you take any hundred of cases. But when you come to examine the symptoms belonging to the various classes, you will find that they all belong to the same class; and if you, as I did for a moment, exclude those cases influenced by zymotic diseases, you are met by this difficulty: those without any specific symptom, as rash, etc., showed symptoms most typical of the so-called puerperal fever; that the specific symptoms were in all grades of proportions in the several cases; and that, generally speaking, the less the specific signs showed themselves, the more tendency there was to malignancy. The fact is well shown in hospitals, where, erysipelas being the primary cause, the disease which followed would be more like to malignant puerperal fever, and less like erysipelas. In the paper alluded to, many cases may be found showing this. I may venture to repeat one. A woman was taken with the most malignant form of puerperal fever, and died about the third day. I could find no history of scarlet fever previously; but, in a few days, two of her children had malignant scarlet fever and died. Since my paper, I saw the following case: A lady had been delivered twelve hours, when feverish symptoms commenced; a pile already inflamed became very tender and painful; from this part a blush spread, something like erythema, but without any defined edge, and extended over her back. About the third day, arthritic pains and swelling commenced, with delirium; these symptoms then increased in intensity, and she died in great agony on the fifth day. As the symptoms began so soon after delivery, I could not help suspecting that it had its origin from without, as the symptoms arising from decomposing secretions commence from the third to the fifth day. I could not find that she had been exposed to any exanthem. The medical man had not seen a case for two or three months. The nurse was apparently free. I, however, told the medical man I thought he would have evidence in the children. In about a week, the eldest child had scarlet fever, and rapidly died. The second was then attacked, and shortly died. Subsequently the baby was attacked, but recovered. In neither case was there any specific sign of scarlatina. Numerous cases I have seen where scarlatina was in the house, and the mother had puerperal fever without any rash. In some of the other cases where there are signs of a zymotic disease, yet they would have been overlooked had not care been taken, so masked were they by the general condition. But some have rejoined, "I have attended cases of scarlatina and delivered women constantly, and that without ill results." I would answer, Even so. But this is no proof that the influence of scarlatina is not detrimental. It is not every woman that is exposed to scarlatina who contracts it; on the contrary, most have already had it, and thus are less liable to catch it. It would be but few married women who would be susceptible to it. It would be an interesting point to know whether these who are seriously affected by scarlatina have had it in former years. I have not sufficient information as yet. But, as I have said before, the death-rate must not be the criterion of influence. We must watch the patient for a month. It is seldom but what we shall find a bad getting-up in one who has been exposed to scarlatina just before or during her labour. An apparent contradiction to the influence of scarlatina has been instanced by the fact that sometimes, during an epidemic of scarlatina in a town, the lying-in hospital is free from puerperal fever. This is no proof. The only proof reliable is to be able to say that frequently cases of scarlatina have been introduced into lying-in wards, and no ill effect followed. The same answer applies to erysipelas. But there is another point which cannot be left out of consideration—viz., that violent mental emotions also are followed by symptoms precisely similar to those which follow zymotic influence, or the existence of putrid discharges. In fact, looking over the whole cases, we are, at least at present, unable to distinguish as a class the one from the other, excepting where the specific symptoms are superadded. To what conclusions, therefore, are we led? In some cases, no doubt, some other medium must be added, such as decomposing "sepsis," or the living bacteria, or some material which, mixing with the discharges in the uterine cavity, is absorbed into the system. It is difficult, in our present state of knowledge, to assign the proper value of this influence. That decomposing matter does cause these symptoms can readily be proved, but whether it acts through living or decomposing material, there is no evidence sufficient to permit us to argue. One thing seems to militate against the notion that it is the bacteria which, in many cases, accompany the absorption of offensive discharges—namely, that if we wash out the uterus, the symptoms very rapidly subside; in twenty-four hours I have seen them pass mainly off. If living growths were going on, one would scarcely expect so rapid a subsidence. Whatever may be the exact nature of the poison, with our present knowledge I do not consider we are justified in basing any line of practice upon it; certainly not in allowing our clinical inquiries to receive any bias. That the puerperal woman is, by means of these various factors, brought into a state which we recognise as blood deterioration or disturbance, so that either she dies rapidly, or that, if this event be postponed, the processes required for repair after labour are so perverted as to be accompanied by inflammation extending to peritoneum, or producing effusions which often tend to suppuration; or to the uterine veins, producing plastic plugging and its consequences; or the blood assumes a tendency to coagulate, and thus fibrinous deposits form in the vessels: in fact, to all the secondary troubles well known to us all, as the results of the primary blood disturbance, but considered formerly as the principal condition. Such is the liability of the puerperal woman to these deteriorating influences, that I think we may generally trace nearly every ill getting-up to some depressing or disturbing influence if we take the trouble to trace it. Whether the blood conditions set up in the puerperal woman are similar to the so-called pyæmia, such as is observed in men and in non-pregnant women, is not quite certain. That they seem to differ rather in intensity than in quality, I think is generally admitted. We can readily understand the intensification when we consider the altered condition of the blood in pregnant women; and the ease with which the nervous system is perturbed; intensified by the large surface there is exposed, and the greater facilities for absorption there exist in the anatomy of the uterus, compared with the conditions found in the male. The position of the question appears to me this: Admitting that various circumstances set up a malignant fever in the puerperal woman, has this fever so set up a permanent character capable of being communicated to other pregnant women? Looking to the cases as they occur in hospitals, there seems some reason to think there may be such a condition. Looking to private practice, one would also say so too, did we not see that apparently, when it spread to non-puerperal persons, it became reconverted to the zymotic form from which it had sprung. No doubt many difficulties attend this point of the inquiry; and to it attention should be particularly directed. However, without going so far as this, one may fairly say that a zymotic disease, if not modified in its true nature, is altered as to the usual character of the symptoms, assuming more the kind which have been generally called "malignant" in the non-puerperal person; and this tendency to change its character is more noticeable the nearer the patient has approached the full term of pregnancy. Whether this depends on the changed condition of the system, or the greater patency of the lymph spaces and veins, so as to increase the quantity absorbed, is not very clear. Seeing the many sources of contagion that surround all of us, I think that the notion that the aggregation of a number of puerperal cases can set up, *ab initio*, a puerperal fever has no resting-place. The aggregation unquestionably increases the number of chances of the introduction of some zymotic disease, while the exposure of a number to the disease will necessarily increase the number of persons affected. All aggregations do this. The same rule applies to surgical wards with regard to erysipelas. While, therefore, I agree that aggregation tends to spread the disease, I am doubtful whether it sets it up if cleanliness is carried out properly. But when once an exanthem has been introduced, then its eradication is by no means easy, and the constant recurrence of cases without complete purification may fairly, to my mind, justify many of the remarks. This was called, perhaps not quite correctly, "hospitalism." There is only one other point I wish to allude to: this is respecting the contagious nature of the condi-

tions grouped together as puerperal fever. That the majority are contagious to puerperal women I have no doubt; whether all are so I am uncertain. I am inclined to think that those forms derived from the zymotic diseases are the most so, those from the self-generated kinds the least so. Some few seem not at all contagious. I remember two students attending a woman with puerperal fever for some days; during this time they attended some twenty cases of midwifery. None of these were ill after. A second instance occurred, before the nature of the case had been made out: upwards of twenty were attended without ill result. However, I wish I could say this of all. I have had lists not unfrequently given me by practitioners where the effects from a smaller series was very differently shown; and yet I saw, a short time since, a most malignant form coming on apparently from mental distress. A coachman's wife, just after labour, heard that her husband had to leave his place. She was much affected, became violently maniacal for a few hours, and then subsided into the usual condition of malignant puerperal fever, of which she died in a few days. The medical man attending her told me he had to attend another in a day or two after, and she died in a rapid manner. But, surrounded as we all are by contagium, it is very difficult to say how far any case is free from zymotic influence.

Mr. Jonathan Hutchinson: I, of course, have nothing to do with obstetrics or with puerperal fever, but I believe that the subject is one which has its analogies in general surgical practice, and one of the most interesting points in Mr. Spencer Wells's address was the manner in which he traced that analogy. If I correctly understood his views, he seemed to place puerperal fever almost exactly in the position in which we place the several kinds of maladies from which our patients suffer after operations. He would say that there is no such thing as a specific poison which can produce any fever that should be known as puerperal fever, but that a number of maladies induced by various causes have been grouped together under that name, and I thought that he very ably classified these according to the several causes which produced them. I hope the time will come when he will extend his unwillingness to use such a vague term as puerperal fever to a term which, I think, he accidentally used—surgical fever. For, if puerperal fever be absurd, I contend that surgical fever still more leads us aside from the consideration of the true causes of the malady. If I may be permitted, I should like to say a few words on the great importance of attempting to define as precisely as we can the terms we use. I think we should much more easily get to conclusions, and find a much greater unanimity of opinion, if we did take these several terms, septicæmia, anæmia, specific disease, specific fevers, and try and attach to them some definite meanings. Although it may seem presumptuous, I will state what my own opinions would be upon that subject, with great deference to the Society, and hoping to hear my views criticised and set right if they seem to be erroneous. I will say at once with regard to erysipelas, a disease which is of great importance in reference to puerperal fever, having the most of proof concerning it, the contagion from it is one which is potent in the introduction of the local inflammation which produces puerperal fever. I express in the most unqualified terms my belief that erysipelas is not a specific fever, that it is only a local form of inflammation, that the local form of inflammation may vary in intensity, may vary in duration, may be induced by many different causes, may undoubtedly be produced by contagion from the secretion from an erysipelatous patient, but may also be produced by other causes; and that the pyrexial symptoms and general disturbance are secondary to the local inflammation, and are proportionate to the local erysipelatous inflammation that exists. I have expressed the opinion on many occasions. It is the opinion, I believe, originally stated by Mr. Higginbotham, of Nottingham; and I regret that the majority of our systematic works, without defending the position of erysipelas to rank as a specific disease, still so define it; people still speak of it as if it were a disease which had a stage of incubation, which I deny: I say it originates simply in the state of introduction. There is a day or two when the patient is ill,—the disease wants a little time to develope,—but there is no true stage of incubation. When we know that it arises from contagion it will develope in a day or two of the virus being applied, within twenty-four hours, and that is fatal to its claim to rank as a disease due to a specific poison. Then we never see it prevail symmetrically in various parts of the body, as it certainly would do if it were due to the introduction of any specific germs, which would develope in the blood in the same manner as we know the specific poisons of small-pox, scarlet fever, and measles do. I assert next that erysipelas may be checked at any stage; that appropriate treatment will stop it at a very early stage in a manner which would be utterly impossible if you were dealing with a specific fever. I next assert that this will apply to stages of inflammation of the uterus and the uterine appendages which are due to erysipelatous contagion, that they are not to be ranked as specific fevers, but as things which may be put an end to by appropriate treatment at any stage. Dr. Braxton Hicks has just insisted, no doubt as the result of practical experience, on the importance of washing out the uterus; so that the thing is curable, and does not run through any definite stages. Having made this assertion respecting erysipelas, that it is to be defined as a local inflammation which has special peculiarities that are capable of pretty easy definition, but having no true analogy to specific fevers, I must attempt to give some meaning to the term septicæmia. Now, for that we have two meanings afloat in the professional mind. One is that it is due to some poison which is introduced into the patient's blood from without; that the poison then grows, spreads, germinates in the blood, and produces the symptoms. Now, what I would like to suggest is this, that the term septicæmia ought to be applied to the results of poisoning of blood induced by the inflammation of the patient's own tissues. I admit that every now and then in connexion with a poisoned wound the phenomena of septicæmia follow. To illustrate what I mean, I will mention two cases. I had amputated the finger of a professional friend on account of gangrene, the result of acute inflammation, owing to a poisoned wound. He had scratched his finger with a piece of carious bone. He had put a little plaster upon it, but acute inflammation followed, which passed into gangrene, and I had to remove the finger at the joint. He was very ill at the time. This might be called septicæmia, the finger having been poisoned and inflamed. My own belief is that the character of the poison which was introduced was really of no importance; that there was something special in the state of the patient's health, perhaps something a little irritating in the secretion. The gangrene was the result of inflammation, and the constitutional symptoms were the result of the blood circulating through the finger, and back again through a portion of tissue which passed into gangrene. I once amputated a foot on account of gangrene in a case in which I knew that the man's femoral artery was obliterated. The gangrene was continually spreading, and we were obliged to remove it. Fearing the gangrene, and knowing that there was no femoral artery, I amputated just below the knee. The leg was in a perfect state of health in that part; but within twenty-four hours of the amputation, in connexion, no doubt, with a deficient supply of blood, the stump passed into gangrene, which spread rapidly to the thigh; it all became dusky, and the patient was sick; the pulse rose to 160; he was feverish, had a dry tongue, and, in fact, was in a condition evidencing acute septicæmia. He was being poisoned, according to the way in which I would like to use this term, by the absorption of fluids from his gangrenous leg. The blood was going through, and back again, every time the body became contaminated by the circulation; and the man would have died if we had not adopted other measures. Believing that the leg was poisoned, I amputated again, at once, below the hip-joint, high up, at a point where the circulation was better. He was extremely ill at the time, and, contrary to my expectation, he made a good recovery. I quote the case as proving that the removal of the source of the poison was efficient in removing the septicæmic symptoms. I may also mention the case of a gentleman who had insured his life in the Accidental Insurance Office. He had slipped in the street and dislocated his thumb (a compound dislocation), and he died some six or eight days afterwards with symptoms of septicæmia—vomiting, a rapid pulse, dry tongue, shivering. His hand had passed into a state of gangrene. There was a long legal dispute as to whether he died of the accident, or of something in connexion with his general health. I mention this case in connexion with the others, as an illustration of what I believe: that it was gangrene of the hand that poisoned the patient. I mentioned the case of a medical man who poisoned his finger; gangrene followed, the finger was removed, and he had some of the symptoms of septicæmic poisoning. I wanted to confute the prevalent idea that some morbid matter is taken into the blood in every case in which septicæmic symptoms are present, and that that matter is the cause of the

septicæmic symptoms. The next case in which I had to remove a finger, the case was almost exactly analogous. It was the case of a poor seamstress who had no poisoned wound whatever. A prick of a needle on the finger had led to gangrene, and she had a similar train of feelings. We very often get symptoms of septicæmia in cases in which there has been no possibility of their being produced by morbid poison; and it is quite impossible to distinguish between the cases in which gangrene follows an injury in a more or less unhealthy person without any introduction of morbid poison, and the cases in which inflammation follows when there has been some possible introduction of a small amount of morbid poison. I admit the influence of morbid matter as an irritant in setting up inflammation, but what I wish to hint is that I believe the stage of gangrenous inflammation of the part is an essential stage of septicæmia, that that is an important part of the case, and that it is possible for pyæmia to occur without any local poison whatever. So much, then, for septicæmia. I think we should do well to keep it apart from the term "pyæmia," and to believe that in septicæmia there is no phlebitis. Then, upon the far more important subject of pyæmia, I think we should give a little more attention to the opinions of our forefathers; and I believe that no one could get more information on this subject from any papers by modern writers than from the original paper, which drew attention to the subject, by the late Mr. Arnott, written some forty-five years ago. Next in importance to the paper of Mr. Arnott I rank the papers of Dr. Robert Lee—a series of admirable papers upon puerperal fever, a perfect mine of correct information upon that subject. If we studied those papers in the *Medico-Chirurgical Transactions*, I feel certain that we should not have afloat the very erroneous opinions respecting pyæmia which have gained admission into some of our most important text-books, very much to the regret of many. The great heresy that at present prevails respecting pyæmia (at least, according to my belief) is that it is possible for pyæmia to be caused by the introduction of a specific poison from without into the blood. I no more believe this than I believe that septicæmia is. Pyæmia, I hold, is produced by an inflammation of the patient's own tissues. What we call pyæmia in more typical cases is due to phlebitis. The old-fashioned notion is quite true: that it is a poisoning of blood by inflammation of the veins. I regretted that Mr. Spencer Wells was a little vague upon that point. He spoke of coagulation of the blood, and the breaking up of the coagula. Now, in spite of experiments upon the lower animals telling us of the difficulty of making the veins inflamed, I hold that anyone who goes into the post-mortem room and examines the veins in cases of pyæmia, will have no doubt that the veins do inflame. And as to being confuted by saying that we have cases of phlebitis without pyæmia, that there is coagulation of blood in the veins, solid masses formed in varicose veins, and yet we do not fear pyæmia. Of course we do not. The things are totally different; but that there is a suppurative and gangrenous phlebitis, in which the veins become full of pus, in which puro-lymph adheres to the ulcerated lining membranes of the veins, I hold to be thoroughly established by the records of surgery and by daily experience. It is not the breaking down of the blood-clot; it is the ulcerative suppurative destruction of the vein itself. I could produce illustrations to-night, showing this in various parts in the most typical cases of pyæmia. I do not say that the term pyæmia is to be restricted to these cases. I think it is quite possible that there are other cases in which multiple abscesses are formed, in which there is no phlebitis; but, I believe, we shall proceed on a safe basis of classification if we at any rate accept these most definite forms of pyæmia, which are due to inflammation of the veins, as an important group in connexion with the disease under discussion.

Dr. Richardson: If Mr. Spencer Wells succeeds in producing unanimity of opinion on the subject of puerperal fever, he may congratulate himself on achieving a success second only to his achievements in surgery. I believe we are unanimous in the use of the word; but, perhaps, no two of us are agreed as to the clinical applicability of it when we meet with cases of a puerperal kind. The view I would start with in regard to this, rests with the condition of the woman after delivery. She is at that time physiologically in a peculiar position. First, her blood is in a peculiar condition. That colloidal fluid which, separated into a solid form, we call fibrine is sometimes in excess, from three to six or seven, and (as I once found on a direct analysis) eight parts in a thousand; so that the blood is at this moment in a trembling equilibrium, ready on the slightest possible disturbance to precipitate it. Then there is a diminution of salts in the blood, again a condition favourable to the precipitation of the colloidal fibrine. Then this woman has been for a time supplying to the child a mass of blood from her own body, which has now stopped, so that practically she is in the condition of a person who has lost a limb, a considerable portion of the body. Then she is in a nervous condition: she has been supplying from her own potential energy that element which has been shown in the movements of the fœtus; and now that has stopped, and she is suffering from that nervous reaction which comes on when that motion is suddenly arrested. She is, therefore, in the exact condition for a series of changes which must necessarily be febrile in character; and I think we must bear in mind this petition of women physiologically, before we enter upon the subject at all. To these facts we must add those which we have reason to learn in regard to hereditary qualities. We must accept the fact that there are a considerable number of women who are hereditarily predisposed to particular diseases, and I think we cannot except puerperal fever from this position. Then we come to consider the woman in this state, and we ask the series of questions which Mr. Spencer Wells has placed before us. Taking these questions one by one, I should say that, from experiments as well as observation, I should be unable to declare that there was any such thing as a special poison belonging to the puerperal state, or a special poison creating puerperal fever. It is quite true that, puerperal fever once started, there is a poison formed which will apparently communicate the disease, but there are certain varied forms of this poison, though, perhaps, all these poisons have one common meaning if we could look at them fully; but there are so many poisons derived from other sources, which seem to have the power of producing the disease, that this special poison we cannot look upon as we do the poison of small-pox or scarlet fever; neither can we say, in respect of this first question, that there are such local lesions as would lead us in the dissecting-room in any case to say, this was a case of puerperal fever, as we should say, this was a case of scarlet fever, or of typhoid, or of typhus fever. In fact, I recollect making a post-mortem some years ago, in a case of what was called puerperal fever, on a lady of some distinction in the metropolis. There were four eminent members of the profession present, and they were none of them agreed on this very point; one said it was a simple case of peritonitis. We then began to discuss whether, supposing this case was going before a jury, and we had to give our opinions, we could formulate in any way a series of pathological changes, which would indicate the cause of death as due to puerperal fever. Or to put it in another way, supposing one of our Fellows had said, "This is a case of puerperal fever; will you make a post-mortem examination?" would any of us know precisely what we were going to find as distinguishing that diagnosis? I should give a negative answer, therefore, to the question of Mr. Wells, both as regards the special poison and as regards the special characteristic pathology of the disease. In regard to the second question, as to whether any or all of the forms of puerperal fever may be referred to an attack of infective continued fever, as scarlet fever, and so on, I should also offer that a negative. Under the term puerperal fever, as I have been obliged to recognise it, from being frequently summoned to see cases which are so called, I should say that I have seen four distinct forms of fever which clearly may bear this name. For instance, there is the pure, simple surgical fever, as we may call it, following upon the delivery of the child; I presume there is no such thing (at any rate, the exceptions are very rare) as a case of delivery which is not followed by some slight febrile state; that is necessitated by the changed physiological conditions, by the increased tension of the vessels which must occur from the removal of so much blood in the uterine circulation, and by the irritation that has occurred in the breast previous to the secretion of milk. There is always this simple surgical fever similar to that which occurs after a surgeon has removed a limb; this, in fact, is a fever of resistance, as I have called it in a paper that I have written on the subject. Now, I am bound to say that I have seen some cases of so-called puerperal fever which were nothing more than exaggerated forms of this fever, which it may be has become exceedingly severe, in which we have had true inflammatory fever, and apparent indications of danger from that source; nay, in one case I have seen a fatal result from the formation of a clot of fibrine in the heart. In that case there was a simple rise of temperature of 4° following the confinement, then a sudden

collapse. An exceedingly rich blood, rich in fibrine, had been so modified by that simple rise in temperature, and by the increased friction of the blood passing through the heart, that a deposition of fibrine had taken place in the auricula of the right auricle, that had increased, layers of fibrine had been laid down, layer upon layer, as in aneurism, and ultimately a complete bag of fibrine was formed; there was an extension of that into the pulmonary artery, a loosening of the whole, and then death; yet no trace of the disease in any part of the patient, not in the uterus, not in any organ of the body, except that there was an incidental plugging up of the right side of the heart. We see such cases occurring in simple instances of pneumonia and some other forms of trifling inflammatory diseases. An attack of erysipelas, with a slight blush in the leg, I have known terminate in a few hours in death in the same way. Then I have seen another form of puerperal fever (many will recall similar cases) of what may be called a remittent character, with slight symptoms or extreme symptoms of jaundice; twice I have seen this coming on with high fever in the puerperal state. In a case of Mr. Palmer, of Mortlake, this occurred. It was a pure case of bilious remittent fever, occurring in a neighbourhood where there was no puerperal fever about, and ending fatally in a few hours, with all the conditions of yellow fever. I have seen cases ending fatally with this remittent bilious character pertaining to them in other instances. Then there is another class of cases, such as Mr. Hutchinson referred to, where there is a true introduction into the body of the patient of matter derived probably from the uterine sinuses, and where we get one of the true distinctive forms of septicæmic poisoning—a form in which the material becomes dark, and death takes place from deficient oxidation, and a form where there is a separation of fibrine coming on rapidly, and terminating by stopping the circulation of the blood through the right side of the heart. These cases seem to me to be of that class, spoken of by many speakers here, where there has been some local injury, the exposure of cellular tissue, the rupture or exposure of a vein, the formation of a modified secretion, the absorption of that, and death from what Mr. Hutchinson correctly called poisoning, immediately from the patient herself. Then, lastly, there is another source of puerperal cases, where, without doubt, a poison appears to be carried into the body from without; and here comes the singular part of this poisoning, that the poison may seem to belong to any one of the poisonous diseases, so long as it reaches the patient, and that it may not be in the strict sense of the word, so far as we know, a poisonous secretion at all—it is poisonous in the individual sense, but not poisonous as coming from any person who has been poisoned. We have instances of scarlet fever, apparently provoking the puerperal condition in this way; we have instances of erysipelas, and I can adduce examples of all kinds. We have examples of poison derived from other puerperal cases, and we have that extraordinary instance, recorded with great faithfulness and honesty, by Mr. Huntley, of Jarrow-on-Tyne, where he shows, by a series of conclusive arguments, that a secretion from his own hand was the cause, three times successively, after intervals of several months' practice, of conveying poisonous matter to patients, and so inducing puerperal fever. These are true cases of septicæmic puerperal fever, where we must assume that the poisonous matter is carried from the hand, or by some other channel, into the uterine surface, where it meets with a favourable reception for absorption, and so is conveyed into the body, producing all these phenomena which we have experimentally induced by inoculation. With regard to this second question, I should say that there is no special form of puerperal fever, no one particular type of the disease, which we can say bears that name, but that there are several varied forms of the disease terminating much in the same way, but having distinct characteristics; that some are contagious, some not contagious; that some spring from what you may call a natural condition of the patient, others from an injury to the patient, others from the introduction of morbid material. This again bears on the third question, "If all cases of contagious and infectious disease which occur under other conditions than that of childbirth are set aside, does there remain any such disease as puerperal fever?" To that I should answer that, barring that natural febrile state which follows upon confinement, as surgical fever follows upon injury, there is no such thing as puerperal fever, and in that I should agree with Dr. Braxton Hicks. As regards the fourth question put forward by Mr. Spencer Wells,—means of preventing the spread of the disease,—I have nothing to add to what was said by Dr. Braxton Hicks as to the effect of washing, and the general measure of removing the source of poison and isolating the patient. Then I am brought to the fifth question, relating to the presence of bacteria and allied organic forms in the puerperal state; that, of course, only relates to the pure septicæmous condition, the last of puerperal fevers to which I have drawn attention. On this matter, as is well known to most of you, I have held for many years—more than twenty-five years—to the pure physical side of the question, and my opinion is in no way changed by the various views which have been more recently announced as to the effect of organic germs and bacteria in the production of these diseases. I am at this moment still more firmly adherent to the physical view, from my recent researches, which have shown me the probable mode of action of these septicæmous poisons,—that they all act after the manner of those inorganic bodies, such as black oxide of platinum, manganese, and other bodies of that class, and in infinitely minute quantities have power of eliminating oxygen from the blood, and preventing combination of oxygen with the blood. I take it that the whole of these poisons act in that simple physical manner, and that, as regards the presence of organic germs and bacteria, they are matters of coincidence, that, where the conditions are favourable for those organic forms to grow and multiply, there they grow and multiply, but that that is entirely coincident; that is to say, the further development of the organic form which can be perceived has no more to do with the production of the disease than the presence of the maggot in the decomposing meat has to do with the decomposition of that meat. To put the point in a simple way, I remember a point in my child-life which will place the position well before the Society. There is a time in country districts, which is well known, when sheep fall in the field; they may not be dead, but they are found to be infested by carrion crows, which sometimes injure them severely, picking out their eyes, and doing them a deal of mischief. In my school-days, I remember that we had a debate, whether the fall of the sheep was due or not to the presence of these carrion crows. They certainly did a deal of mischief, and my schoolfellows would go out with stones and sticks to drive them away; others thought that it was the heaviness of the fleece that caused the sheep to fall, and we used to put the sheep straight on their legs, to run about again. Now it seems just the same physical cause at work producing the falling down of a woman with this disease from the influence of septicæmous poisoning; and these products which are found are coincidences, beautiful pieces of natural history, influences which, perhaps, are not directly favourable to the progress of cure when once they are developed, but they are purely matters of natural history, removed altogether from the true action of septicæmous poison. I have but a few other remarks to make. My impression is, that in the course of time; we shall arrive at the discovery of certain agents which will immediately stop the action of septicæmous poisons, by their direct physical effect upon the blood, and their influences in holding oxygen in combination with the blood. I have recently referred, in another society, to the effect of quinine in this respect; but that is a bungling, crude method of dealing with an agent that will act in such proportions as the ten-thousandth or the hundred-thousandth part of a grain, so as to produce disturbance within the organism. So dealing with this matter of antiseptics, I should say that, if antiseptics, as they are called—that is, bodies which prevent putrefaction,—are advanced as a means of curing these particular diseases arising from septicæmous poisons, their action is not because they are not antiseptics (because other agents which are not antiseptics possess a similar property), but for the simple reason that they act on a given principle, and many of them act altogether in accord physically, and I might almost add chemically, in neutralising the specific action of these poisonous agents; I mean, antiseptics do not act by destroying germs or organic forms, but they act definitely, by interfering with the poisonous action of the septicæmous material which produces the fatal disease. I predict that in ten years hence, in this Society, we shall see a means of preventing these diseases from septicæmous poisonings as clearly as we now see the means of producing them, by the introduction of these poisons in the form of inoculated matter in small-pox by vaccination.

Mr. Edward Bellamy, F.R.C.S., will commence his lectures on the "Anatomy of the Human Form" in the theatre at the South Kensington Museum on April 23, at 4 p.m.

MEDICAL NEWS.

KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.—At the ordinary monthly examination meetings of the College, held on Tuesday, Wednesday, and Thursday, April 13, 14, and 15, 1875, the licence to practise Medicine was granted to :—

Eagar, Frederick George Leslie.
Maturin, Charles Gabriel.
Sutcliffe, William Henry.
Wilson, George Hugginson.

The licence to practise Midwifery was granted to :—

Blood, Matthew Smyth.
Eagar, Frederick George Leslie.
Hanan, Arthur Sedgley.
Maturin, Charles Gabriel.
Sutcliffe, William Henry.
Wilson, George Hugginson.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having undergone the necessary examinations for the diploma, were admitted Members of the College at a meeting of the Court of Examiners on the 20th inst., viz. :—

Anningson, Thirkell, Burnley, Lancashire, student of the Manchester School.
Barnes, John James, L.R.C.P. Edin., Bolton, of University College.
Bass, Charles William, L.S.A., Barnsley, of University College.
Buck, Charles William, Settle, Yorkshire, of the Manchester School.
Cosgrave, Alexander, Fairfield, near Manchester, of the Manchester School.
Davies, John William, L.R.C.P. Lond., Ebbw Vale, Monmouthshire, of Guy's Hospital.
Day, Edward Joseph, L.S.A., Woodyates, Dorset, of St. Thomas's Hospital.
Gurdon, Edwin John, L.R.C.P. Edin., Colchester, of St. Thomas's Hospital.
Hames, George Henry, Woburn-place, of St. Bartholomew's Hospital.
Haulbrook, Edward, L.S.A., Ilkley, Yorkshire, of the Leeds School.
Helbier, John Benjamin, Headingley, Yorks, of the Leeds School.
Hope, Thomas Murray, L.R.C.P. Edin., Natal, of the Newcastle School.
Jackson, Robert Alexander, Notting Hill-square, of University College.
Nankivell, Frank, York, of the Edinburgh School.
Newton, George, Newcastle-on-Tyne, of the Newcastle School.
Orchard, James Stuart, M.B. Aberd., Salford, Lancashire, of the Aberdeen School.
Potter, Henry Percy, Denmark-hill, of St. Thomas's Hospital.
Rees, John, L.R.C.P. Edin., Dover, of Guy's Hospital.
Richardson, Arthur, Rusholme, Lancashire, of the Manchester School.
Smith, Charles Edwin, L.R.C.P. Lond., Preston, Lancashire, of the Manchester School.
Thompson, Alfred, L.S.A., Spilsby, Lancashire, of the London Hospital.
Walker, William, L.S.A., Land's End, Lancashire, of the Manchester School.

The following gentlemen were admitted Members on the 21st inst. :—

Crétin, Eugène, L.S.A., the Manritius, of St. Bartholomew's Hospital.
Edmond, William Richardson, Swansea, of the Edinburgh and University College Hospitals.
Gosset, George, B.A. Cantab., of the Univ. Coll. and Middlesex Hospitals.
Graham, John Thomas, M.B. Glasg., Tottenham, of the Glasgow School.
Greenwood, Thomas Porter, Easton, Northamptonshire, of University College.
Hobson, John Morrison, L.R.C.P. Lond., Forest-hill, of Guy's Hospital.
Hodson, Henry Algernon, Bishops Stortford, of University College.
Hunt, John Aspinall, Ockbrook, Derbyshire, of St. Thomas's Hospital.
Jameson, Leander Starr, Earlscourt-road, Kensington, of University College.
Martin, Samuel Edgar, M.D. Queen's Univ. Ire., Newry, co. Down, of the Belfast School.
Miller, Frederick Daniell, L.S.A., Streatham, of King's College.
Parker, George Roger, Lancaster, of St. Bartholomew's Hospital.
Rawlings, Alfred, L.S.A., Plympton, Devon, of Guy's Hospital.
Rees, David Valentine, Carmarthen, of the London Hospital.
Romano, Frederick William Richard, L.S.A., Brazil, of Guy's Hospital.
Treves, Frederick, L.S.A., South Hackney, of the London Hospital.
Waterhouse, Joseph Bourne, Burslem, Staffordshire, of Guy's Hospital.

APOTHECARIES' HALL. — The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, April 15 :—

Bevan, Richard, Clyde-terrace, New Cross.
Howard, Edwin, Lansdown-place, Wandsworth-road.
Lucas, Arthur, Burwell, Cambridge.
Packer, William Herbert, Cheltenham.
Phelps, William, Weston-super-Mare.
Rodwell, Edward Manby, Loddon, Norwich.
Thompson, Thomas William, Tavistock-square.

The following gentleman also on the same day passed his primary professional examination :—

Harmer, James Raffles, General Hospital, Birmingham.

BIRTHS.

BROWN.—On March 15, at Fraserburg, Cape of Good Hope, the wife of John Brown, M.D. Aber., of a son.

ELLIOTT.—On April 20, at Chichester, the wife of George H. Elliott, M.R.C.S. Eng. and L.S.A., of a son.

THORNE.—On April 18, at 5, Waterloo-place, Leamington, the wife of Frederic Thorne, M.R.C.S. Eng., L.S.A., of a daughter.

MARRIAGES.

BURGES—WATTS.—On April 15, at St. Peter's, Belsize-park, the Rev. W. T. Burges, vicar of St. Michael's, Shrewsbury, to Amy Frances, eldest daughter of the late John Watts, M.D., of Shrewsbury.

HIRE—FREEMAN.—On April 17, at All Saints, Haggerston, William Henry Hire, only surviving son of the late George F. Hire, M.D., to Sarah Freeman, youngest daughter of the late Henry Freeman, Esq., of West Tarring, Sussex.

HOLLINS—LITTLE.—On April 6, at St. George's, Hanover-square, Fredk. Hollins, M.A., son of Edward Hollins, of Llanrhos, to Bertha Annabella, second daughter of W. J. Little, M.D., of Park-street, Grosvenor-square.

LIDDIARD—LEADAM.—On April 20, at St. Marylebone Church, William Bedford, only son of William Liddiard, Esq., of Inverness-terrace, to Mary Ellen Cecilia, second daughter of T. P. Leadam, M.D., of Dorset-square, N.W.

ROBERTS—ALEXANDER.—On April 14, at Pinkieburn, Inveresk, N.B., Frederick T. Roberts, M.D., of 53, Harley-street, Cavendish-square, W., to Elizabeth Lindsay, second daughter of the Rev. W. Lindsay Alexander, D.D., of Pinkieburn.

DEATHS.

COX, WILLIAM HARRIS, M.R.C.S. Eng., at his residence, Burlington House, Oxford-road, Manchester, on April 16, aged 58.

DAVIS, MARY MORGAN, widow of John Davis, M.D., Surgeon Royal Navy, at 24, Wood-street, Woolwich, the residence of her son, Lieut.-Colonel Gronow Davis, Royal Artillery, on April 15, aged 86.

HALLAM, LUCY, widow of the late William Hallam, M.D., of Newcastle-under-Lyne, at Buckingham, at the residence of her son-in-law, on April 18, aged 55.

HULL, AGNES, seventh daughter of the late Thomas Hull, M.D., of Beverley, Yorkshire, at Bournemouth, on April 15.

MACDONNELL, ALEXANDER SHERIFFE, Inspector-General of Army Hospitals, at 21, Brock-street, Bath, on March 24, aged 69.

NICOL, JOHN, M.D., at Ardmarnock House, Argyllshire, on April 12, aged 84.

PARKES, HENRY MCKENZIE, M.R.C.S., at Abingdon, on April 7, aged 32.

STRANGE, JOHN ALEXANDER, infant son of W. Heath Strange, M.D., at 2, Belsize-avenue, Hampstead, on April 3.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

BRADFORD INFIRMARY AND DISPENSARY.—Physician. Candidates must be duly qualified. Applications, with testimonials, to Mr. Charles Woodcock, Secretary, 65, Market-street, Bradford, on or before June 12.

BROADMOOR CRIMINAL LUNATIC ASYLUM.—Assistant Medical Officer. Candidates must be duly qualified and registered. Applications, with testimonials, to the Medical Superintendent, Broadmoor Asylum, near Wokingham, Berks.

CARLISLE DISPENSARY.—Assistant House-Surgeon. Applications, with testimonials, to Mr. Davidson, 8, Devonshire-street, Carlisle.

CHELTENHAM GENERAL HOSPITAL AND DISPENSARY.—Junior House-Surgeon. Candidates must be unmarried and registered. Applications, with testimonials, to the Secretary.

EVELINA HOSPITAL, SOUTHWARK-BRIDGE-ROAD, S.E.—Registrar and Chloroformist. Candidates must possess a recognised qualification. Applications, with testimonials, immediately, to the Committee of Management.

FLEETWOOD.—Medical Officer of Health. Applications, with testimonials, to W. Ascroft, Clerk, 1, St. Peter's-place, Fleetwood, on or before April 30.

KENT AND CANTERBURY HOSPITAL.—Assistant House-Surgeon and Dispenser. Candidates must be duly qualified and registered. Applications, with testimonials, to the Secretary, at the Hospital, Canterbury, on or before April 30.

ST. GEORGE'S (HANOVER-SQUARE) DISPENSARY, 59, MOUNT-STREET, GROSVENOR-SQUARE, W.—Physician. Candidates must be F. or M.R.C.P. Applications, with testimonials, to the Secretary, Mr. G. H. Leah, jun., 73, Park-street, Grosvenor-square, W., on or before May 8.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, WOLVERHAMPTON.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Chairman of the Medical Committee, on or before May 3.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

APPOINTMENTS.

Barton-upon-Irwell Union.—Thos Hill, L.F.P. and S. Glasg., to the Cadishead District. Joseph Kershaw, M.R.C.S. Eng., L.S.A., to the Flixton District.

Hailsham Union.—Edward T. C. Ellis, M.R.C.S. Eng., L.S.A., to the Heathfield District.

Hartismere Union.—Edgar G. Barnes, M.D. Lond., M.R.C.S. Eng., L.S.A., to the Eye District and Workhouse.

Truro Union.—Edward Whitworth, L.R.C.P. Edin., M.R.C.S. Eng., to the St. Agnes District.

Upton-upon-Severn Union.—John H. Boughton, M.R.C.S. Eng., to the Sixth District.

Wycombe Union.—Henry R. Ruckley, L.R.C.S.I., L.R.C.P.E., to the Third District. Wm. G. Hayden, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., to the Workhouse.

SUPERANNUATION ALLOWANCE.

Smallburgh Union.—Mr. Samuel T. Huke, after thirty-seven years' service as a District Medical Officer, has been awarded a retiring allowance of £30 per annum.

The Royal National Hospital for Consumption, located at Ventnor, has received a bequest of £1000, duty free, from the executors of the late Frederick Henry Leaf, Esq., formerly treasurer to this institution.

Cholera in Ceylon.—Cholera is reported to be very prevalent in Colombo and Galle. Up to the departure of the last mail, which left Colombo just a month ago, there had been a total of 405 cases, 238 of which had proved fatal.

Examinations at Cambridge.—The examinations at Cambridge for medical and surgical degrees will commence on Thursday, June 10, at 9 a.m., in the old Anatomical Schools. Candidates are required to signify their intention of being examined to the Regius Professor of Physic, on or before June 1.

Sudden Death from Cardiac Embolism consecutive to Fracture.—At a recent meeting of the Société de Chirurgie, M. Tillaux related a case that had been under his care at the Lariboisière. A woman aged fifty-six was admitted for bi-malleolar fracture of the left leg. On the twenty-third day there occurred tumefaction of the leg, and on the forty-third day after the accident she was seized with syncope and died. At the autopsy there was found a phlebitis of the femoral vein and a coagulum which extended from the veins of the leg to the femoral arch, being very adherent below the entrance of the saphena, and free and fibrinous above this. The end of this coagulum was cleanly divided. In the heart a coagulum two centimetres in length was found imprisoned among the columns of the right ventricle, and was found to be exactly adaptable to the divided extremity of that in the femoral vein.—*Gaz. des Hôp.*, No. 45.

Health of London.—There were registered in London last week 1675 deaths, which exceeded the average number by 96. The annual death-rate from all causes, which in the two preceding weeks had been 28 and 27 per 1000, declined to 25. The 1675 deaths included 1 from small-pox, 28 from scarlet fever, 76 from whooping-cough. To the seven principal diseases of the zymotic class, 175 deaths were returned, against 219 and 203 in the two previous weeks. The 76 deaths from whooping-cough showed a decline of 19 from those in the last week, and included 20 in the East and 29 in the South groups of districts; 6 occurred in Bermondsey, 8 in Lambeth, and 5 in Newington. The fatality from diseases of the respiratory organs, which in the two previous weeks had been 534 and 496, further declined last week to 462, but exceeded the average weekly number by 138; 267 resulted from bronchitis, and 130 from pneumonia. The fatal cases of pneumonia exceeded the average by 40, and included 63 of children under five years of age. The Asylums District Fever and Small-pox Hospitals at Homerton and Stockwell contained 119 patients on the 17th instant, of which 48 were under treatment for scarlet fever, 55 for fever, and 6 for small-pox.

Examinations.—The following were the questions on Surgical Anatomy, and the Principles and Practice of Surgery, submitted to the candidates at the pass examination for the diploma of Member of the Royal College of Surgeons on the 16th instant, viz.:—1. Give an account of the relations and coverings of the descending colon, and then describe the several steps in the operation of colotomy. 2. Describe the operation of tying the posterior tibial artery in the middle of the leg, mentioning the parts necessarily divided. 3. In a case of compound fracture of the leg, where you are doubting whether to amputate or not, what circumstances would guide your decision? 4. How would you treat a punctured wound of the plantar arch, with recurrent hæmorrhage? 5. What are the varieties of stricture of the rectum? and what are the pathological conditions to which each kind may be referred? 6. What are the pathological changes which occur in the origin, progress, and termination of acute abscess? The following were the questions on the Principles and Practice of Medicine, viz.:—1. Mention the chief causes which may give rise to sickness and vomiting; state how you would distinguish them, and the treatment you would adopt in each. 2. Describe the features of cases of cardiac and renal dropsy; state how you would detect them, and the treatment to be adopted for their relief. 3. Mention the forms in which digitalis, belladonna, and hyoscyamus are used. State the purposes for which they are more especially suited, and the doses in which they should be given. State the effects produced by overdoses of digitalis and belladonna. Write a prescription for a diuretic mixture.

Mongol Practice.—Each winter a large number of Mongol patients visit the hospital. During the winter of 1872-73 there was a goodly attendance, but nothing to be compared to the numbers that have visited us during the winter 1873-74. The principal affections for which they were treated were rheumatism, neuralgia, boils, itch, eye and cuthetic diseases. The former was the most common of all affections, as may be easily imagined from the life led on the plateau. The successful cure of a sister of one of the princes brought multitudes to the hospital. Her affection was lupoid ulceration of the lower lip and cheek, with considerable induration. It looked very like epithelial cancer. She had lost the soft palate, the nose had fallen in; and, judging from these indications, the treatment by iodide of potassium was resorted to, and with success. The wife of the same prince also put herself in our hands for another complaint. During the summer I was called to attend a Mongolian princess, and found she had been in a comatose condition for several days; her hands and feet were quite cold, with no pulse at the wrist; and she died the same day. She was an inveterate opium-smoker, and said to be seven months gone in pregnancy. The family would permit no interference whatever, with the view of saving either mother or child. They would not allow so much as a personal examination. I have since attended the Prince—also a confirmed opium-smoker—for cough and asthma. He sent me a dead golden pheasant by way of acknowledgment. Great numbers of the several Mongolian tribes resident in the capital during winter have been attended to, who come here to wait upon the Emperor, pay tribute, receive pensions and presents, or barter their articles of produce to the Chinese. One, almost completely deaf, had large quantities of wax extracted, by which he gained his hearing, much to the surprise of his countrymen.—*Dr. John Dudgeon, in the Report of the Peking Hospital for* 1873.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

R. S. S.—The Barber-Surgeon's Company no longer exists as such. The Royal College of Surgeons is now the representative of the surgeons. The other still, we think, maintains an existence, but has nothing to do with our profession. To join a City company, you must become a nominal apprentice to one of the body.

Boston, America.—Up to a recent period there have been no special hospitals for cancer in this country. Such cases were treated in general hospitals and left to die in hospitals for incurables, etc. The first special wards for cancer were instituted in Middlesex by Whitbread. There a certain number of poor persons are admitted "until removed by nature or relieved by art." The only cancer hospital we know of is situated in Brompton, but hitherto has not been so conducted as to induce any man of recognised position to join its staff.

A Competitor.—We understand that the Council of the College of Surgeons declined making any award for the Jacksonian prize, the essays not possessing sufficient merit.

Dr. Jenner.—There is a portrait of the woman in the College of Surgeons, with the following note by the late Mr. Clift, the first Conservator of the Museum:—"She came from Labrador, and had the small-pox while in England, and carried the infection back, which proved destructive to above 300 persons. The infection was carried in her hair which she cut off and presented to her friends on her return."

Chirurgeon.—The celebrated Van Helmont affirmed that a wound inflicted by moonlight was most difficult to heal.

Dr. Campbell.—Salvino is considered the inventor of spectacles, from the epitaph on his tomb in the cathedral church of Florence, "Qui giace Salvino d'Armato, degl'Armati di Firenze, inventor delli occhiali, &c., 1317." A contemporary artist, in a painting of the Circumcision, represents the high priest Simeon with a pair of spectacles, which, from his advanced age, it was supposed he might have needed on the occasion.

An Old Member.—Mr. Charles Hawkins was the first "Master" of the Corporation of Surgeons—viz., in 1800. Mr. Thompson Forster was the last—viz., in 1820, when the title was altered to "President," a position first held by Sir Everard Home, Bart. The late Mr. Guthrie was President three times.

"*Cleft Palate.*"—Mr. Francis Mason, Surgeon to St. Thomas's Hospital, published in the pages of a contemporary a case of congenital fibro-cellular tumour of the tongue in a patient aged twenty-seven.

A Provincial Coroner.—A portrait and biographical notice of the late Dr. Lankester appears in vol. ii., just published, of "The Medical Profession in all Countries," by Barraud and Jerrard.

Dr. Campbell.—The celebrated Evelyn states that—"My Italian collection being now arrived, came Moulins, ye great Chirurgeon, to see and admire the Tables of Veines and Arteries which I purchased, and caused to be drawne out of several humane bodies at Padua. Dr. Scarborough was instant with me to give the Tables to ye College of Physicians; but I was not so willing yet to part with them." The College of Surgeons ultimately became possessed of them, where they can now be seen in the Museum.

COMMUNICATIONS have been received from—

Mr. R. Sisley, London; Mr. E. Bellamy, London; H. K. O.; Mr. Acton, London; Mr. H. Morris, London; Mr. J. Horne, Scarborough; Mr. W. Donald Napier, London; The Secretary of the Royal Institution, London; The Registrar-General, Edinburgh; Mr. Sewill, London; Dr. Taylor, Santillana; Dr. Handfield Jones, London; Mr. A. Lewis, London; Dr. J. Brown, Fraserburg; Mr. J. W. Hulke, London; Mr. J. R. Godlee, London; Dr. Sparks, Weymouth; Mr. Knowsley Thornton, London; Dr. Alexandea Yule, Fernhurst, Sussex; Mr. J. Chatto, London.

BOOKS AND PAMPHLETS RECEIVED—

Cornish on European Life in India—Mouat on the Death-Tribute of England to India—Anuual Report of the Cumberland and Westmoreland Lunatic Asylum—Report of the Directors of the Positive Government Security Life Assurance Company—Parson's Report of the Sanitary Condition of the Goole Rural Sanitary District—Ashby on the Working of the Sanitary Acts—Report of the Examination made of the Water supplied by the Metropolitan Water Companies during March, 1875—Tyson on the Practical Examination of Urine.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—National Food and Fuel Reformer—Philadelphia Medical Times—Pharmaceutical Journal—Centralblatt für die Medicinischen Wissenschaften—La France Médicale—Iron—Wiener Medizinische Wochenschrift—Journal des Sage-Femmes—Irish Hospital Gazette—Westminster Review—Scarborough Express—Scarborough Gazette—York Herald—Scarborough Mercury—New York Medical Journal—The Medical Inquirer.

APPOINTMENTS FOR THE WEEK.

April 24. *Saturday (this day).*

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 9 a.m. and 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

26. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

Medical Society of London, 8 p.m. Mr. William Adams, "On the Treatment of Broken Nose by Forcible Straightening and Mechanical Means." Mr. Henry Smith, "On the Results afforded by 400 Cases of Hæmorrhoids and Prolapsus of the Rectum, operated on by the Clamp and Cautery."

27. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Anthropological Institute, 8 p.m. Meeting.

Royal Institution, 3 p.m. Prof. P. M. Duncan, "On the Grander Phenomena of Physical Geography."

Royal Medical and Chirurgical Society, 8½ p.m. Dr. W. H. Day, "On Pulmonary and Cardiac Complications of Abdominal Tumours." Mr. Fergusson McGill, "Case of Left Subclavian Aneurism treated by Temporary Compression direct to the Artery." Mr. Henry Lee, "Sequel to a Paper on Excision of the Ankle-Joint."

28. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Hunterian Society (London Institution), 8 p.m. Mr. Durham, "On some Symptoms of Organic Disease." Mr. Clement Lucas will exhibit a Plastic Operation of the Eyelid.

29. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.

Royal Institution, 3 p.m. Prof. H. G. Seeley, "On the Fossil Forms of Flying Animals."

30. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

Royal Institution (Weekly Evening Meeting, 8 p.m.), 9 p.m. Mr. W. N. Hartley, "Action of Heat on Coloured Liquids."

VITAL STATISTICS OF LONDON.

Week ending Saturday, April 17.

BIRTHS.

Births of Boys, 1303; Girls, 1288; Total, 2591.
Average of 10 corresponding years 1865-74, 2233·7.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	871	804	1675
Average of the ten years 1865-74	759·6	715·7	1475·3
Average corrected to increased population	...	...	1579
Deaths of people aged 80 and upwards	...	...	76

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	...	4	2	11	...	3	...	4
North	751729	...	5	8	2	11	1	4	...	3
Central ...	334369	1	1	3	...	5	...	...	...	...
East	639111	...	4	7	2	20	2	...	1	4
South	967692	...	8	6	4	29	...	7	2	11
Total	3254260	1	18	28	10	76	3	14	3	22

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	30·091 in.
Mean temperature	42·8°
Highest point of thermometer	61·9°
Lowest point of thermometer	30·8°
Mean dew-point temperature	36·9°
General direction of wind	E.N.E.
Whole amount of rain in the week	0·00 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, April 17, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1875.)	Births Registered during the week ending April 17.	Deaths Registered during the week ending April 17.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3445160	45·7	2591	1675	61·9	30·8	42·8	6·00	0·00	0·00
Portsmouth ...	122632	27·3	87	42	...	...	...	...	...	...
Norwich	82842	11·1	52	56	60·0	28·5	41·7	5·39	0·00	0·00
Bristol	196186	44·1	160	104	62·2	30·0	43·0	6·11	0·01	0·03
Wolverhampton ...	71718	21·1	57	30	62·8	29·0	44·0	6·67	0·00	0·00
Birmingham ...	366325	43·6	305	178	63·2	29·5	43·6	6·45	0·00	0·00
Leicester	109830	34·3	84	58	66·2	29·0	44·7	7·06	0·00	0·00
Nottingham ...	92251	46·2	80	45	59·3	26·8	42·3	5·73	0·00	0·00
Liverpool	516063	99·1	418	270	60·5	33·8	45·6	7·56	0·00	0·00
Manchester ...	356626	83·1	312	215	65·0	28·0	45·7	7·61	0·00	0·00
Salford	135720	26·3	135	72	65·2	28·0	45·3	7·39	0·00	0·00
Oldham	87437	18·7	83	58	...	...	...	...	...	...
Bradford	168305	23·3	143	105	60·8	32·3	44·0	6·67	0·00	0·00
Leeds	285118	13·2	232	132	61·0	30·0	43·6	6·45	0·00	0·00
Sheffield	267881	13·6	201	142	62·0	28·0	43·8	6·56	0·00	0·00
Hull	133932	36·8	125	71	59·0	26·0	41·5	5·28	0·00	0·00
Sunderland ...	106342	32·2	81	53	58·0	34·0	44·8	7·12	0·00	0·00
Newcastle-on-Tyne	137665	25·6	102	80	52·0	35·0	40·8	4·89	0·09	0·23
Edinburgh	211626	50·5	145	96	...	...	...	...	...	...
Glasgow	534564	88·6	456	313	62·5	25·3	43·5	9·17	0·00	0·00
Dublin	314666	31·3	147	170	67·4	24·5	44·5	6·95	0·00	0·00
Total of 21 Towns in United Kingdm	7742889	37·0	5996	3965	67·4	24·5	43·9	6 61	0·01	0·0

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 30·09 in. The lowest was 29·95 in. on Sunday at noon, and the highest 30·24 in. on Thursday at noon.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

CLINICAL LECTURE ON A WOUND OF THE PALM.

DELIVERED IN THE MIDDLESEX HOSPITAL.

By J. W. HULKE, F.R.C.S.,
Surgeon to the Hospital, and to the Royal London Ophthalmic Hospital.

PERFECT rest of the hand and forearm, enforced by fixing them upon a splint, in wounds of the palm attended with arterial hæmorrhage, is the measure I desire particularly to impress on you to-day. When you cannot reach the cut artery and tie or twist it, it is not enough to bind a graduated compress on the wound, and put the hand and forearm in a sling; nor will you have taken every precaution against a recurrence of the bleeding when, in addition to a well-adjusted compress, you have methodically bandaged the limb from the finger-tips upwards, a proceeding which may seldom be safely omitted; but you should also secure the hand and forearm upon a well-padded splint reaching beyond the fingers and above the elbow, and strictly forbid the slightest attempt on the patient's part to actively move the limb. If he wishes to shift its place he must lift it upon the splint with his other hand.

This may perhaps seem to some of you unnecessarily strict, considering the small size of the arteries in the hand and the usually trivial dimensions of these wounds. But, in truth, these palmar wounds are by no means unimportant,—they are amongst the most troublesome and anxious with which you will have to do, and they may never be treated negligently. Small as the vessels are, owing to the free anastomoses here they bleed very copiously—so abundantly, indeed, that exceptionally (as in old or otherwise feeble persons) even death may follow in a few minutes the infliction of the wound. Not many days since, the lifeless corpse of a man was brought to the hospital, who had shortly before gashed his hand with a broken bottle. His neighbours, whom he had left only a few minutes before, had found him seemingly lifeless on the ground in a pool of blood.

It is, I believe, to the neglect of adequate precautions during the first few days that these wounds so often take an unfavourable course,—that they slough and inflame, and bleed again and again, until at length the surgeon is compelled to tie the radial and ulnar or the brachial artery (at this stage always under unfavourable conditions), and the patient is fortunate if he escapes with his hand not over-crippled and permanently damaged. Some of you will not have forgotten a man in Broderipp ward last summer, who had wounded his palmar arch with a splinter of glass, and who, against the House-Surgeon's remonstrance, would not come into the hospital, but attended as an out-patient during several days; for he obstinately refused to believe that a little wound, which to him appeared only a mere prick, could be very serious. At length repeated losses of blood and great swelling of the hand forced him to become an in-patient. It had become necessary to tie the brachial artery in order to save his life, and he recovered with a permanently weakened hand and a stiff finger. Since this you have had the opportunity of watching a very parallel case under Mr. Clarke's care. Now, I think that the unfortunate consequences might have been avoided if the man had immediately entered the hospital, and submitted to the plan practised in the following case.

A stoker, aged twenty, on the night of December 14 last, was brought into the hospital in a swoon from loss of blood. He had a few minutes before been stabbed through the hand with a large sailor's knife in a brawl. The blade had passed through the fourth interosseous space, making a cut three-quarters of an inch long in the palm, where it encroached on the carpus, and a rather shorter cut in the back of the hand. He very quickly lost so much blood as to faint, when the bleeding ceased spontaneously. The House-Surgeon adopted the customary measures in such cases: he bound a graduated compress firmly upon the wound in the palm, raised the hand and forearm on a pillow, and put the tape of a tourniquet loosely round the arm as a precaution in case of fresh bleeding. When I saw the patient at the mid-day visit I took off the tight compress from the palm, closed the gaping wound on the back of the hand with a couple of very fine stitches (as it was neither infiltrated with extravasated blood nor swollen), then bandaged each finger separately, and carried the rollers up the forearm and arm, placed a piece of lint dipped in carbolised oil upon the palmar wound (not stitching this, because its edges were somewhat infiltrated with blood), and upon this a small compress very lightly secured, laid the hand and forearm on a well-padded splint, supporting the palm with a ball of wool, and enjoined the strictest rest, forbidding the patient to lift the arm off the pillow except with the other hand. The pillow was so placed that the hand and forearm rested upon it nearly on the level of the shoulder as the man lay in bed.

Two things will probably have occurred to you: the tight compress was exchanged for a very light one; and the raised posture of the arm was replaced by one nearly horizontal. So long as a patient can move his hand, the efficient control of the bleeding can only be attained with considerable pressure, and this the tissues so compressed cannot bear long without sloughing. When this happens, too often the wound bleeds afresh, and too often this is met by readjusting the compress still more tightly, to be productive of still more mischief. It is, therefore, very desirable to use only the minimum of pressure absolutely necessary. Greatly raising the hand in wounds or abscesses, which some do by slinging it from a gallows, is a practice I never follow, because I think any advantage due to the lessened force of the arterial circulation obtained by an approximately vertical direction is outweighed by the additional facility this posture gives to the downward diffusion of inflammatory matters from the hand into the forearm, leaving out of consideration the irksomeness of the posture. I believe that all the advantages obtainable by a tight compress and by a nearly vertical posture of the hand and forearm, without their accompanying disadvantages, may be gained by methodically bandaging the limb from the finger-tips upwards (as practised by a Dublin *confrère*), a light compress, and that strict rest which only a splint insures.

Those of you who watched this case will have observed that the wound in the back of the hand united immediately; that in the palm more slowly by granulation unattended by any inflammatory swelling. Not a single drawback occurred. The bleeding was never repeated, and the man left the hospital with a sound linear scar and a perfectly useful hand.

We had some time ago a young girl in Bird ward who had accidentally stabbed a knife into the angle of the first metacarpal space, and from the freedom of the hæmorrhage had presumably wounded the radial artery, here dipping towards the palm. This wound was treated in the way I have just described, and with an equally satisfactory result.

ABSTRACT OF

THE CROONIAN LECTURES ON ADDISON'S DISEASE.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS, LONDON.

By E. HEADLAM GREENHOW, M.D., F.R.C.P., F.R.S.,
Physician to, and Lecturer on Medicine at, the Middlesex Hospital.

LECTURE II.

THE connexion of the constitutional symptoms and bronzing of skin with the disease in the supra-renal capsules is still regarded by many rather as a matter *sub judice*, than as a certain and definite relation. This scepticism is no doubt partly due to the fact that the relation between the disease of the supra-renal capsules and the clinical symptoms associated with it, is much less susceptible of obvious explanation than the relation between the organic lesion and the clinical symptoms in many other diseases. The general acceptance of Addison's discovery has, however, been mainly retarded by the prevalence of misconceptions. The evidence proving the reality of the relation, and the misconceptions which have interfered with its general recognition, must be discussed in turn.

It is still argued in some quarters that, although a diseased condition of the supra-renal capsules may frequently coincide with certain clinical symptoms, it is by no means essential to their development, and consequently cannot be their cause.

Dr. Greenhow has collected 332 cases, in all of which there is a more or less complete report of the morbid appearances found after death, disregarding as useless all those cases which have not undergone the test of post-mortem examination. Of these a very considerable number fall into three classes. One

of these classes includes all the cases in which no disease at all of the supra-renal capsules was found; the second, all those cases in which the disease found in the supra-renal capsules was altogether of a different nature from the particular lesion characteristic of Addison's disease; whilst in the third class are comprised all those cases in which the description of the condition of the supra-renal capsules leaves doubtful the nature of the lesion, and in some instances the existence of any lesion at all. After deducting the cases which fall under these three classes from the total number collected, there remained 228 cases, in all of which the supra-renal capsules are reported to have undergone the one particular morbid change which was described in the first lecture.

As regards the reality of the relation between this particular lesion of the supra-renal capsules and the clinical symptoms, Dr. Greenhow took, first, the evidence furnished by 101 of these cases, which may be classed in one group as typical cases of Addison's disease. In all these 101 cases the symptoms and the change of colour in the skin were observed, more or less developed. In all the 101 cases the supra-renal capsules were found after death to be diseased, and the disease was in every case of the same nature. And, lastly, in none of the 101 cases was there any other organic lesion existing which could be of the slightest importance. There can surely be no reasonable doubt that in every one of these cases the disease of the supra-renal capsules was, either immediately, or mediately through its consequences, the sole cause of death.

But there is another large class which, in reality, affords scarcely less convincing proof of the connexion between the clinical symptoms and the supra-renal disease. In fifty-one more cases, both the constitutional symptoms and the discoloration of the skin were observed during life in a more or less typical form, but either the other organs were not examined so as to place beyond question the absence of any co-existing disease; or else some complicating disease actually existed, giving rise to its own symptoms independently of those characteristic of the supra-renal lesion. Again, in thirty-one other cases, some of the characteristic constitutional symptoms are reported, with some discoloration of skin; but in some of these cases the descriptions are too meagre to justify our placing them in the first or second group; whilst in others there was coexisting disease serious enough to modify or obscure the symptoms of supra-renal disease. We have thus, out of the 228 cases in which the one particular lesion of the supra-renal capsules has been found, no fewer than 183 cases in which the peculiar change of colour in the skin, and some at least of the characteristic constitutional symptoms, were observed during life.

In 16 of the remaining 45 cases the clinical history and symptoms are either altogether wanting or are imperfectly recorded. These 16 cases being left out of the question, there remain only 29 of the 228 cases still to be accounted for; and in these 29 cases it is distinctly stated either that no bronzing of the skin existed or that it was almost inappreciable. In 18 of these 29 cases the disease of the supra-renal capsules co-existed with advanced phthisis or vertebral disease, with tuberculosis, ascites, or Bright's disease. In two or three of them the coexisting disease was acute tuberculosis, and in most of the others the coexisting diseases were attended by a considerable and exhausting drain. The inference to be drawn from the absence of the bronzing of skin, and mostly, also, of the constitutional symptoms in these eighteen cases, is that in most of them the diseases coexisting with the disease of the supra-renal capsules proved fatal before this latter had produced its characteristic effects; whilst in others the end was probably hastened by the debility which is usually the first symptom of the supra-renal lesion, but which, in such circumstances, would naturally pass unnoticed.

The explanation of the other eleven cases, in which it was stated that there was no bronzing of the skin, is at first sight less obvious. In none of these cases was there any coexisting disease of importance, and some of them are amongst the most typical on record as regards the constitutional symptoms. Nearly all of them, however, have been cases in which the illness has been of comparatively short duration, only two having exceeded a course of four months. In several there must have been some peculiarity in the colour of the skin sufficient to attract attention, as slight duskiness, unnatural darkening of the skin, peculiar sallow hue, and so on, are noted, together with the absence of bronzing. In one case, however, reported by Hertz in *Virchow's Archiv* for 1870, there was no trace of discoloration of the skin even at death; but the illness appears to have been of short duration, and he sank suddenly with severe nervous symptoms. Somewhat similar cases have been described by Dr. Wilks, Dr. Bristowe, Mr. Crossman, and Mr. Bruce for Dr. Russell Reynolds.

The simple and satisfactory explanation of all these cases lies in the variable comparative date of the development of the constitutional symptoms and of bronzing of skin in different cases, to which attention was drawn in the first lecture as one of the peculiar features of the disease. They were typical cases of Addison's disease, whose course was cut short by individual feebleness or by unfavourable circumstances before the development of the bronzing of skin, which would presently have taken place if their course had been sufficiently prolonged.

Such a weight of concurrent testimony to the truth of Addison's discovery would scarcely have remained so long without effect had it not been for the extensive prevalence of those misconceptions which have been alluded to as obscuring the true aspect of the question from the first. These misconceptions had reference chiefly to the characters of the discoloration of skin and of the lesions in the supra-renal capsules; and they originated in a great degree in the mistakes of Addison himself, who subjoined to his own typical cases others presenting discoloration of the skin and disease of the supra-renal capsules of quite different characters, and unassociated with any of the constitutional symptoms which had attracted his attention. He also gave the disease the name of "melasma suprarenale," for which afterwards was substituted that of "bronzed skin disease," thus identifying the disease itself with its most conspicuous, but least important, feature. Thus, the asthenia and the other peculiar constitutional symptoms, which at first revealed to Addison the existence of the disease, were in a great measure overlooked, both in reports of cases and in discussions based upon them. Numerous cases were brought forward, on the one hand, only to show that discoloration of the skin not unfrequently occurred without any disease being found in the supra-renal capsules; and, on the other hand, only to prove that discoloration of the skin did not always result from disease of the supra-renal capsules, even when sufficiently extensive to cause the entire destruction of those organs.

In both these classes of cases the facts were undeniable, and the inferences drawn from them have constantly been alleged as the principal arguments against the truth of Addison's discovery. Both these allegations are undoubtedly true; but neither of them contravenes the reality of the relation which subsists between the peculiar change of colour in the skin and the particular lesion of the supra-renal capsules which are found in Addison's disease.

First, discoloration of the skin does frequently exist without any disease of the supra-renal capsules, but it is discoloration which either presents altogether different characters from that associated with supra-renal disease, or which, if more or less resembling it, is easily referable to some other obvious pathological cause or to some known physiological condition. Neither Addison himself, nor anyone who upheld his views, has ever maintained that disease of the supra-renal capsules was to be regarded as the only cause of discoloration of the skin. This would have been as absurd as to assert that disease of the kidneys was the only cause of dropsy. In both cases the truth discovered was the relation between a hitherto undiagnosed local lesion and one particular form of an obvious affection.

There are various conditions, both physiological and pathological, which are frequently accompanied by general or partial darkening of the skin, but the former will not be dwelt upon here. Among the pathological conditions, there is the cutaneous discoloration often seen in elderly persons of very indigent circumstances and of uncleanly habits, especially when infested with vermin. Such cases, however, may be easily distinguished from Addison's disease. It is also well known that pityriasis versicolor is attended by discolorations of the skin. Syphilitic eruptions, also, notoriously cause more or less permanent stains on the skin. There are, however, various kinds of discoloration of the skin which bear a somewhat more real resemblance to the bronzing of Addison's disease, in so far that the skin remains soft and smooth, and the pigment is deposited in the same layers of the epidermis, though not in the same quantity, nor usually to the same extent, nor in the same characteristic seats. Such discolorations are well known to be produced occasionally by diseases peculiar to women, by tropical and malarious fevers, by hepatic disease,

and by very chronic phthisis. Of this last class of cases Dr. Greenhow has seen several remarkable examples, and the observation of these and others has convinced him that no partial discolorations of skin are to be relied on as diagnostic of Addison's disease, unless found in conjunction with the characteristic constitutional symptoms.

In dealing with the total number of 332 cases bearing upon the subject of Addison's disease, there were set aside, for subsequent discussion, all those which were found reported as bronzing or discoloration of the skin without disease of the supra-renal capsules. These cases are twenty-one in number; and a brief analysis will show that, in almost all of them, the abnormal pigmentation was due to one or other of the pathological conditions which were mentioned.

Two of the twenty-one cases published by Vernois and Averbeck precisely resemble the case of the woman exhibited by Dr. Greenhow at the Pathological Society; the patients died, and the capsules were found to be normal. In three other cases published by Puech and Gordon, there was constitutional syphilis. In two cases recorded by Sloane and Luton, the darkening of the skin was associated with phthisis. In two other cases related by Gibb and May, there was disease both of the lungs and the heart. In four cases published by Hutchinson, Harley, and Fricke, the discoloration dated from attacks of fever, jaundice, and hepatic derangement. Two cases of discoloured skin without disease of the supra-renal capsules, recorded by Dr. Bucknill and M. Regnard, occurred in women who were maniacal at the climacteric period of life—circumstances in which extreme duskiness of the skin is by no means uncommon. Two cases of internal cancer, not involving the supra-renal capsules, are reported by Mitchell and Fremy as presenting a certain degree of discoloration of skin.

There is another case of bronzed skin without disease of the supra-renal capsules, which was published by Rossbach in *Virchow's Archiv* for 1870, and on the supposition that it is a true case of Addison's disease, is made the basis of a new theory on the pathology of that disease, which will be noticed afterwards. But the characters of this discoloration of skin were totally opposite to those of the discoloration in Addison's disease. The chief constitutional symptoms were also conditions totally uncharacteristic of Addison's disease; whilst the anæmia, loss of appetite, and other symptoms, which were present and did resemble some of those of Addison's disease, were all fully accounted for by obvious mental and physical ailments of the patient.

From this analysis of the twenty-one cases published as cases of bronzing of skin without disease of the supra-renal capsules, it is evident that in all of them the discoloration of the skin was due to other pathological causes, and that it presented in none of them the really characteristic features of the bronzed skin of Addison's disease. And what is even more important, in none of these cases are any constitutional symptoms recorded but such as are easily referable to the morbid conditions present in each.

The second allegation against the truth of Addison's discovery—viz., that disease of the supra-renal capsules not unfrequently exists without discoloration of the skin—is also, as has been before said, perfectly true. Apart, however, from the small number of cases which have terminated before the development of the bronzing, it may be positively enunciated that disease of the supra-renal capsules, not attended with discoloration of skin, presents totally different characters from the particular lesion of those organs previously described in these lectures. Out of the thirty-seven cases which Dr. Greenhow has found published as examples of disease of the supra-renal capsules without bronzing of skin, twenty-four are cases of cancer of one or both capsules, invariably secondary to cancer of other neighbouring organs. In three of the other thirteen cases the capsules had undergone fatty or amyloid degeneration. In one case there was cirrhosis of the capsules, associated with kidney disease. In three cases there were cysts; in three, apoplexy; in three, sarcomatous, fatty, and plastic tumours, respectively; and, in seven cases out of the nine, only one of the two capsules was diseased. It is obvious that none of these lesions bear any resemblance to the one particular lesion of the supra-renal capsules which is attended by discoloration of skin; nor were any constitutional symptoms present in any of these cases except such as were due to disease existing in other organs. Dr. Greenhow has, moreover, seen in the Middlesex Hospital several cases of cancer in which the supra-renal capsules were involved, some of which were observed by him during life. The structure of the capsules was entirely destroyed in all those cases, yet in none of them had there been any constitutional symptoms or discoloration of skin resembling those of Addison's disease.

Hence, although it is quite true that bronzed skin does occur without the existence of any disease in the supra-renal capsules; and, again, that disease of the supra-renal capsules does exist, to the extent of entirely destroying their structure, without producing any bronzing of skin; it is also, on the other hand, equally clear that, in the one case, the bronzing of skin is not the peculiar discoloration indicative of the existence of Addison's disease; and that, in the other case (with the few exceptions already explained), the lesion in the supra-renal capsules is not the particular lesion of those organs which constitutes Addison's disease.

These are not the only misconceptions with regard to the relation of supra-renal disease to discoloration of skin: a small number of misunderstood cases have given a certain degree of prevalence to another opposite misapprehension—viz., that "any disease of the supra-renal capsules involving destruction of their tissues will produce the same effects as the particular lesion characteristic of Addison's disease." This misconception began with Addison himself, who published four cases of cancer of the supra-renal capsules as having been attended by some discoloration of the skin. There have been published since his time five cases of so-called cancer of the supra-renal capsules and five cases of other diseases of the capsules, associated with bronzing of the skin. A glance at these fourteen cases will show that they afford no true cause for this misconception. Of the first six cases, in none was the discoloration observed in any degree characteristic of Addison's disease, and in none of them were any constitutional symptoms present but such as were due to the disease in other organs.

The three remaining cases of so-called cancer of the capsules, with discoloration of skin, are of a very different character, having all presented, in a typical form, the constitutional symptoms and bronzing of skin described in the first lecture; and having been, in fact, as Dr. Greenhow believes, three typical cases of Addison's disease. In the first of these cases, recorded by Dr. Mettenheimer, there is no doubt that the deposits in the capsules were of the so-called tuberculous character. Dr. Duclos, in the second case, says that the disease in the capsule was perfect scirrhus, but his account of the condition of the organs is a perfect description of the lesion peculiar to Addison's disease. The third case, which is published by Dr. Gage, of Worcester, United States, bears on the whole a greater resemblance to Addison's disease than it does to cancer.

Of the five cases of other diseases of the supra-renal capsules accompanied by discoloration of the skin, two are cases of amyloid disease, and three of fatty degeneration of the capsules. But on careful examination Dr. Greenhow believes that these cases afford no real ground for the misconception that any disease of the supra-renal capsules, involving destruction to their tissues, may produce the same effects as Addison's disease of those organs.

Another misconception, nearly allied to the last, appears to exist in some quarters, to the effect that any abnormal condition of the supra-renal capsules is sufficient to raise the question of the existence of Addison's disease. Under the influence, apparently, of this misconception, a considerable number of cases have been published, in which the descriptions of the condition of the supra-renal capsules are too vague to justify any conclusions as to the nature of the lesion; whilst, in others, it seems doubtful whether there was any pathological lesion at all, and not rather some post-mortem change.

It is impossible to discuss in detail the thirty-two cases belonging to this group; but it is certain that the characteristic features of the supra-renal lesion in Addison's disease are not described in any one of them. Misconceptions so baseless in fact, and disproved by such conclusive evidence, have been so widely propagated and have survived so long mainly because of the great rarity of the disease, which has prevented all but a small minority of medical men from acquiring even the degree of practical acquaintance with its true characters which the observation of a single typical case would afford.

If, however, the relation between the clinical phenomena and the specific supra-renal lesion in Addison's disease may be considered as proved, the obscure pathological processes involved in that relation, and the equally obscure causes of

the supra-renal lesion itself, will still afford ample field for investigation. These parts of the subject will be discussed in the next lecture.

ORIGINAL COMMUNICATIONS.

SPONTANEOUS VISIBLE PULSATION OF THE RETINAL VESSELS

IN CONNEXION WITH

AORTIC REGURGITATION.

By STEPHEN MACKENZIE, M.B., M.R.C.P.,
Assistant-Physician to the London Hospital.

Although recognised and described, spontaneous pulsation of the retinal vessels in aortic regurgitation has not met with much attention at the hands either of ophthalmologists or physicians. My object is not to write an exhaustive paper on this subject, but briefly to record a series of cases under my care in which the phenomenon in question was present.

The subject has been studied with great care by Dr. Otto Becker (*Graefe's Archiv*, 18 Band., Abth. i., p. 206, of which an excellent abstract is given in the *Royal Ophthalmic Hospital Reports*, vol. vii., p. 641, and which is alluded to by Mr. Soelberg Wells in the third edition of his "Treatise on Diseases of the Eye," p. 344).

Dr. Becker, who refers to the independent discovery and previous publication of similar observations by Dr. H. Quincke (*Berlin. Klin. Wochensch.*, 1868, No. 34, and 1870, No. 21), found that spontaneous pulsation of the retinal arteries and veins was present in nearly all of a large series of cases where there was aortic insufficiency. He describes, indeed, three kinds of pulsation—arterial, venous, and capillary. The latter —a systolic blush and a diastolic pallor,—he says, he has only lately been able to verify; and I must confess to not having yet arrived at sufficiently intensive observation to discern it.

Dr. Becker especially advises that the attention of the observer be closely directed to the light streak on the arteries, which will be found to increase in breadth, and at the same time the broader streaks at either side widen at each beat of the heart. He also points out that the widening of a curve and the elongation of an artery can be best seen in the periphery of the retina, and that the pulsation can often be best made out where a vessel gives off one or more branches at an abrupt angle.

From my own observations I have found spontaneous visible pulsation in the retinal arteries and veins in a large proportion of cases of aortic regurgitation. It is especially marked when the ventricle is hypertrophied. Secondary dilatation of the mitral orifice does not interfere with its occurrence as long as the power of the ventricle is maintained; and the phenomenon is generally most marked when the pulse characteristic of aortic regurgitation is most developed.

The pulsation is most obvious in the veins, but its occurrence in them is of little importance unless there is also arterial pulsation. Pulsation of the central veins just at the point of emergence is common in healthy eyes, and under various morbid conditions. The arterial pulsation is variable in extent and range. It is sometimes limited to a few vessels of one eye, or, at least, is more readily detected in some than in others. Sometimes it is visible in nearly all the arterial trunks and many of the smaller branches. It is often most marked, and occasionally confined to the limits of the disc; but more usually extends for a considerable way along the retina, for a distance equal to two or three diameters of the disc. It is generally well seen where a vessel makes a more or less sudden curve, the amplitude of which may be observed in increase at each beat of the heart. Sometimes a vessel may be seen to elongate most distinctly, and when the pulsation is present in a very small vessel, it may collapse and disappear from sight during the diastole, and reappear at each systole.

The explanation of the phenomenon is obvious. We here have an opportunity of seeing—as, by palpation at the wrist, we have of feeling—the sudden forcible systole and the sudden collapsing of the pulse, due to the want of arterial tension from the insufficiency of the aortic valves. Considerable practice and much patience are required to detect its occurrence, and in most cases the employment of the erect image is essential.

The reader is reminded that spontaneous pulsation sometimes occurs in healthy eyes without any vascular derangement; and that pulsation of the veins and arteries is a well-recognised symptom of glaucoma, and may be produced in healthy eyes by increasing the intraocular pressure by slightly compressing the globe. In these cases the pulsation is limited by the margin of the disc, and is explained by the altered resistance which the vessels encounter at this point.—(Jacobi, *Centralblatt*, 1875, xix.)

I will now briefly record the cases the subject of these remarks, all of which have been under my care at the London Hospital.

Case 1.—W. S., aged forty-five, admitted October 26, 1874. Had followed various occupations, some of them laborious. Had been a free drinker. Never had rheumatic fever. Suffered from palpitation on and off for twenty years; it had been worse and accompanied by dyspnœa during the last eight months. A pallid man, with slightly puffy face; considerable dyspnœa. Apex-beat in fifth interspace, an inch and a half to the left of nipple; diffused. Cardiac dulness bounded by mid-sternum, fourth rib, and a line an inch and a half to the left of nipple. A loud to-and-fro murmur, heard loudest at mid-sternum, but conducted freely in all directions. Radial arteries very visible and tortuous. Pulsation in both arteries and veins of retina very distinct, and extending for some distance beyond the margin of the disc. The patient improved for a time, and was sent to a convalescent home. He soon relapsed, however, and was readmitted. He died on February 5.

Autopsy, same day.—Acute endocarditis. The aortic valves were covered with vegetations, and perforated in several places. Left ventricle hypertrophied and dilated.

Case 2.—A. B., aged fifty, admitted December 17, 1874. Never had rheumatic fever. Was, according to her statement, well until a month before admission, when she was attacked and robbed, her mouth being filled with mud to prevent her cries. A wasted woman, with silver-white hair (since girlhood), anæmic; skin fairly elastic. Apex-beat outside nipple line, somewhat heaving. Cardiac dulness from a finger's breadth to right of sternum up to nipple line. Strong pulsation at episternal notch and over right sterno-clavicular articulation, and equally in both carotid arteries. No tumour or dulness at base of chest. A loud systolic murmur at the head of sternum, and a diastolic murmur conducted well downwards. Pulsation of the two radial arteries sudden, forcible, and collapsing; equal on the two sides. Pupils equal; larynx healthy; no dysphagia or dyspnœa. Visible arterial and venous pulsation extending for some distance over the retina. Patient improved slightly; now attending as an out-patient.

Case 3.—F. F., aged twenty, barman, admitted November 20, 1874. States he had rheumatic fever when seven years old, which lasted three weeks; since then has never been well. Fifteen months ago had another attack, by which he was laid up six weeks. Has had cough six months; dyspnœa one month, more urgent the last fourteen days; very anæmic; breathless. Heart's impulse most distinct two and a half inches below and half an inch to the left of nipple, heaving, and accompanied by a thrill. Cardiac dulness much increased. A blowing murmur with the systole at the apex, conducted into the axilla; and a sound which precedes the impulse, but appears to be exocardial. At the base of the chest a systolic and diastolic murmur, conducted for some distance, especially the latter downwards. Pulse at wrist very characteristic of aortic regurgitation; similar pulse in carotid and posterior tibial arteries. The pulsation in the retinal arteries and veins was extremely marked in this case, and extended for a considerable distance from the margin of the disc. The lad is now attending as an out-patient.

Case 4.—F. P., aged thirteen, admitted November 11, 1874. Had rheumatic fever when four years and a half old, which kept him in bed for six or seven weeks. He came to the hospital more for a pain in the head and discharge from the ear than for his cardiac condition. Impulse in fifth interspace, immediately below nipple, stronger and more diffused than natural. A systolic murmur at apex conducted into axilla, a double murmur at the base, the diastolic very loud and freely conducted downwards. Pulse at wrist characteristic of aortic insufficiency. Visible pulsation of both arteries and veins over a considerable area of the retina. Now attending as an out-patient.

Case 5.—G. H., aged fifty-one, stoker, admitted March 15, 1875. Had "rheumatism" when a child, and "rheumatics" on and off since. For two years occasional dyspnœa—used to

find going up the ladder tried his breath—and had great heaviness at the chest; cough fourteen months; swelling of legs three weeks; vomiting and sweating a few days. Cardiac impulse in fifth interspace, a quarter of an inch to the left of nipple, somewhat heaving. Dulness bounded by mid-sternum, upper border of fourth rib, and a quarter of an inch to left of nipple. A systolic murmur at apex conducted into axilla, and a short systolic and a loud and prolonged diastolic murmur at the right margin of the upper part of the sternum. Very visible pulsation in the carotid, temporal, and facial arteries; the pulse can be seen to travel down from the axilla to the radial arteries at the wrist, which are very tortuous. The pulse is in an extreme degree that characteristic of aortic regurgitation. There is spontaneous visible pulsation in the retinal vessels of the left eye, for a short distance beyond the margin of the disc. In the right eye the veins can be seen to pulsate, but not the arteries. Still in the hospital.

Case 6.—G. B., aged twenty-six, labourer, admitted March 9, 1875. Stated to have been well until three months ago, when he caught cold. Shortness of breath two months. A cough came on, which has continued ever since. Three weeks before admission the face and then the legs began to swell. Has had no pain in chest. Has been a very free drinker. Always had very good health previously. Never had rheumatic fever. Anasarcous; extremely anæmic; a few purpuric spots on arms and legs. No affection of gums. Very breathless. Blood, albumen, and casts in urine. Cardiac impulse in fifth interspace, immediately below nipple. Dulness extends from mid-sternum along third interspace to nipple line. On the evening of admission a systolic murmur was heard at the apex, conducted upwards and into the axilla, and a diastolic murmur heard very distinctly at the third left interspace. When I saw the patient on March 12 the heart-sounds were so obscured by râles that I could only make out that the second sound was not natural. The pulse at the wrist was that characteristic of aortic regurgitation, and the artery was very visible at the bend of the elbow. On making an ophthalmoscopic examination, at first sight only venous pulsation could be detected, but on a more prolonged and careful examination most distinct pulsation could be seen in a small artery of the left eye, most markedly on the disc, but extending for some distance beyond its margin. In the opposite eye the pulsation was less distinct. The patient died March 22.

Autopsy, same day.—Acute endocarditis, especially affecting the aortic valves, which were perforated in several places. Mitral valves affected, but less severely. Left ventricle hypertrophied. Large mottled kidney. Embolism in spleen.

Case 7.—G. G., aged thirty-four, railway porter, admitted March 13, 1875. Had rheumatic fever eleven years ago, and has been subject to rheumatism on and off since. Cough and dyspnœa one month; œdema of legs three weeks. A pale, spare man, with œdema of legs and scrotum. Apex-beat two and a half inches below and an inch to the left of nipple: diffused and slapping. Cardiac dulness bounded by right margin of sternum, upper border of fourth rib, and a line an inch and a half to the left of nipple. A loud harsh systolic murmur at apex conducted well into axilla; a very loud systolic murmur, of different character, at the junction of second right rib with sternum; and a diastolic murmur at the same spot, which increases in intensity as the middle of the sternum is approached. Carotid and radial pulses very visible, and have markedly the aortic-regurgitation quality. Retinal arteries and veins readily seen to pulsate for a distance equal to two diameters of the disc. Patient still in hospital.

Case 8.—A. R., aged twenty-two, domestic servant, admitted March 10, 1875. Has not been quite well for three or four years; had vague pains in back, side, and chest. Had rheumatic fever twelve months ago, which laid her up for three months. Since then has had shortness of breath, increased on exertion; has had pains in chest: has sweated, and has lost a good deal of flesh. Very anæmic, with bright eye and burning skin; fluctuating temperature; no rigors. Cardiac impulse in fifth and sixth interspaces more than an inch to the left of nipple, heaving. Dulness bounded by left margin of sternum, lower border of fourth rib, and a line an inch to the left of nipple. A very loud systolic murmur heard all over the front of chest, but loudest at the upper and right margin of sternum; and a diastolic very loud and prolonged. Pulsation very visible in carotid arteries, but not elsewhere; pulse at wrist very abrupt and collapsing. There is distinct visible pulsation in the retinal arteries and veins, extending for some distance over the retina. Patient still in hospital.

TREATMENT OF POST-PARTUM HÆMORRHAGE BY INJECTION OF IRON.

By H. J. HARDWICKE, L.R.C.P., etc.

The following case will perhaps be of use in supporting the treatment of injection of perchloride of iron into the uterus in cases of post-partum hæmorrhage:—I was called to attend a woman who had been delivered of a child by a midwife two days previously. On examining the patient I found that she was suffering from severe post-partum hæmorrhage, and that the os uteri was dilated, with shreds of membrane protruding. I extracted these, and also a portion of decomposed placenta, and adopted the usual treatment for such cases, including the injection of cold water; but all this with little success, as the hæmorrhage soon returned as vigorously as ever. The woman was sinking from loss of blood, so I, as a last resource, tried Dr. Robert Barnes's method of treatment. I mixed one ounce of tinct. ferri perchloridi with about ten ounces of cold water, and injected the mixture into the uterus, when immediately, to my great satisfaction, the flooding ceased, and did not return.

Clearly this abrupt cessation of the hæmorrhage was due to the iron, for the previous injection of cold water had not the same effect. I may add that the woman quite recovered.

Highfield, Sheffield.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

ST. THOMAS'S HOSPITAL.

CASES OF KNEE-JOINT EXCISION.

(Under the care of Mr. MAC CORMAC.)

Mr. Mac Cormac performs resection of the knee-joint by means of an incision slightly convex downwards across the front of the joint. After division of the ligaments the diseased surfaces of bone are sawn off, including the articular surface of the patella, which is not wholly removed unless extensively diseased. Its retention under favourable conditions does not retard recovery, while it strengthens the bond of union. All diseased soft tissues are most carefully removed by knife or scissors. In this, as in other resections of joints, the important matter is the after-treatment. The limb is at once put up in a splint on the table, after all bleeding has ceased. A convenient form, a modification of M'Intyre's is used in St. Thomas's. In some cases Mr. Mac Cormac has immediately applied a gypsum apparatus. The splint, if possible, should not be changed for six weeks, when the union will be beginning to become firm. The use of Esmarch's apparatus, otherwise so desirable in operations on the bones, is attended by serious inconvenience in cases of excision of the knee-joint. The oozing of blood, which flows *en nappe* after the removal of the bandage, is often protracted and difficult of arrest. The quantity of blood lost in this operation is usually inconsiderable, and Mr. Mac Cormac has therefore ceased to employ elastic compression.

We are indebted for the notes of these cases to the courtesy of Messrs. Clutton, Hunt, and Nicholson, Mr. Mac Cormac's dressers.

Case 1.—C. T., a girl, aged four, was admitted under Mr. Mac Cormac's care, on January 15, 1874, with disease of right knee-joint. No history of injury. Disease began two years previously; an abscess formed, six months before admission, over internal condyle. It was opened, and discharge has since persisted. Joint completely destroyed. General health very much impaired. After a month's treatment in a splint, the child's condition having improved, excision was performed, the patella being removed. The little patient recovered rapidly, pain and swelling disappearing "like a charm." Bony union did not occur, and when the child walked there was tendency to flexion of limb at the knee. This was counteracted by a leather knee-cap, and the child went (January 25, 1875) to rejoin her parents in Ireland; all sinuses closed, and the patient able to walk comfortably and easily. Her father was a soldier, and the

child remained longer on that account in the hospital. Absence of complete bony union is not very infrequent in children, and it is imperative in such cases to bring the thigh and leg exactly in a straight line after excision.

Case 2.—Matilda A., aged twenty-two, admitted May 26, 1874, under Mr. Mac Cormac's care. Four years before, without known cause, the right knee became swollen and painful. The patient had submitted to various forms of treatment at different hospitals during the major part of this time, with only very partial and temporary relief. She was desirous to have an operation performed, being convinced that any other treatment would prove unsuccessful. The joint, on admission, was painful and tender, but especially so over the inner head of the tibia, where the pain was of a "jumping" character, and the tenderness exquisite and localised. Great suffering on pressing joint surfaces together or on moving the joint. Treated for a month—splints, with blisters, and afterwards Scott's dressing—the character of the pain remained unchanged. The patient's condition otherwise became much worse. A sequestrum was diagnosed in the head of the tibia. On June 24 the knee was excised; patella not removed. A large sequestrum was found in the head of the tibia, and from thence the changes in the joint seem to have originated and spread. The cartilages were nearly all removed. The patient died ten days after from acute double pneumonia.

Case 3.—Eliza H., aged twenty-two, was admitted October 20, 1874. Her left knee had been affected for eight years. She injured it by a fall, which produced severe local symptoms. These subsided, and for two years she felt pretty well; then dull aching pain with "jumping" at night was felt in the bone on the inner side of the joint. The joint was very tender, and painful on the slightest movement. There was sufficient evidence of the presence of a sequestrum either in the internal condyle or head of the tibia to justify such a diagnosis. The limb was quite useless, and the patient had been for a very long period submitted to various kinds of treatment in three different hospitals without any satisfactory result. For more than a month the effect of rest following the application of the actual cautery was tried without result. The patient seemed daily to suffer more, and excision was performed on November 25; patella not removed. For a month all went as well as could be; the operation wound entirely healed, save at the extremities; then a series of abscesses formed over the inner and anterior aspect of the knee. When the splint was first changed, six weeks after the operation, the union between the bones seemed very firm. On February 8 the limb was put up in a gypsum splint, and the patient soon after was able to get out of bed. The sinuses persisted; no dead or diseased bone could be reached through them with the probe. In March, 1875, the patient was sent to a convalescent hospital.

Case 4 is that of a patient who came under observation at a long interval from the operation:—Eliza D., aged twenty-one, was admitted under Mr. Mac Cormac on January 9, 1875. The left knee had been excised by Mr. Solly in February, 1865. After her discharge the patient was not heard of till the present date. Has never been able to use the limb. The left knee is perfectly riddled with sinuses, nine of which discharge a small quantity of thin puriform fluid, and others are covered with scabs. No diseased bone can be discovered. The intervening soft structures are much swollen and indurated. Shortening amounts to two inches and a quarter, almost entirely in the tibia. Atrophy not only of soft structures, but the left tibia is decidedly much smaller in all directions than right. Numerous cicatrices of former abscesses in calf of left leg, which patient says came soon after her discharge from hospital. Foot firmly fixed in position of extreme talipes equinus. No albumen in urine; lungs healthy; liver dulness normal. The tendo Achillis was divided, and the foot gradually brought into a proper position. With tonic treatment, good food, and rest, the sinuses all closed; and with a thick-soled boot the patient by degrees began to walk.

Case 5.—W. S., aged fourteen, a pale strumous-looking boy, was admitted under Mr. Mac Cormac's care June 5, 1874, with disease in left knee of four years' duration following an injury. Joint filled with thin purulent fluid; synovial membrane gelatinous, greatly thickened; cartilages of incrustation completely removed. Excision performed June 24; patella removed. The limb was put up in plaster of Paris on the table, which was not removed for six weeks. At the end of that time the union was tolerably firm. The boy was discharged to go to a convalescent hospital, November 7, 1874. He is able to walk about, but when last seen a superficial ulcer occupied a portion of the cicatrix of the operation wound.

Case 6.—George S., aged twenty, was admitted under Mr. Mac Cormac, June 13, 1874. He had been under treatment with only very temporary benefit for upwards of three years. He is pale and thin, and worn out with pain. Over the inner head of the tibia and the internal condyle the pain on pressure is very great, and at night "jumping" pains destroy his rest. The knee was bent, and could not be moved without great pain. From the symptoms a sequestrum was suspected in the tibia, and on performing the resection of the joint one was found in the outer head of the tibia as well as in the internal condyle. The tissues of the joint were destroyed. In this case also the limb was permanently put up in gypsum on the operating-table. The patient obtained great relief from the operation, from which he speedily recovered, and at the end of six weeks, when the plaster of Paris splint was removed, the union between the bones appeared quite firm. When the patient left the hospital on February 4, 1875, complete bony union between the tibia and femur had long taken place, but the sinuses had not closed, and the patient was unable to use the limb. His general health had declined: two attacks of hæmoptysis had occurred, and there was some deposit in the apex of the right lung.

LONDON HOSPITAL.

A SERIES OF CASES ILLUSTRATIVE OF CEREBRAL PATHOLOGY: CASES OF INTRACRANIAL TUMOUR.

(Under the care of Dr. HUGHLINGS-JACKSON.)

(*Continued from page* 472, *vol.* ii. 1874.)

Case 16.—*Tumour of Middle Lobe of Cerebellum—Blindness from Double Optic Neuritis—Trifling Reel.*

Amelia S., a well-developed girl of nine years of age, was admitted February 8, 1873, under the care of Mr. Hutchinson, who transferred her to my care. For the history of the case and for much help in investigating her condition I am indebted to Mr. Lewis Mackenzie, then House-Surgeon, now Resident Medical Officer.

The child had been very healthy until the summer of 1872, when, after measles, she began to suffer severe headache. Before this time her ailments had been whooping-cough at the age of four, and an attack of scarlet fever, which only kept her in bed three days. The headache would come on once a week or so, and was relieved by a good sleep. She would occasionally vomit before breakfast. In autumn the child squinted and saw double. She was taken to Moorfields; and at this time, except for the symptoms mentioned, she was well, and there was nothing wrong in her gait.

After Christmas the child got much worse: the pains in the head were worse, and she was very sleepy. Her temper became sharp and irritable. She had not much control over her fæces and urine. A few weeks before admission she began to complain of "singing" in the left ear, and had "shaken it" a good deal to relieve the singing. She had no discharge from the ear. She had neither lost nor gained flesh.

I saw her on February 9. She was then blind from the effects of double optic neuritis; but otherwise she looked well, and was not ill-nourished. She was up, and could walk *nearly well*. But it was noted that in walking the legs were placed too much apart, and that the right foot was placed on the ground with greater force than the left, and we thought the inner part of the sole of the right foot was unduly pressed in contact with the ground. Again, once or twice there was a trifling reel or slight oscillation. She was deaf of the left ear, so far that she could only hear a watch when at two inches distance. Most unfortunately no further examination of the ear was made.

Such was all I could make out at this time. She had or had had the symptoms implying a tumour within the cranium—viz., headache and double optic neuritis. The slight reel made me locate the disease under the tentorium. As regards localisation I went no further than this, but could I have been sure that the deafness was of nervous origin, I should have supposed the tumour extended to the left auditory nerve. There was another condition which pointed, but not decisively, to tumour under the tentorium—viz., apathy or hebetude; this was at first only slightly marked. Children are mostly very irritable when they have brain disease, but in the cases of tumour of

the middle lobe of the cerebellum which I have seen they are singularly placid and even-tempered. This is because there is, from effusion into the lateral ventricles (caused by the tumour of the middle lobe of the cerebellum), very slow and even pressure, so that the mind and disposition are slowly and evenly effaced. It is interesting to note that we have mental symptoms from disease of the cerebellum, although the mode of their production is indirect.

The reel was so trifling that my clerk remarked that it seemed a very slight foundation for a diagnosis of position. Yet it was a reel, not a stagger nor a shuffle. Perhaps I was the more decided because I had missed making a correct diagnosis just before (in Case 13, p. 118, vol. ii. 1874) by neglecting a slight reel. The reel might theoretically be accounted for by the ear disease (during life, I mean), but then it was evident that there *was* a tumour in some part within the cranium.

She got worse very gradually. On March 7 she had a "fainting fit," and subsequently several; no clear details could be got of them. Her apathy increased slowly. Thus, on March 15 the nurse said that for three days the child never spoke unless spoken to; she could, however, speak well. On March 19 she could just stand; in walking (assisted) she reeled. She was singularly apathetic.

She had a fit, which I did not see, on March 22. Her mother reported that the head was thrown back, that the arms and legs were drawn up and stiff. She died the same night.

Autopsy.—The encephalon was examined for me by Dr. Ferrier, who reported as follows:—"The cerebral convolutions were considerably flattened from over-distension of the ventricles. The middle lobe of the cerebellum was occupied by a tumour of soft gelatinous consistence, about the size of a small orange. The lateral lobes and corpora dentata were not involved. The valve of Vieussens and the corpora quadrigemina were intact. The floor of the fourth ventricle was somewhat expanded and flattened out, but the roots of the auditory and other nerves were not involved in the tumour, nor were they injured to all appearance. The tumour on being cut into was seen to possess a considerable supply of bloodvessels. Several of these were engorged with blood, and punctiform extravasations in the substance of the tumour were observed. On examination with the microscope the substance of the tumour was found to consist of dense aggregations of nuclei and very little fibrous tissue, which, however, existed in the form of meshes. On these, bloodvessels were seen, in many cases surrounded with compound granular corpuscles. The tumour appeared to be gliomatous."

I do not believe that disease of the cerebrum or cerebellum ever causes deafness unless the auditory nerve be pressed on by the disease, which is of course the exception proving the rule. The large part of the auditory nerve which goes to the cerebellum probably represents the division for the semicircular canals, and is not for hearing, but for the regulation of movements of locomotion. In this case there was deafness of one ear and no direct pressure by the tumour on the auditory nerve; but it is probable that there was independent disease of the ear—probable, because in the case of larger tumours under the tentorium there is no deafness.

EXAMINATIONS. — At the primary examination in Anatomy and Physiology for the diploma of Member of the Royal College of Surgeons, which was commenced on Saturday last, 176 candidates offered themselves, to whom the following questions were submitted, four of which, including one of the first two, were required to be answered, viz.:—1. Enumerate the refractive media of the eye; and describe how a ray of light is affected in passing through them. 2. Describe the mucous membrane and glands of the stomach, in the cardiac, pyloric, and central portions, respectively. 3. Describe in detail the dissection necessary to display the internal maxillary artery, from its origin to the pterygo-maxillary fossa; and name the nerves exposed to view in the dissection. 4. Describe the sterno-clavicular and acromio-clavicular joints; and mention the other ligaments attached to the clavicle. 5. Describe, in their relative position, those parts of the heart and great vessels which are exposed on laying open the pericardium. 6. Enumerate, in order, the several structures that must be removed to expose the whole of the exterior surface of the knee-joint, with its ligaments. The oral examinations will be continued through this and the succeeding week.

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Medical Times and Gazette.

SATURDAY, MAY 1, 1875.

THE NATURE OF CONSUMPTION.

No. IV.

A CONSIDERATION of the facts elicited by the researches upon the artificially induced tuberculosis of animals, to some of which we referred in our last article, naturally leads to two important questions—viz., (1) as to the nature of the influence that sets agoing this artificial disease—animal tuberculosis; (2) whether any similar influence is at work in the production of tuberculosis in man? That many kinds of substance introduced into the cellular tissue of certain animals can, with different degrees of facility, it is true, produce a disease in all cases identically the same, has been regarded as an argument against the specific nature of the disease tuberculosis. We are not concerned to maintain the specificity of tuberculosis, a doctrine which lost greatly by the hasty conclusions which Villemin drew from his first experiments; but it seems to us that facts fairly warrant the belief that the disease animal-tuberculosis may, on the one hand, be in the first place a local one, in the same sense in which the Hunterian chancre is by many regarded as, in the first instance, local, and that it is induced at once, and with tolerable certainty, by the inoculation of true tubercle or matter containing it, just as chancre arises directly from contamination with the poison of syphilis, or the vaccine pimple from the introduction of specific lymph; but that, on the other hand, it—unlike syphilis or vaccinia—may also arise in some peculiar morbid reaction of the tissues to an injury not in itself of a poisonous kind. From this point of view, tuberculosis may be still regarded as a specific disease, though less rigidly so than syphilis, vaccinia, and the like. We think, however, that a disease which cannot be shown to be strictly specific should not be regarded as specific at all, although we may grant a specific quality to the characteristic lesions that arise in its course.

The peculiar characteristics of such diseases as syphilis, vaccinia, etc., which stamp them as being *par excellence* specific, are that they are general diseases essentially foreign to us, which cannot under any circumstances be generated within us, but which require the introduction of some definite specific poison for their development. Now, with tuberculosis, on the contrary, the balance of evidence is greatly in favour of the disease being essentially native, both to animals and to man. The inoculation of indifferent material will give rise to it in animals, and, according to some observers, the disease may arise spontaneously in animals kept in unhygienic conditions, although in their wild state it rarely occurs in them. Again, the generally accepted hereditariness of the disease in man, also its undisputed origin occasionally from evil sanitary influences, and—still more to our present point—the frequency with which its occurrence has been traced as the sequel to an internal local inflammation, any poison contained in which must have been generated within the body, and must therefore be, in the sense in which we are using the term, *constitutional*,—all point to the disease being natural, or native to us, only requiring favouring circumstances to call it forth. And we take it to be the chief value of these experiments upon animals, and sufficient alone to justify them, that they have taught us much concerning the circumstances which most tend to call forth tuberculosis, both in animals and in men.

Dr. Fox found in his experiments the local production of the tubercle virus to be a local tuberculosis, actual granulations being produced in the cellular tissue about the seat of the inoculation. The column of his table recording the number of times local tubercle was thus produced very closely corresponds with that recording the successful cases, and Dr. Fox is disposed to regard the infection of distant organs as occurring mainly by progress through lymphatic paths. Dr. Sanderson looks upon the virus as generated in the induration around the inoculated matter, or possibly in the nearest glands, by the enlargement of which he could in all cases predict the success of his experiment. As regards the secondary distribution of the disease, Dr. Sanderson attaches more importance to absorption by the virus into the general circulation, although of course he is aware that the lymphatics necessarily take up a certain portion of this as of any other poison. Dr. Waldenburg takes an even more mechanical view of the origin of general tuberculosis; for, regarding, as Dr. Sanderson also does, the tubercle contagium as consisting of minute particles, he denies that these particles are in themselves specifically poisonous, but endeavours to show that they form minute arterial embolisms, around which white corpuscles are exuded, the tubercle particle often escaping with them, thus forming a minute collection of cells, around which connective-tissue growth takes place, resulting in the formation of a tubercular granulation. The fact strongly insisted upon by Dr. Fox, that the obliteration of vessels is a secondary result in tuberculosis, and, still more, the recent demonstration by Dr. Klein of the manner in which the vessels become obliterated—viz., by endothelial growth,—as well as the most common origin of tubercle being, as pointed out by Dr. Sanderson, in lymphatic tissue already existing, especially around the minute bronchi, all combine to render Dr. Waldenburg's views in this respect quite untenable. We must admit, then, in answer to our first question, so far as we can answer it, that the virus of tubercle, although in all probability a definite poison, is not specific, inasmuch as it may be generated by the morbid reaction of the tissues of an animal to the simple inflammatory or other stimulus, unconnected with the introduction of any poison from without. In this respect tubercle is more allied to carcinoma than to syphilis. But that, once developed, it tends to disseminate itself, producing definite lesions in distant parts, either progressively through the regular chain of lymphatics, or as it were *per saltum* through the medium of the general circulation.

Already, seventeen years ago, and ten years previous to the modern experiments on artificial tuberculosis to which we have referred, Professor Buhl had, after a very extensive series of post-mortem investigations of cases of phthisis, including twenty-three cases of acute tuberculosis, come to the conclusion that acute miliary tuberculosis was a disease arising from the re-absorption of a specific infective matter from old caseous products. The frequency with which he had found old yellow tubercle or cavities present, which might serve as infective centres, and around which, as from a centre, spreading in successive stages, crops or zones of miliary tubercle presented themselves, seems to have suggested to him this conclusion; in addition to which, he noted the association of a more general dissemination of miliary tubercles throughout many organs and serous surfaces from only a single "absorption centre." These views have been accepted, with only certain modifications as regards the specific nature of the matter absorbed and the mechanism of its absorption, by most authorities since Buhl's time; additional observations, clinical and pathological, having been adduced in its favour by Niemeyer and Hoffman, Wilson Fox, Burdon Sanderson and Waldenburg, Hermann Weber, C. Baümler, and others. So that we know that tuberculosis does arise in the human subject as a secondary illness, "through the influence of caseous diseased products upon the system" (Niemeyer).

We may see pictured in the artificially induced tuberculosis of animals the part played by tubercle in the more complex disease—phthisis—as we meet with it in the human subject; and we may thus gain some help from these experiments in endeavouring to answer the question which underlies all others respecting the pathology of that disease—viz., as to the nature of the relationship of tubercle to phthisis. Two sessions ago, several evenings at the Pathological Society were taken up by a keen debate upon this subject, introduced by Dr. Wilson Fox, which, as such discussions do, conducted before a large professional audience, served to ventilate and popularise all present opinions respecting it. It will be at once perceived, on glancing at that debate, that one chief point of controversy upon which many of the different opinions, admittedly or not, rested, was, whether we are to regard the miliary granulation as the sole form of pulmonary tubercle, or are we to admit its occurrence in the more diffuse form of tracts of lymphoid tissue? When it is said that phthisis has nothing necessarily to do with tubercle,—that it is a destructive inflammatory disease, in the course of which tubercle may appear as a secondary and accidental product,—the "tubercle" spoken of is clearly the grey granulation of Bayle and of Virchow. But it was admitted by a few speakers that Dr. Fox's extension of the meaning of the term tubercle, to include those more diffused growths of lymphoid tissue which give rise to tracts and thickenings of the pulmonary alveoli, was legitimate—indeed, that they could not, on any anatomical definition, be logically excluded; and we think no extra difficulty need be imported into the already sufficiently intricate matter by this admission, if we are careful to note the difference between the terms tubercle and tuberculosis. Tuberculosis is a disease-process of the definite nature of which we are daily becoming better informed. Tubercle is a disease-product; and it does not follow that the product tubercle can only be produced in one way. Dr. Fox well argued, in his reply at the debate referred to, that any irritation of a structure rich in lymphatics—as the lung—may, under favouring constitutional disposition, give rise to growths which are tubercular, although they may not occur in the form of distinct granulations. Accepting this view as the most tenable one, the next and important question comes—Is the occurrence of tubercle in the lungs, either in the miliary form of granulations or in the more infiltrated

form of diffused thickening of the alveolar walls by small-celled growths, the essential precedent element in pulmonary phthisis, to which the intra-alveolar products succeed, or upon which they are attendant as complications, according to the intensity, etc., of the tuberculisation? If we answer this question simply in the affirmative, we merely resuscitate in more advanced phrase the doctrine of Laennec, which many pathologists thought had been so deeply buried! And it is, indeed, a tempting solution, and one adopted by such high authorities that we might well rest upon it. But further considerations will, we think, lead pathologists to a different answer, although not so different perhaps as to ignore, as has too contemptuously been done, the convictions of Laennec as being mere dogmas.

In the animals subjected to the inoculation of tubercular matters—animals not prone to phthisis under the condition in which they are kept while undergoing experiment—the disease produced is tuberculosis; and although, if their lives be sufficiently prolonged, the pulmonary lesions may possibly undergo those processes of softening which are essential to our definition of phthisis, yet such softening processes are of but rare and difficult occurrence. The stages of tubercle—of growth, decay, and caseation—are in these animals regularly gone through, being seldom interrupted or hastened by any attendant active inflammation, although there is a marked tendency to lobular consolidation from a catarrhal filling-up of the alveoli whose walls are involved in the growth. These degenerative processes are those essential to any new growth; the degree of softening is quite insignificant, and never acute, so that we never, in animals experimented with, get *acute phthisis*, although in all successful cases we get more or less *acute tuberculosis*. It may be said that these animals are peculiar in this respect, and that the same lesions in man would lead to rapid softening, and to all the signs of phthisis. We similarly find, however, in the human subject, that in the purer forms of tuberculosis we have no softening, whilst in those cases of acute tuberculosis attended with breaking-down of the lung into cavities and softened points there is always to be found an excess of the inflammatory element—*i.e.*, active congestion, excessive proliferation of the alveolar epithelium, and exudation into the alveoli, together with a moisture and soddenness of the part, and an opacity of the tubercle quite different from what occurs in the more usual form of the general disease. Again, in a third acute disseminated lesion of the lung, which much resembles the last, we find the process to be almost entirely pneumonic and intra-alveolar, accompanied by little or no thickening of the alveolar walls and by no miliary tubercle; and here we have a destruction of lung-tissue more rapid and general than in any other disease. It is impossible to maintain that tubercle, even in the extended definition of that term, which we freely accept, has been the dominant agent alike in these three cases. We are aware that the occurrence of the last variety mentioned, independently of tubercle or alveolar wall thickening, has been disputed. We are convinced of its occasional occurrence ourselves; and Dr. Green has stated in his recent papers his opinion that the small-celled growth in the alveolar wall is conspicuously absent in some of the most acute forms of consumption. We should not hesitate, then, to use the well-known terms, acute pulmonary tuberculosis (which may or may not be a part of an acute general tuberculosis), acute tubercular phthisis (which again may or may not be associated with the more general dissemination of miliary tubercle), and acute pneumonic phthisis, as the best pathological designations of these three diseases. But, it is objected, the first and second varieties at least (some would say also the third) are but manifestations of different degrees of intensity in the pulmonary disease-process, tubercle itself being but a kind of inflammation. The proof that tubercle is a kind of inflammation rests entirely with those who affirm it: we can ourselves least of all admit it to be so in the miliary forms, about which the vessels are affected quite differently to those in inflammatory processes; and pending such proof we prefer to remember the cautious observation of Addison—that there is a decided tendency to increased vascularity, congestion, or inflammation in the immediate neighbourhood of tubercle, wherever situated. Unfortunately, as regards intensity, these three varieties in their typical forms are equally acute, equally fatal; and if the importance of the question we are now discussing—the dominance of tubercle in phthisis—rested with them alone, it would be small indeed, and quite unworthy of the space we have devoted to it; but it is as regards the more chronic partial and intermediate forms of phthisis in which these two elements, tubercle and pneumonia, present themselves in varying proportion that a clear insight into their relationship becomes of importance in many respects.

THE HAMPSTEAD HOSPITAL.

At the last meeting of the Metropolitan Asylums Board, the Hampstead Hospital Site question was again under consideration; and, looking at all that then occurred, it seems far from improbable that the opposition offered by the Hampstead Committee to the site originally selected for the proposed hospital will prove successful, their importunity having, apparently, told considerably on the stony-hearted resolution of the members of the Asylums Board. It will be remembered that a third alternative site, adjacent to Mill-lane, was offered to the Board through Lord George Hamilton, a member of the present Government. The Committee of Residents at the same time offered the sum of £26,000 for the present site; and the Hampstead Vestry guaranteed, we believe, the construction of the drains for the proposed new site should it be accepted. The managers had viewed the site, and a motion was made to refer the matter to the General Purposes Committee for a full report. After considerable discussion this motion was, however, lost by nineteen votes to fifteen. A special meeting of the Board was then convened by some of the members, for the purpose of reconsidering the motion for reference of the question to a committee; but the Chairman of the Board ruled that, as the motion then proposed was precisely, or almost precisely, in the same terms as that already decided on, it could not be discussed. It seemed therefore as if the Hampstead-heath site was the only one left to the Board. But the question as to superiority of the "third alternative site" was reopened at the meeting of the Board on Saturday last, when, as it seems to us, there not only appeared to be an increased inclination on the part of the Board to consider the matter as still an open question, but some doubt was expressed as to whether the proposed hospital is, or ever would be, really required; and, which is of still greater import, a letter was received by the Chairman of the Board from the President of the Local Government Board, stating that he had heard that the motion made at the special meeting, to which we have referred, had been rejected by the Chairman on a point of order, and going on to say—"I cannot presume to dispute the propriety of your decision," but, "having regard to the great public interest attaching to this particular matter, and to the pledges repeatedly given by myself and my predecessor, that, so far as our wishes extend, we would desire and endeavour to secure ample and fair consideration for any reasonable proposal of a suitable alternative site, which could be secured without loss to the ratepayers, I would venture, with great respect, to urge upon you not to allow a mere point of form to stand in the way of this being accomplished. I am informed that the Chairman of the Hampstead Committee proposes to raise the question again at the next meeting of your Board." The Board, after hearing this letter, took into consideration Mr. Sedgwick's motion—"That the

managers having, on March 20 last, referred to a committee of the whole Board the letter from Lord George Hamilton, M.P., enclosing a letter from Mr. James Harvey, with instructions to view the site offered, and report their opinion thereon, the committee thus appointed, having on the 1st inst. viewed the site, they be now, and are hereby, directed to bring up such report at the next meeting of the Board." This was seconded by Mr. Wyatt, who in his speech referred to "a report made by Dr. Frankland, and issued by the West Hampstead people to every member of the House of Commons," declaring that if a contagious diseases hospital should be erected near the reservoir at Mill-lane it would be "attended with considerable risk to the customers of the water company"; and Mr. Wyatt observed that "as Dr. Frankland was an officer of the Local Government Board, that department could never, in the face of that statement by one of its own officers, order the hospital to be built there." Considerable discussion followed. Mr. Talbot, M.P., Mr. J. Salter, Mr. Burt, and Mr. Galsworthy supported the motion. Mr. Marshall said the managers would be abusing the powers given them by the public if they refused to move to a site where the injury to property would be less than at present. Mr. Bengough said no third hospital was necessary at all, for it had been amply shown that the present hospitals could deal with all the epidemics which arose in the metropolis. Mr. Currie urged that the site now offered was superior to the present site. Mr. Proudfoot, quoting minutes of the managers and the official papers issued from the Local Government Board when the epidemic of small-pox ceased, showed that there had been no contagious disease at Hampstead since 1872, and that the Local Government Board had insisted upon the managers building an asylum which could be used as a fever hospital if the necessity should arise. He derided the alarm which had been raised, and said that as the Board had accommodation for 371 fever patients, and for a very large number of small-pox cases at Homerton and Stockwell, there was little likelihood of the hospital being necessary at Hampstead for epidemic disease, but the Board was bound, nevertheless, to complete it in accordance with the orders of the Local Government Board. And Dr. Cortis, while supporting the reference to the committee, observed that the alarm of the people living round Grosvenor-square, if the hospital should be placed near their water-supply, would make as much noise as had been created by the dwellers at Hampstead. Eventually the motion was carried, with only two dissentients.

The matter is thus, we are glad to report, still undetermined, and the Board have yet an opportunity of receding from their determination to keep to the Hampstead-heath site without the interference of the House of Commons, before whom Mr. Coope, M.P., has declared he will bring the whole matter if necessary. Mr. Currie seems to have fully answered the monetary objections which have been raised to the exchange of the present site for that now proposed, and has expressed his opinion that it is in most, if not in all, respects a superior site; and we cannot say that we have any sympathy whatever with the statement that danger would arise from its vicinity to a reservoir of the Grand Junction Water Company.

No doubt it will not be difficult to create a great outcry on the subject. We have already received two printed circulars warning the inhabitants of St. George's, Hanover-square, of the danger that threatens their lives. In the second of these circulars, "One who does not wish to be poisoned" exclaims, "If all the medical men in London asserted that the water drawn direct from a reservoir actually alongside of a hospital for fever and contagious diseases was not dangerous to drink, the compulsory consumers of the water supplied by the Grand Junction Water Company would not believe it. It is not too much to say that not a single consumer could raise a glass of such water to his or her lips without a feeling of loathing and disgust." Notwithstanding the striking reasonableness of this eloquent outcry, we venture to observe that the storage reservoir spoken of is a covered reservoir, and that it ought to be impossible for leakage to take place from the well-constructed drains of the hospital, or for soakage to take place into a properly constructed reservoir; and it may be believed that the reservoir in question is specially guarded against soakage, as it is in the vicinity and "alongside" of a cemetery. Further, we know, on the authority of Dr. Letheby and Mr. Lowe, the surveyor to the Hampstead Vestry, that the reservoir is situated on the highest point of ground in the situation in dispute, and that the general dip of the land is such that all drainage matters must flow from the reservoir to the lower level, where it is proposed to make the main drain of the hospital, at a distance of 400 feet from the reservoir, and at a depth of thirty feet below its bed. The soil, moreover, for a depth of forty feet is composed of "stiff, impervious clay," so that Dr. Letheby is driven to the conclusion that "there is no possibility of danger from soakage of drainage matters into the reservoir." Dr. Letheby also states that the situation appears to him remarkably well suited for a fever hospital, as "it is at a high level, in the open country, at a considerable distance from residential property, and is bounded on three sides by the railway and cemetery, so as to prevent the approach of houses."

Should success at last attend the efforts of the Committee of Residents at Hampstead, it will have been well earned by their persistency and courage in face of great discouragements. It would perhaps hardly be correct to compliment the Committee on their appreciation of the principle of the "*non vi, sed sæpe cadendo*" action, for their action has been marked by energy as well as persistency; but, at any rate, they have well illustrated the value of a constant dropping force, or, to use a certainly not classical phrase, of "pegging away."

CIRRHOSIS OF THE LIVER IN CHILDREN.

The rarity of cirrhosis of the liver in children makes it extremely important that every case should be thoroughly investigated, in the hope that we may some day arrive at the true etiology of an affection whose origin, when it occurs in early life, is involved in so much obscurity. In the *Progrès Médical* of March 20, Dr. J. Cazalis has reported two such cases, which occurred in the Hôpital Sainte Eugénie, at Paris, under his observation. Both the patients were girls, one aged seven and the other nine years, and both were admitted into the hospital with ascites, slight œdema of the lower extremities, and considerable dilatation of the abdominal veins.

In one case the abdominal swelling was of two months', and in the other of about a fortnight's duration, but there had been a condition of indifferent health in both for an indefinite period. In one case there was albumen in the urine on admission into the hospital, and in the other slight icterus, but in neither was there any cardiac disease whatever. Both children had acute attacks of peritoneal inflammation while under treatment, accompanied with severe abdominal pains, dyspnœa, and high fever, and the younger child had slight pneumonia as well. On the subsidence of the fever the ascites in both cases made rapid progress, and tapping had to be ultimately performed, but without success, as death soon resulted—in one child from pneumonia, erysipelas about the seat of puncture, and gangrene of the vulva; and in the other case from subsequent peritonitis. The necropsy in both cases revealed extreme atrophy of the liver, which in the elder girl scarcely reached the size of the fist of an adult. The surface was finely lobulated, the capsule thickened, and the section resembled in all respects that of an ordinary gin-drinker's liver. In both cases the spleen was large, but in the elder child it was much hypertrophied, and could be felt during life, after the abdomen had been tapped, occupying the left hypochon-

drium and flank, and extending almost into the epigastric region.

It was not possible to obtain exact details of all the circumstances connected with the illness of the younger child, but it appears certain that she was in perfect health when she came into Paris from Seine-et-Marne at the approach of the German army in 1870, and that she fell ill soon afterwards from the cold and hunger which she suffered during the ensuing siege. In the case of the elder girl, although every possible information was readily given by the parents, Dr. Cazalis was unable to trace back the commencement of the disease to any definite cause. Her history was as follows:—"At three years old she had measles, and since then had often complained of her stomach. Since the age of six she had suffered from frequent epistaxis on the least excitement. At seven years she had what the doctor in attendance called mucous (? typhoid) fever, and from that time her belly began to enlarge, though not to a marked degree. She suffered from indigestion, frequent diarrhœa, and occasional slight tenesmus. In April, 1869, she had jaundice, which lasted two months, and during that period the belly got still larger. Still she seemed to her parents only to be in a poor state of health, and the attack which led to her admission into the hospital was, according to their view, the onset of a new disease." The general condition of the parents themselves was satisfactory. The father only suffered from occasional attacks of rheumatism, and the mother's health was excellent. Their habits were temperate, and not the slightest evidence of a syphilitic taint could be discovered by the most careful questioning, or by an actual physical examination of either parent. Moreover, the appearance of the child's liver did not in the least correspond with the descriptions of the state of that organ in the syphilitic hepatitis of children. The girl had never had intermittent fever, but Dr. Cazalis lays great stress on the fact that she had lived most of her life in a damp basement; and, coupling this with the apparent origin of the disease in the younger child in exposure to cold and damp and privation, and with a case of Frerichs', where, among other symptoms, cirrhosis of the liver developed in a child of ten after a prolonged immersion in a cold bath, he considers that damp cold may be an important element in the development of cirrhosis in children. However this may be, it seems perfectly clear that cirrhosis of the liver occurs in early life entirely independently of heart disease, syphilis, or the abuse of stimulants; and this negative evidence is extremely valuable.

THE WEEK.

TOPICS OF THE DAY.

Cases of poisoning by hemlock are not so common as those from various other narcotic substances. The following case is, moreover, most interesting, as the sensations of the victim are recorded by himself. He had suffered from various accidents during the last few years, having been one of a number of persons poisoned at the National Hotel, Washington, on the occasion of the inauguration of President Buchanan. During the rebellion, when attempting to capture a Confederate spy known as "Bowie-knife Emack," he was stabbed and narrowly escaped death. In 1871 he was knocked down by a brick in William-street, New York, and the injury he received on this occasion is supposed to have caused the contortions of his face to cure which he took the hemlock that killed him. To this end he decided on taking some conium, in the shape of fluid extract of hemlock, and accordingly, having purchased an ounce bottle, swallowed at intervals during the day three doses of this drug—fifty minims to the dose. The following memorandum, dictated by him to his wife, gives a curious account of his sensations during the last hour of his life:—"At ten minutes past four p.m., fifty minims Squibb's extract of conium; twenty minutes to five p.m., effect very decided, dizziness and relaxation of the muscles and limbs; fifty minims more then taken, and immediately difficulty of walking and want of power to control movements, forced to lie down, but no mitigation of spasm limbs weak, unable to hold up the head, speech thickening some pain and heavings in top and back of the head, pulse fifty-six; fifteen minutes past five p.m., took fifty drops, some nausea, some tremor at base of clavicle and in muscles across the chest, no diminution of spasms about the eyes, more photophobia (dislike of light); twenty minutes past five p.m., drowsiness, inclined to sleep; twenty minutes to six p.m., eyes difficult to open and speech difficult, difficulty in throat, prostration nearly complete, diplopia (double-sightedness) vastly increased; ten minutes past six p.m., nausea, twitchings on right side, unable to articulate, eyes closed, fulness almost to suffocation in the throat, pulse about sixty, in fact, six—— water! water! water!" These were the last words he uttered. His wife, seeing he was in a bad way, ran to get some coffee, and when she returned he was dead.

At length the Middlesex Magistrates have decided to take counsel's opinion as to the power of magistrates over the coroners' inquisitions and accounts. Though this question has been settled many years since, and though it has been the subject of long litigation, inquiries, appeals, etc., it appears that the Middlesex Magistrates are, or were, in profound ignorance of the matter. Year after year the little clique of the Clerkenwell Court have been passing resolutions against the payment of, or rather complaining of, the accounts of Mr. Wakley, Dr. Lankester, and Dr. Hardwicke. It is melancholy to state that a bench of magistrates numbering some forty or fifty gentlemen were in total ignorance of the question they were agitating with so much pertinacity, and to so little purpose. However, the question for a time is set at rest by the publication of an elaborate analysis of the law relating to coroners' inquests. This appeared in the *Times* of Tuesday last, and is from the pen of Mr. William John Payne, the learned Coroner for London. He there shows that the magistrates have no power whatever of withholding the expense incurred by the coroner, even though it should be proved that the inquest was not absolutely necessary, or was unduly taken. The magistrates could examine the coroner upon oath as to the payment of expenses, but could not question the propriety of such payment, and consequently they were bound to pay the expenses he had incurred. Such is the state of the law at the present time, and it requires abler hands than we yet see in the contest to furnish a "remedy." At all events, the Middlesex gentlemen cannot screen themselves under the plea "We didn't know better." As it is evident that no resolution of the magistrates can have the least effect, let them try whether they can influence the Government to make changes which will only lead to vexation and heart-burning, though they may stop the periodical displays of Messrs. Morley and Laurie.

The lax manner in which emigrants are examined before embarkation has, unfortunately, become notorious. The last case is one of a peculiarly grave character, and proves the urgent necessity for a searching examination into the health of emigrants. The ship *Berar*, Captain High, arrived at Auckland from London, with Government immigrants, after a passage of eighty-nine days. Scarlet fever broke out on the very next day after leaving port. There were 360 emigrants; twenty died on the passage. When the ship arrived there were twenty cases still under treatment.

Mr. Frank Buckland, in the last number of *Land and Water*, has given a graphic account of one of the most extraordinary collections of Cacti and Agaves at present in existence. The collection is the more remarkable as it has been formed at

great expense, and with wonderful energy and perseverance, by a private gentleman, Mr. T. J. Peacock, Sudbury House, Hammersmith. We have not space to enumerate fully the specimens of this most unique collection. Suffice it to say that it is well worthy of the attention of all scientific men. Eventually, we hope that medicine itself may derive no slight assistance by the examination of the plants by competent observers. As Mr. Peacock, with the sole view of making his collection useful, intends to throw the collection open to all scientific inquirers, we augur the best results from his liberal proposal.

An important agreement has just been entered into between the managers of the Royal and Western Infirmaries, at Glasgow, whereby the accommodation afforded in both institutions will be fully utilised in the interests of the public. The object of the agreement is to secure that, in the event of either infirmary having too great a pressure of cases, the surplus patients will be accommodated by the other institution. With this view it has been arranged that the superintendents of the two infirmaries should communicate to each other weekly the extent to which each institution can receive patients from the other.

A meeting of the Council of the Metropolitan Hospital Sunday Fund at the Mansion House was summoned for yesterday at three o'clock,—to receive the report of the General Purposes Committee, suggesting the means they recommend for giving effect to the following resolution:—"That before taking any further action on the resolutions of March 8, the Lord Mayor be requested to summon a meeting of the clergy of all denominations, and two lay members of their congregations, to consider the resolutions carried at the meeting of March 8, and to determine the future constituency of the Fund."

We are happy to report that the British Medical Benevolent Fund has received a donation of 100 guineas from Erasmus Wilson, F.R.S., for the Special Fund for Augmentation of Annuities.

RECRUITING FOR THE ARMY.

The question of obtaining fit and efficient recruits for our Army has lately been so much before the public, that it might have been hoped that the united wisdom of our military rulers would hit upon some scheme for placing the service upon a more satisfactory footing. It appears, however, after all, that we are to remain pretty much as we were. It is true Lord Elcho has given notice of his intention to move that no recruit be received into the service under twenty years of age; but if we are to credit the statements of the Commander-in-Chief made public at the dinner given by the Chairman of the Metropolitan Board of Works, it will not do for us to refuse the youths of eighteen and nineteen, or we shall get no recruits at all. According to the Duke, men of twenty, as a rule, have entered into the course of life they intend to pursue to the end of the chapter, if successful,—it is only when they break down that they turn to the Army as a resource; whereas the lads of eighteen and nineteen are undecided in their ideas, and finally choose soldiering for a living. "That is the recruit," says the Duke, "you generally get, and a very good soldier he makes, *after a time*, but you must get him, feed him, clothe him, and instruct him before he becomes a good soldier." And when this labour and expense have been incurred, under the short-service system you have barely got an efficient soldier before you lose him. The Commander-in-Chief was evidently of opinion that the short-service system was a mistake, and one to which he attributed not only the youthful appearance of the recruits, but also their paucity in numbers—thirty or forty only presenting themselves now for every 100 or 150 who were enlisted under the old system. The Duke stated that he would infinitely prefer to see a regiment of nothing but old, seasoned men; under the short-service system, however, he knew it was impossible to look for such a thing.

Surgeon-Major Leith Adams, an authority on the subject of recruiting, has expressed his opinion that unless a more extensive field for selection can be obtained, and the standard of age and general physique is considerably increased, it is hopeless to expect to raise able-bodied soldiers. He has already pointed out the most serious defects in the present system, which he concludes to be the acceptance of lads of eighteen years and under, and the minimum chest-measurement of thirty-three inches—a measurement which, coupled with a height of five feet five inches, is too small to admit of even the promise of a future stalwart form.

Eventually, therefore, it may fairly be assumed that we shall be driven to conscription to obtain soldiers, at least for the defence of the mother country; and this opinion is one which is gaining ground amongst many who at first were decidedly opposed to the idea. The Commander-in-Chief, at the dinner we have before mentioned, after adverting to the trouble of obtaining recruits, explained that under a system of conscription it was possible to have men at any age which might be thought the best; and although he went on cheerfully to remark that that not being our system we must take such men as we could get, and do with them the best we could, the mere mention of the fact would seem to show that the head of the army was looking rather longingly to what *might* be, in strong distinction to what *was*.

THE WATER COMPANIES AND COLONEL BERESFORD'S BILL.

Colonel Beresford has given notice of his intention to bring a Bill before Parliament, having for its object the transfer of the management of the water companies of the metropolis to three commissioners, and also for insuring a constant supply all over town at high pressure. With such a proposition looming in the distance it was not much to be wondered at that the different London companies, comprising the New River, Lambeth, Chelsea, Kent, East London, West Middlesex, Grand Junction, and Southwark, should have bestirred themselves to oppose the measure; and accordingly, on Saturday a deputation waited upon the President of the Local Government Board, with a view of inducing the Government to oppose Colonel Beresford's Bill. Mr. Baxter, in explaining the object of the deputation, said the Metropolitan Water Companies had a capital of about £12,000,000, but in the earlier days of their formation some of them had gone without dividends for twenty years. Each company there represented had had to wait for years for a return, and their present dividends only averaged 7 per cent. The Legislature had always defended them against attempted competition on the part of corporations and municipal authorities; but Colonel Beresford's Bill sought to introduce a novel proposition, in the shape of a body of commissioners who were to take the companies in hand, and to manage them, as the preamble had it, "in a more able and more economical manner." There was, however, Mr. Baxter contended, no precedent for such a step; Parliament had originally sanctioned private enterprise in matters of this kind, as being more economical than the action of public bodies. Admitting that corporations were amenable to the ratepayers, and indirectly controlled by public opinion, which might stimulate them to check expenditure, no such motives and no such check could be brought to bear on these proposed commissioners, and the effect of any extravagance on their part would be to reduce the profits, and cause the annuities to be granted to fall in proportion. The water companies could not ask these commissioners to put up the rates to their Parliamentary maximum of 10 per cent.; they would be, in fact, annuitants without any control over their own company, and without any power to bring control to bear on the commissioners. It was proposed to provide hydrants—that was a

duty which the Metropolitan Board of Works was compelled to do now. The Commissioners were not perhaps aware that hydrants for London would cost about £800,000 to put down, a sum which would go far towards reducing dividends. After severely criticising each point put forward in favour of the new system, Mr. Baxter concluded by expressing a hope that the Government would not give their sanction to the second reading of Colonel Beresford's Bill. After some conversation on the subject, the President promised to lay their views before the Government, and to give them every attention.

THE ARCTIC EXPEDITION.

THE Arctic vessels, *Alert* and *Discovery*, are fast approaching completion in all those numerous details which only the last moment is capable of showing to have been left undone; and, quickly as all the preparations have been pushed on, they will not sail on their long journey one moment too soon. It has all along been a moot point with several good judges of Arctic latitudes whether the start has not been—however unavoidably—too long delayed. Such strong feeling, however, was evinced in the matter, and so much disinclination expressed at the prospect of waiting for another year, that it is to be hoped the predictions of those sanguine spirits who consider the present time of departure quite early enough may be thoroughly fulfilled. The Director-General of the Medical Department of the Navy, who himself has had experience of Arctic service, is compiling a set of regulations, with full directions, for the maintenance of health amongst the two crews. These directions will also comprise certain rules to be observed in cases of emergency by those employed on sledging expeditions, at which time they will be for days out of reach of aid from the medical officers accompanying the Expedition.

HEALTH OF DUBLIN—FIRST QUARTER, 1875.

ACCORDING to the Registrar-General's Quarterly Summary of the Weekly Returns of Births and Deaths in Dublin and its vicinity, we find that in the thirteen weeks ending April 3, 1875, the births numbered 2404—1244 boys and 1160 girls,—being equal to an annual ratio of 1 in 33, or 31 per 1000 of the population. The number of deaths registered amounted to 2700—1342 males and 1358 females,—affording an annual ratio of 1 in 29, or 34 in every 1000 of the population. The average number of deaths in the first quarter of the previous ten years was 2480. This very high death-rate was chiefly due to an increased mortality from affections of the respiratory organs dependent on the long-continued cold weather in December, February, and March. This, bronchitis caused 686 deaths, or 25·4 per cent. of the total mortality, the fatal cases from this disease exceeding those of the first quarter of 1874 by 379. Pneumonia caused 106 deaths, against 48 in the first quarter of 1874. The total deaths from diseases of the respiratory organs, exclusive of phthisis, amounted to 859, or 31·8 per cent. of all the deaths. Zymotic affections were by no means excessively prevalent or fatal. The deaths from them were 323, or 12 per cent. of the total mortality. Fever caused 77 deaths (including 45 from enteric fever); scarlatina 71 deaths (compared with 238 in the preceding quarter); croup and diarrhœa, each 29 deaths; erysipelas 21, diphtheria 12, measles 11, and whooping-cough 9 deaths. Phthisis proved fatal in 313 instances, the mortality being equal to 11·6 of that from all causes.

REMOVAL OF ARTIFICIAL TEETH FROM THE LARYNX.

A REMARKABLE case is reported in the *Laryngologische Mittheilungen* for 1871-73, edited by Dr. L. Schrölter, the admirable teacher of laryngoscopy at Vienna. A gentleman found one morning that his false teeth were missing, and, as he felt some uncomfortableness about his throat, he imagined that he must have swallowed them in his sleep. Dr. Schrölter saw him the same day, and noticed that he spoke in a whisper, and that his breathing was getting more and more difficult. After a prolonged examination with the laryngoscope by several persons, Dr. Schrölter alone was finally successful by the help of his magnesium lamp in detecting the teeth lodged beneath the vocal cords in the larynx. Laryngotomy was performed by Prof. Czerny in the afternoon, but the teeth could not be extracted through the wound, but had to be pushed up forcibly through the glottis, and fished out through the mouth. The set consisted of four incisor teeth, and was too large to pass easily through even a very wide glottis. In consequence of a resistance which was encountered by the œsophageal bougie, it was at first thought that the teeth were stuck in the œsophagus, but the same resistance remained after their removal, and Dr. Schrölter therefore attributed it to the body of an unusually prominent vertebra.

THE CONTAGIOUS DISEASES ACTS.

THE annual report of Captain Harris, Metropolitan Assistant Commissioner of Police, on the operation of the Contagious Diseases Acts, which has just been published, is of a highly satisfactory character, and shows conclusively that the Acts are effecting a vast amount of good. During the year, 1650 women were registered for the first time, notwithstanding which the total number remaining on the register at the end of the year was 49 less than at the end of 1873, showing a total decrease of 2780 since the Acts came into operation. During the year, in the seventeen districts under the Acts, 254 girls who had been found in improper places, and in bad company, being warned by the police, had returned to their friends, before it was certain that they had entered on a career of vice; while there were 206 young girls known to have actually commenced immoral practices who had discontinued them on being warned by the police, and consequently their names had not been placed on the register. Numerous instances are given in the report of cases where young girls had been decoyed into brothels, but being discovered by the police employed in carrying out the provisions of the Acts, were restored to their friends. In the face of such facts as are contained in Captain Harris's report, it is astonishing that anyone desirous of furthering the cause of morality can be found to advocate the abolition of the Acts, and we can only believe that those who do so are ignorant of the amount of good that is being accomplished through their agency.

THE ADULTERATION ACT.

A SOMEWHAT singular and exceptional case under the Adulteration Act was heard before the magistrates at Middleton Cheney on Monday. A grocer was charged with selling coffee which Mr. Young, of Leicester, the public analyst for the counties of Northampton, Leicester, and Rutland, said was adulterated with burnt acorns to the extent of upwards of 20 per cent. A sample of the same coffee had been analysed by Mr. Beesley (of Banbury) and Dr. Letheby, who pronounced the coffee to be perfectly pure. The magistrates, in dismissing the case, requested the defendant's solicitor to send in the amount of the costs his client had incurred in the case, and the Bench would consider whether they should be paid. Much interest was felt as to the decision in this case, in consequence of similar proceedings pending against several grocers in Northamptonshire. In these other cases it is now understood proceedings will be withdrawn. It is to be regretted there was no explanation given as to how the discrepancy occurred in Mr. Young's analysis. Previous convictions on Mr. Young's certificates having been obtained against several persons, it is said that the matter will be brought before Parliament through the Chamber of Trade. Discrepancies in the results of analyses are, we believe, provided for in the Bill now before Parliament.

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PYTHOGENIC PNEUMONIA.

At the last meeting of the Medical Society of the King and Queen's College of Physicians in Ireland, Dr. J. W. Moore read a paper, written by Dr. Grimshaw and himself, on a form of pneumonia which prevailed epidemically in Dublin during the early summer of 1873, and the etiology of which led these gentlemen to term the affection "pythogenic pneumonia." The communication contained an account of the outbreak of pneumonia at East Sheen in March, 1874, and to which we gave the name of "sewer-gas pneumonia" (see *Medical Times and Gazette*, April 4 and June 20, 1874). The authors arrived at the following conclusions:—"1. That the bibliography of pneumonia indicates the existence of a form of the disease which arises under miasmatic influences, and is contagious. 2. That this view is supported by the relations which exist between this form of pneumonia and certain zymotic affections—notably, enteric fever and cholera—and by the resemblance between it and epizoötic pleuro-pneumonia. 3. That its etiology justifies us in regarding it as a zymotic affection, and in naming it '*pythogenic* pneumonia.' 4. That pythogenic pneumonia presents peculiar clinical features, which enable us to distinguish it from ordinary pneumonia. 5. That much of the pneumonia which prevailed in Dublin during 1874 was of this pythogenic character. 6. That, whereas ordinary pneumonia is specially prevalent during a continuance of cold, dry weather with high winds and extreme variations in temperature, pythogenic pneumonia reaches its maximum during tolerably *warm* weather, accompanied with a dry air, deficient rainfall, hot sun, and rapid evaporation."

UNIVERSITY OF ST. ANDREWS.

Session 1874-75 of the University of St. Andrews was brought to a close on the afternoon of Thursday, April 22, by the annual ceremony of capping the graduates. The ceremony took place in the library hall, in the presence of a large and fashionable audience. Principal Shairp, of the United College, presided, and was supported by the various members of the Senatus, several of the examiners for degrees, and two representatives from the Medical Council. The following were presented for the degree of M.D.:—William Bird, M.R.C.S., L.S.A., York; Daniel Devereux, M.R.C.S., L.S.A., Wrexham; William Bedford Kesteven, F.R.C.S., L.S.A., London; Frederic Elliott Ryatt, F.R.C.S., L.S.A., Newbury, Berks; James Sedgwick, M.R.C.S., Borough Bridge, Yorkshire; Thomas Sweeting, M.R.C.S., L.S.A., Basingstoke, Hants; Christopher Wolston, M.R.C.S., Bournemouth; John Christie McVail, M.B., C.M., Kilmarnock. The graduates were capped by the Principal, and received the right hand of fellowship from the professors. An address by Principal Shairp terminated the proceedings.

SMALL-POX AT BRISTOL.

It is reported that Bristol is threatened with a serious epidemic of small-pox, and that it is at present extensively prevalent in the parish of St. Philip's, in that city. Dr. Davies, the medical officer of health, is said to have traced the outbreak to the family of a man named Richard Cook, five of whose children have been attacked, all of whom are unvaccinated. There are large numbers of persons in Bristol unvaccinated, many of whom have migrated from Devon and West Somerset, where much prejudice against vaccination exists.

STOCKWELL-GREEN.

We were rather surprised at the evidence of two medical gentlemen who were called, last week, before the Committee of the House of Commons, in reference to the Bill promoted by the Metropolitan Board of Works for the purchase of the Green at Stockwell, for the purpose of keeping it as an open space for recreation. These gentlemen stated that the locality was well supplied with open spaces. It was extremely healthy, and from a medical point of view they "did not think it necessary or important to keep the Green as an open space." The preservation of open spaces in the metropolitan district has met with general public approval and support. The vast and rapid increase of building everywhere around the metropolis renders the rescue of such and similar ancient spots as this "Green" from the builders' hands a public necessity.

THE RICHMOND HOSPITAL, DUBLIN.

On Thursday, April 22, the name of Anthony H. Corley, M.D. Queen's Univ., F.R.C.S. Irel., etc., was selected by the Board of Governors of this institution to be submitted to His Grace the Lord Lieutenant of Ireland, with whom finally rests the appointment of surgeons and physicians to the House of Industry (Government) Hospitals. This selection of Dr. Corley's name, which is almost equivalent to his appointment as Surgeon to the Richmond Hospital, has given general satisfaction. The Dublin *Daily Express* writes:—"Dr. Anthony H. Corley has been elected Surgeon to the Richmond Hospital, in the room of Mr. John Hamilton, Surgeon-in-Ordinary to the Queen in Ireland. Dr. Corley, although comparatively a young man, has won a high position in his profession. For over twelve years he has been connected with the Carmichael School of Medicine, and at present is Lecturer on Surgery in that institution. He has also been for several years Surgeon to Jervis-street Hospital."

CONVICTION OF A CHEMIST'S ASSISTANT.

At the Glasgow Circuit Court, last week, a chemist's assistant named Alexander Jamieson was charged with having culpably sold a quantity of strychnine instead of "worm powder," in consequence of which a little girl seven years of age, to whom the poison was administered, lost her life. Evidence was given to prove that the prisoner served the powder to the father of the girl; that four minutes after it had been given to her she gave a scream, and died before medical assistance could be procured; and that sufficient strychnine was found in the stomach to account for death. A verdict of guilty was returned, accompanied by a recommendation to the leniency of the Court, and the prisoner was sentenced to three months' imprisonment.

ST. THOMAS'S HOSPITAL.

At a General Court of Governors of St. Thomas's Hospital, held on Wednesday, the Treasurer informed the Court that the President, Sir John Musgrove, Bart., had founded a scholarship of the annual value of forty guineas, to be awarded biennially in the Medical School of that Hospital, and to be held for two years by the second year's student placed highest in the first class at the winter examination. Sir John Musgrove has transferred the sum of £1400 Consols into the names of the Treasurer and other trustees, and a deed of trust defining the conditions on which the scholarship is to awarded and held has been executed. A very cordial expression of thanks to Sir John Musgrove was unanimously passed.

THE DISCUSSION ON PUERPERAL FEVER AT THE OBSTETRICAL SOCIETY.

The discussion on this subject, just at present of so much importance, will be resumed on Wednesday next, May 5, at eight o'clock, by Dr. Barnes. Among other visitors, Professors Stoltz, of Nancy, and Howitz, of Copenhagen, are expected to be present; and it is hoped that Dr. Arthur Farre will honour the Society by his presence, and will take part in the discussion. The remarks of this distinguished physician could not fail to be of interest. They would form a valuable contribution to our knowledge of the subject in question.

PARLIAMENTARY.—MORTALITY UNDER THE AGE OF ONE YEAR—PUBLIC HEALTH—ASHANTEE REWARDS.

In the House of Commons, on Thursday, April 22,

The Chancellor of the Exchequer, replying to Mr. Charley, said that the data for calculating the average annual rate of mortality for different ages was supplied by the Registrar-General, but the calculation of the Friendly Societies Commission was made by the Royal Commissioners. The average annual rate of mortality in England at the age "under one year" was obtained from the mean of the population enumerated at the Censuses of 1861 and 1871, and from the number of deaths registered in the ten years 1861-70 at that age. The facts and calculation for England, which will appear in the forthcoming Supplement to the Registrar-General's thirty-fifth Annual Report, are as follows, and it will be observed that the result does not differ materially from that in the Friendly Societies Report:—Mean population, 1861-71, under one year of age, 640,306; deaths registered in the ten years 1861-70, under the age of one year, 1,155,182; average annual rate of mortality in England of children "under one year of age" to 100 living in the ten years 1861-1870, 18·041. The rate of mortality in this statement does not include deaths registered as one year of age: they are the deaths in the first year of age. The local Registrars register deaths under one year of age as "under one year," and deaths aged one year and under two years are registered as "one and under two years." The same system has been employed by the Registrar-General in calculating the mortality in the various places named in the table as for all England. Special returns showing the death-rate in England and in the various districts of England are published every ten years; those relating to the ten years 1861-70 will shortly be presented to Parliament.

Mr. Sclater-Booth, replying to Dr. Lyon Playfair's inquiry respecting the operation of the Public Health Act of 1872, said that the reports to which the right hon. gentleman alluded had reference mainly to arrangements for the first appointment of sanitary officers when the Public Health Act came into operation. He had not seen occasion to instruct the Medical Officer to report on the practical efficiency of the Act in promoting public health, and therefore he had no such reports to produce as were suggested in the question.

On Friday, April 23,

Dr. Lush asked the Secretary of State for War whether, having regard to the fact that in the distribution of honours and rewards after the Ashantee war combatant officers were rewarded in the proportion of about one in three of those engaged, medical officers in the proportion of about one in nine, he would give some assurance to the House that in any contemplated or fresh distribution of honours to the Army such a grave disproportion would receive his attention with the view to its remedy.

Mr. Hardy, replying, said that it was considered that the medical officers engaged in the Ashantee Expedition had received their full proportion of the honours and rewards bestowed on that occasion, and he was unable to hold out any definite assurance with regard to any future proceedings.

On Thursday, April 29,

The Committee was to sit on the Sale of Food and Drugs Bill, and the Artisans' Dwellings Bill, as amended, was to be considered.

The Public Health Bill for Scotland was entered for the second reading in the House of Lords.

HEALTH OF LONDON.—The Registrar-General's return for the past week shows that 1600 deaths occurred in London, which exceeded the average number by 45. The annual death-rate from all causes, which in the three previous weeks had been 28, 27, and 25 per 1000, declined last week to 24. There was 1 death from small-pox, 34 from scarlet fever, and 85 from whooping-cough. To the seven principal diseases of the zymotic class 168 deaths were referred, against 219, 203, and 175 in the three previous weeks. The fatal cases referred to diseases of the respiratory organs, which in the three preceding weeks had been 534, 496, and 462, declined last week to 438, which, however, exceeded the average weekly number by 123; 266 resulted from bronchitis, 114 from pneumonia, and 20 from laryngitis. In the outer ring the death-rate from all causes and from the seven principal zymotic diseases was 19·2 and 2·3 per 1000, respectively, against 24·2 and 2·5 in inner London.

LETTERS FROM MADRAS.

No. XIV.

AMONG THE TOMBS (*Concluded*).—CONNEXION OF THE ETHNOLOGICAL WITH THE SEPULCHRAL—THE MOHAMMEDANS: THEIR FUNERALS AND SEPULCHRES—FUNERAL OBSEQUIES OF PRINCE AZIM JAH—THE PORTUGUESE—THE ARMENIANS—THE ENGLISH: MEDICAL TOMBS AND EPITAPHS; DR. EDWARD BULKLEY; A MEDICO-LEGAL INCIDENT IN HIS LIFE; TOMBS OF ROBERT RICHARDSON, JAMES CUDDY, JAMES EDWARD PORTEOUS, JOHN PETER GRANT, AND WILLIAM FASKEN: STUPENDOUS MONUMENTS AND EPITAPHS TO DR. JAMES ANDERSON.

HITHERTO we have dealt with the burial and burning of the dead amongst the Hindus; and I have endeavoured to show what a crowd of ethnologically distinct people are comprised under the word "Hindu"—how, in fact, it is as broad a term as the word "European"; how it embraces tribes with every diversity of language, from the copious and flexible Sanskrit, down to the limited vocabulary of the Todas; and how it designates peoples who have migrated into India in successive waves, the differences of whose progeny one can see in daily life. We see what a gradation from the boatmen and fishermen, and the pariahs or *outcastes*, black as one's hat and hideously ugly, with prominent cheek-bones and defective noses and curly hair, who, like the scattered hill-tribes, are believed to be descendants of serfs, slaves, and aborigines. Above these in the social scale came Sudras—the lowest *caste*—forming the cultivating classes, who are believed to be descendants of the Turanian immigrants who displaced the aborigines. Above these are people lighter in colour, of nobler form and features, and with an air of self-possession which marks them as the Aryan immigrants, of whom the Brahman is the chief in social and religious rank. All the above are in official documents classed as "Hindus," though there are the same reservations in the use of this word as there would be in the use of the word "Englishman," if applied to Scots or Welshmen. Anyone who knows the enormous importance which the "religion of the dead"—the prayers and ceremonies and propitiatory offerings—have in the social system of the Hindus, will not wonder at my connecting the sepulchral with the ethnological, and will be conscious what an obstacle must be presented to any change of religion by these beliefs and ceremonial observances, in which natural affection, social position, and religious faith are linked inextricably together.(a)

We must next come to the Mohammedans, who began to invade India from the north-west about A.D. 664, and who continued in successive hordes for nearly a thousand years to pour into India from every side—Tartar, Turk, Moghul, Arab, Persian. At present it is estimated that they constitute one-sixth of the population of that part of India under British rule; whilst in the Madras Presidency they were enumerated at the last census as 1,866,363 out of a total population of 31,597,872, or nearly 6 per cent. of the whole. As they are descendants of a former race of military rulers, and of their adherents and converts, so we may expect to find, as Mr. Cornish tells us, that they are most prevalent in the former seats of Mussulman government; "thus, in the town of Madras, formerly the headquarters of the Mohammedan Nawabs of the Carnatic, the proportion of Mohammedans is 12·8 per cent."(b)

The first distinction which a stranger in Madras is taught to make "amongst the natives" is between the Hindus and the Mohammedans; and when once pointed out it is very evident. The Mohammedans wear their beard entire, whilst the Hindus generally shave the chin; they wear trousers, whilst the Hindus wear a cloth round the loins, which envelopes both legs; and their turbans are different; and for the most part they live in a separate quarter of the city, where they form a pretty compact body, nearly 51,000 out of the nearly 400,000 who compose the population of Madras. To all

(a) As a matter of fact, it may be stated that in 1874 in Madras, out of a population of 397,552, there were 14,760 deaths. Out of the 308,611 Hindus there were 12,272 deaths. The number of Hindus *burned* was 3046, and Hindus buried 9226. This shows that burning here is a partial and religious, not a general and sanitary custom. Of Mohammedans 2046, of East Indians 325, and of Europeans 117 died in 1874; the estimated population enumerated at the last census being 50,964 Mohammedans, 12,013 East Indians, and 3613 Europeans.

(b) Cornish, "Census of Madras," p. 71.

intents and purposes, so far as the Hindus are concerned, they are as much foreigners and aliens as the English, and they have treated the Hindus in bygone times with a tyranny and persecution which the English never can be charged with, at least since the middle ages. The early Mohammedan conquerors vied with each other in destroying sacred Hindoo shrines and temples; and in one conspicuous instance the Emperor Aurungzebe pulled down a Hindoo temple in the most sacred part of the sacred city of Benares, and erected a mosque on its site. The Mussulmans, whose prime article of faith, like that of the Jews, is that there is one God, and who believe all representations of living objects—even if not worshipped—sinful, view the idol-worship and polytheism of the Hindus with abhorrence. Their language is virtually as foreign to that of the Hindus as is the English. Arabic is the language of their sacred books, Persian of their courts and poetry; and whilst the indigenous people of Southern India speak the so-called Turanian language, Tamil, or Telugu, the Mohammedan uses Hindustani—a kind of *patois* of Persian and Arabic, grafted on the basis of a native language derived from the Sanskrit, and written in Persian characters. Easy as it is in general to distinguish Hindu from Mohammedan, it is equally so to see the ethnological differences in the ranks of the latter. Some look like Turks, with thickish noses and thick complexions; some like Tartars, with prominent cheek-bones; some look like converts from low-caste Hinduism; but amongst a large crowd it is easy to recognise a nobler type, with lofty forehead, aquiline nose, and features of an Arab cast, bearing evident marks of high enthusiasm and capacity of cultivation.

Such a Mohammedan crowd I found myself amongst on January 15, 1874, at the funeral of the late Prince of Arcot, Azim Jah, whom I had seen in his last illness in consultation with my friends Moodeen Sheriff and Dr. Furnell. The deceased prince was uncle and successor to the last Nawab of the Carnatic, who, by one of the political changes common in this country, from being the sovereign and ally of the English, had become their pensioner. His position strongly reminded me of that of the "Prisoner of the Vatican." This "grey discrowned" prince had for his palace, and for the headquarters of his retainers, a vast, rambling, dilapidated pile of edifices, called the Shadi Mahal—or palace of delights, or of matrimony,—situated in the heart of the Mohammedan quarter, Triplicane, and consisting of a congeries of self-involved courts and lanes and suites of apartments, of which Hampton Court may give an idea so far as extent is concerned. Here lived the Prince, as his son and successor does, highly pensioned (but, it is said, deeply in debt), treated by the English as a sovereign prince, held to be superior to the law, for no writ can be enforced nor warrant executed against him. In case of grievous dispute, I suppose the English Government would go, not to law, but to war with his Highness. His sovereign state is maintained by about a score of pikemen (looking like the old javelinmen who used to attend the judges in English assize towns), and a hundred or so of sepoys and troopers, with their military band, and half a dozen pieces of ordnance, which they let off on festive occasions, borrowing the necessary gunpowder from the British. Well, I confess that, being an altogether idle man, the state of decayed regal pomp which surrounded the venerable prince affected me deeply; and so it was that I found myself, with a few ladies, in the midst of the enormous crowd that was gathered for the funeral. The body, borne on a large bier on the shoulders of his servants, was brought from the Shadi Mahal to the principal musjid or mosque in Triplicane, where it was taken into a side chapel, whilst the Imaum recited the prayers for the dead, to which the whole multitude outside made the responses in a tone of wailing and lamentation. Then the coffin was borne onward to the grave amidst the wailings of the enormous crowd, amongst whom it was impossible not to be touched at the sight of the poor old pikemen, with their poor old tattered uniforms. One must draw upon one's imagination to devise any scene that this can be compared to. Suppose that the last of the Stuarts had quietly yielded his title and musnud, and been a pensioner of the Hanoverians, and died in a palace in Westminster, surrounded by a dense population of Jacobites and Catholics, and been carried to his tomb. Such was the grief and fervour of the crowd, most of whom looked on the deceased as their veritable king. But amongst it all, not one cry of disaffection or disorder. The people know that the English are just and generous so far as circumstances permit. Guns were fired, and troops assembled to do honour to the deceased; but they were not needed by any appearance of disorder. A year after the prince's death, in January, 1875, I saw the procession to the tomb, which marks the final obsequies and end of the period of mourning; and this had all the marks of preparation which a hasty interment renders impossible. (If, in England, burial is to follow shortly upon death, there must be a separate religious service at some time afterwards.) There were half a score of richly caparisoned camels lent by the Government—which shows all the respect that is politically expedient to the dethroned house; and there were regiments of native soldiery also sent by Government. The few old cannon of the Shadi Mahal were drawn by half a dozen cows apiece. There were the led horses of the deceased prince, richly caparisoned; there were troops of fuqueers, filthy-looking devotees with matted hair; there were the state carriages and palanquins of the deceased; and all displayed with a singular mixture of gorgeousness and shabbiness. Why is there no Mohammedan Walter Scott to tell the world tales of these reverses of fortune, which seem to combine the fortunes of the Stuarts and of the Pope with the shifts of the Master of Ravenswood?

I have been a long time coming to the Mohammedan cemeteries, which extend for more than a mile on each side of a road which runs from Triplicane to St. Thomé, parallel with the sea. My excellent friend Moodeen Sheriff has given me a list of twenty-two separate burial-grounds on either side the road,—some small, and appointed to private individuals; some large, for general use. Each body is buried in a separate grave, which is never disturbed afterwards,—of the depth of the waist for a man, of the armpits for a woman. It may be deeper, not shallower. The body of the deceased is first washed and enveloped in shrouds, with much prayer and religious ceremony; then it is put into a bier or coffin to be brought to the cemetery. In many cemeteries there are wells, from which to draw water for washing corpses found on the roads. Two or, if need be, more friends stand in the grave, and receive the body, which is carefully lifted from the coffin by its enveloping cloths, of which there are three for a man, five for a woman. They take it and gently lay it down in the lap of the earth, with the head to the north and the face turned towards Mecca. Handfuls of earth are then given by the surrounding friends to maintain the head in its site. Then comes into play the universal sentiment—*sit tibi terra levis!* Κούφη *μένε φθιμένῳ*! Planks or sticks with matting are arranged so that the earth shall not too readily press on the remains for the first three days; then these are removed and the grave filled up. Rich people have brick walls built in their mausoleums prepared beforehand, so as to keep off the earth. Some of the cemeteries at Triplicane are much crowded. The tombs and monuments are of every description, from the humble mound or oblong mass of brickwork over the poor man, to the elegant mosque-like structure with minarets, and with an endowment for perpetual prayers and lights. The tombs of the members of the Royal Family who have died recently bear every mark of *cultus*, with their silken awnings and carpets, garlands of fresh flowers, and lamps. Many older structures of great beauty are "mouldering in unregarded dilapidation," from the decay or removal of the families to whom they belong. But one thing strikes me very forcibly on comparing a Mussulman with a Christian cemetery. In the former the monuments are combinations of the domed mosque and of the airy graceful minar; elegantly uniform in their forms, and religious in their spirit. In the Christian cemeteries the most nightmare-like diversity of pillar, pyramid, sarcophagus, urn, and upright slab form a hideous collection breathing of ostentation and pomp.

Next, in order of time, come the Portuguese, who made their appearance in India, by the way of the Cape of Good Hope, in 1498. Their history, like that of other invaders from Europe, followed regular steps. They obtained, first, permission to trade, next to erect a fort for protection; then they became allies of one or other of the contending potentates of the land; next they acquired territory and became independent, and built towns and founded ecclesiastical establishments. They established their capital at Goa, in 1512, and formed settlements all round the coast, one of which was at Mylapur, two miles south of Madras, on the edge of the sea. The Portuguese were, however, unlucky in their wars with the native powers, and Mylapur seems to have passed into English hands, by cession or purchase, early in the seventeenth century. The Portuguese, however, have left their mark on the country, in the very numerous body of natives whom they

converted to the Roman Catholic faith, and in their substantial ecclesiastical establishments, which remain to this day under the supreme government of the Archbishop of Goa. In this neighbourhood, the Cathedral and College of St. Thomé at Mylapur, and the churches at the greater and lesser St. Thomas's Mount, with many others near Madras, are governed by Portuguese clergy, and their registers of marriage and burial are kept in the Portuguese tongue. For all that, as a community, they are in a decaying state. The upper classes of them—D'Rosario, Da Cunha, Fonseca, D'Vaz, and the like—are hardly to be distinguished from the other Eurasians or East Indians, in whom white and dark blood are interningled; whilst the lower classes are as dark as any natives, and only to be distinguished by their wearing a European dress. Their language is going out of use, and the Vicar-General of St. Thomé told me that it was much to his surprise when a man came from a distance in the country, bringing with him a child for baptism, and able to speak Portuguese fluently. There is the gravestone of a Portuguese Cardinal Bishop at St. Thomé, with the date 1603, but I could find no others amongst the numerous monuments likely to interest medical readers, nor any entry in the well-kept Portuguese registers, which were kindly laid open to me by the Right Rev. Dr. Amarante, the Vicar-General. The ethnological position of the Portuguese colony agrees with the general fate of small communities isolated in a foreign land.

Next, it is convenient to mention the Armenians—a colony of whom established themselves here by the invitation of the English about the year 1688. For a long time they formed an important and powerful mercantile community, but now seem dwindling down, and are hardly to be distinguished from the rest of society. They have a very handsome church, built in 1712, where the old Armenian rite is observed; but many of them belong to the Roman Catholic Church. The following epitaph, from a slab at the door of St. Thomas's Church on the Greater Mount, will illustrate the fact that they migrated hither from Julpha, near Ispahan, where a colony of them had been planted by the Persians:—"Hoc sub monumento jacet Anna Jacobyan, quæ fuit dilecta conjux Sultaun David, et carissima nationi suæ Armeniæ. Oriunda civitate Julpha in Persia, et agens LXIV. annos, obiit in Madrasta XX. Februarii MDCCLXIV."

Last in the procession of ruling powers come the English, who set foot on the Coromandel coast about 1639—nearly a century and a half later than the Portuguese. Their first church, St. Mary's, in Fort St. George, was consecrated in 1680, and some few burials were permitted within its walls; but most of the dead were buried in an open spot outside the fort, which was a good deal desecrated by the French during their siege and occupancy of the town in 1746. Most of the tombstones have been removed from this place, which is now an open esplanade, to the yard immediately surrounding the church. Many tombs, however, of the seventeenth and eighteenth centuries are still remaining in the open esplanade, and one which stands apart near the General Hospital bears the following inscription:—

"Sacrum sit hoc monumentum
Perenni memoriæ
Edwardi Bulkley,
Honorabili Anglorum Societati
Medici feliciter expertis
Et ipsæ tandem à consiliis
Qui cum Naturæ arcana diù indagâsset
Læto animo ipsæ satisfecit
VIII° Augusti MDCCXIV°
Et anno ætatis suæ climacterico.
Ne mireris Viator
Quod in huto ubi animum perpoliebat
Corpus suum voluit reponi
Beatam sperans resurrectionem."

This Dr. Edward Bulkley seems to have been buried in what was once a part of the East India Company's garden outside the fort. He was evidently a member of the great English family of Bulkley, and bears on his tomb a shield with a chevron between three bulls' heads cabossed. Crest: a bull's head cabossed. There is a short notice of him in Talboys Wheeler's "History of Madras in the Olden Time." On August 28, 1693, Mr. Wheeler, a member of Council, died suddenly. Dr. Samuel Browne confessed at once that he had poisoned him by arsenic, which had been pounded in a mortar in which powdered pearl was afterwards prepared. His letter is curious:—

"Honourable Sir,—I have murdered Mr. Wheeler by giving him arsenic. Please to execute justice on the malefactor as I deserve.—Your Honour's obedient unfortunate servant, Samuel Browne."

Dr. Bulkley was ordered to make a post-mortem examination, and reported as follows:—

"According to your orders, I did, on Monday, the 28th instant, in the afternoon, open the dead body of Mr. James Wheeler, about five hours after his death, and upon viewing the viscera or bowels found them not much altered from their natural temper and colour. The parts that seemed to suffer most were the stomach and intestines, which were a little inflamed, and almost wholly bared and stripped of the mucous or slimy covering with which those parts are commonly invested. The lungs were also a little inflamed. The blood that I gathered out of several vessels all appeared blacker than usual. But the suddenness of his death, and the severe symptoms he laboured under before he died, were greater arguments of poison received than anything I could trace out by dissection.—This from, Sir, your Honour's most humble and most obedient servant, Edward Bulkley."

Dr. Bulkley was evidently a sagacious man.

The registers of St. Mary's Church in the Fort have been regularly kept since 1680, with the exception of the interruption caused by the French occupation, 1746-50, but nothing of medical interest caught my eye, either in the registers or amongst the inscriptions, except one tablet to the memory of Mrs. Prendergast, daughter of the well-known James Annesley, who was born in 1811, and died in the twenty-eighth year of her age.

In the Cathedral graveyard we find the tomb of Robert Richardson, Esq., oculist and surgeon in the Hon. Company's service, who died in 1824. Also the tomb of "James Cuddy, Esq., first member of the Medical Board, who died at Madras 17 December, 1801, aged 57. Erected by friends to record his public and private services and worth during thirty years' service."

In the Church of St. Thomas, at the Greater Mount, we find a monument "To the memory of James Edward Porteous, Esq., Assistant-Surgeon, for twelve years medical officer of the C Troop Horse Artillery, who died at Jamnah the 18th August, 1849, aged 39 years. In grateful and affectionate remembrance of his worth, and of the unremitting kindness which endeared him to all classes, this tablet was erected by the officers, non-commissioned officers, and men of the C Troop Horse Artillery, and many other friends. Dilectus, Defletus, Decessit." And another, "To the memory of John Peter Grant, Esq., of Corrimony, in the county of Inverness, Staff-Surgeon, Tenasserim Provinces, and for many years attached to the Regiment of Royal Artillery, who during a service of twenty years in various parts of this extensive empire, embracing the Burmese, Coorg, and Chinese campaigns, was not less distinguished in the practice of his profession than for kindness of heart and urbanity of disposition. Died April xxii., 1844, 43 years of age. Erected by his friends and brother officers."

In the cemetery at St. Thomas's Mount there is a handsome tomb, beginning to decay—

"In memoriam Gulielmi Fasken, M.D.,
Qui corporis malorum medendi peritus
Per Lusitaniam, Hispaniam, et Galliam,
Castra Britannica fortiter secutus
Hic tandem ipse morti occubuit
Die III. Octobris, MDCCCXXXVI. Annos natus L.
Hoc monumentum ejus virtutis et amoris sui socii militares posuerunt."

I hope your readers will forgive the demand upon your space and their time which I make in describing the tombs of worthies whom their own generation did not wish to forget. But they are all eclipsed by the monuments to Dr. Anderson:—

"Jacobus Anderson, Scoto Brittannus, M.D.,
In his viis primarius, per annos L. optime meritus
per annos XXV. summos in arte sua honores occupavit,
et suavissimâ morum simplicitate ornavit.
Benevolus semper et indefessus benefaciendo, lucrum sperneus;
Non ægris modo sed oppressis omnibusque infelicibus
Certissimum Refugium
Nec minus publicæ utilitatis ad extremum vitæ habitum studiosus,
Obiit VI. Die Augusti A.D. MDCCCIX., ætatis suæ LXXII.,
Summi merentissimi viri memoriam venerati
Et nobile exemplum posteris commendare aventes
Hanc imaginem communibus sumptibus posuerunt
Omnes Medici in his regionibus merentes
Anno post ejus obitum XI."

The above inscription is on a tablet, over which is placed a sitting marble figure of Dr. Anderson by Chantrey—the figure

of a man whose features indicate shrewdness and benevolence combined. But it is very evident that the natural affections and *esprit de corps* are strongly present in the Madras officials, and when they are grateful they are not so by halves. There is an obelisk on St. Thomas's Mount, a bust and tablet in the Mount Church, and a heavy sepulchral monument to the memory of one man—Colonel John Noble, of the Madras Artillery; and there is a stupendous canopied tomb over the grave in St. Mary's Cemetery where Dr. Anderson was buried.

This bears two very long Latin inscriptions, which, to save your readers' time, I will turn into English:—

"Sacred to the memory of James Andersou, M.D., a most excellent and renowned man, and chief physician on this coast of Coromandel, where he practised his health-giving art for nearly fifty years, and showed much kindness to all men, as if it were his chiefest delight to promote the common good, and to benefit as many as possible, forgetful of his own advantage. He died on August 6, 1809, in the seventy-secoud year of his age. Rest in peace, O veuerable man! yearned for by thine own friends, and lamented by all! the charm and grace of humanity; who, endowed with rare gifts of intellect, and a still rarer beniguity, ardent, pure, and altogether wonderful, wast occupied during the long course of thy life in promoting the good of mankind; believing thyself born for the world, not for thyself! O thou simple in manners, candid, most gracious! will auy time tear thy memory from our breasts? Oh! when shall we find thy equal? If any mortal affairs concern the departed, then do thou kindly look down upon thy friends, and pardon them their yearning affection for thy dear form which languishes unsatisfied!

"In grateful memory of the best of uncles, and in honour of a life devoted to beneficence and kindness, whose course he watched with wondering admiratiou for twenty-four years, this edifice, where his remains are preserved, as a testimony of reverence and grief, is erected at his own cost by Andrew Berry, M.D."

Of the 2000 tombs with which the Cemetery of St. Mary is adorned, Dr. Anderson's is one of the most conspicuous. The upper slab once contained a marble medallion portrait of the deceased, but it is said to have been removed by his friends.

There is a large slab, with an inscription, to the memory of William Smith, surgeon, who died January 9, 1724, aged twenty-five. And another to Thomas Robson, chief surgeon, who died May 6, 1720, aged thirty-seven; also to Christopher, infant of Thomas and Diana Robson. The representatives of these persons may be interested in knowing that these slabs of hard gneiss, with inscriptious in raised letters in excellent preservation, were removed, by the pious care of the chaplain, from the Esplanade, where the old burial-ground was, to the inclosure around the Fort Church.

FROM ABROAD.

Prof. Crocq on the Medical-Women Question.

A member of the Belgian Chamber of Representatives having delivered his opinion in the usual off-hand way among popular members, that women should be admitted to practise that branch of medicine which relates to diseases of their own sex and those of children, and that an examining board should be appointed for examining and admitting such persons—the Minister of the Interior demanded the advice of the Royal Academy of Medicine upon the subject. The Academy accordingly appointed a committee, and Prof. Crocq has recently laid before it the report (published in the *Presse Médicale Belge* of April 4 and 11) which he has drawn up as secretary to the committee.

A cry has arisen, he says, that women are treated unjustly, and tyrannised over by the stronger sex, in not being allowed to pursue the practice of medicine, and such cry has prevailed in the United States, Russia, Switzerland, and France. One remarkable fact, however, is that free England remains in the background—the England that the world is accustomed to see leading the van in all reforms and all progress. True it is that there women are also allowed to practice, by virtue of the unlimited liberty that prevails, but up to the present time all the authorities have refused to confer their diplomas on women.

The real question is, whether women have the necessary aptitude for the study of medicine and for its practice. Those who deny this are accused of attributing to them an intellectual inferiority, and much capital is made out of it by their advocates. This is, however, a fundamental error. The denial of such aptitude is not to imply inferiority, or to declare that the intelligence of woman is less than that of man, but simply to state that it is of another kind—her brain and nervous system possessing a different organisation and different aptitudes. Here is no injury or ridiculous pretension of superiority, but simply the statement of a fact. The generative function, which is a mere episode and accessory in the life of man, occupies the very first place in that of woman—a truth acknowledged from all antiquity, and pithily enounced by Van Helmont, *propter uterum mulier id est, quod est*. The sole means of escaping from this fact is to induce women to renounce maternity, with its responsibilities and duties, or, in other words, to adopt an existence opposed to their nature. And, after all, such resistance may do violence to nature, but will not conquer it, for the difference of organisatiou pervades all the economy, and most strikingly of all the nervous system. Man is less sensitive, less accessible to external impressions, and in him reflex action is far less marked; while woman is more mobile and impressionable, and the reflex actions are far more energetic, and sometimes entirely predominant. The difference may be summed up in one expression—woman is hysterical, and man is not.

The qualities which render a woman so admirably fitted as the nurse and attendant for the sick have been wrongfully invoked in proof of her aptitude for the practice of medicine. But so far from there being any connexion between the functions of nurse and medical attendant, they may rather be said to be opposed to each other. The nurse does well to listen to the impulse of her heart, and allow it to expand for the encouragement of the sick and to aid in the patient support of suffering. This, however, in the practitioner, would be a fault; for he has to look far and wide, and to guard himself against the impression of the moment, so as to allow cool reason its power of sound appreciatiou. So true is this that medical practitioners, as a rule, dislike treating persons who are dear to them, fearing lest feeling might obscure and prevent their judgment.

But it has been said that an appropriate education may modify the qualities and dispositions of women, especially when joined to the sustained action of heredity and selection, preserved through a series of generations. To a certain point this may be supposed to be so, for training and selection are, without doubt, potent means, and may produce profound modifications of the constitution. But is all this practicable? And then is it to be desired that woman should be subjected to such influences, and deprived of all the qualities and charms of her sex, in order to convert her into a virago, a species of soldier. Even the partisans of women-doctors are obliged to own that, so incompatible are the ordinary duties of women with the necessities of a medical career, that this should be chiefly left to those who do not intend to marry, or have become widows. But when are these to pursue their studies? Is it only to be when they have become widows or have lost the hopes of getting husbands? Or is it when they are young? In this last, which is the only reasonable supposition, are they to be predestined to celibacy? If so, this should be protested against, for woman's proper destiny is marriage and family life, and ties favouring the production of old maids ought to be discouraged.

Many of the advocates for the medical employment of women declare that they do not wish them to become learned doctresses, but only qualified to treat the diseases of their own sex and of children; but those who make this strange proposition are evidently ignorant of its nature. For, while the entire economy of woman is dominated by the utero-ovarian apparatus, the diseases of this apparatus cannot be isolated from all the others, and consequently from her entire pathology; and as for children, they are susceptible of as numerous and as complicated diseases as adults, the only difference being that more knowledge and perspicacity are required for their detection. Formerly there was in Belgium, as there still is in France, a second and inferior class of medical practitioners termed *officiers de santé*, and this was abolished on the express ground that the lower classes were as well entitled to have highly educated attendants as those who were better off. What is proposed to be done for women would, in fact, be but to revive in their persons these *officiers de santé*. If women are

to act as medical attendants, they should undergo the same preliminary and scientific education as men. Indeed, from the constitution of their minds, such studies are still more necessary to them than to men. Where they are to obtain the requisite knowledge is another question of not easy solution, for their instruction in common with men is highly objectionable—and often impossible. Special schools, professors, hospitals, will have to be established, and all for what?—to gratify the caprices of some misplaced individuals (*declassées*) who are dreaming impossible perspectives.

For these, among various other reasons which we have not space to notice, Prof. Crocq recommends that the Academy should reply to the Minister's question in the negative.

Prof. Hamilton on Dislocation of the Shoulder.

Although it might seem that all that could be said on this subject has pretty well been said, yet so high an authority as Prof. Frank Hamilton has published in the *New York Medical Record* for March 27 (as part of a clinical lecture on a case of subcoracoid dislocation) an account of "Two New Differential Signs in Dislocation of the Shoulder," which we transcribe in full:—

"The examples of errors of diagnosis in the case of injuries involving the shoulder-joint are very frequent. My personal experience furnishes me with probably forty or fifty cases in which the head of the humerus has been supposed to be dislocated when it was not, or in which it has been supposed to be broken when it was not. For this reason it is important that you should be informed of every known means of diagnosis, and to those which are already known I will now add two more of which you will be able pretty often to avail yourselves.

"When the head of the humerus is in its socket, it projects outwards beyond the extremity of the acromion from half an inch to an inch, varying more or less according to the age and size of the person. It also projects a little in front of the acromion, but not at all behind. In the case of a dislocation, in whatever direction the head of the humerus is displaced, there can be no bony projection outwards beyond the acromion. This fact may be always ascertained, unless there is very great swelling of the soft parts over the point of the shoulder; but it will be necessary that you should be familiar with the natural outlines of the acromion; and this is a study which medical students and medical men too much neglect—namely, the study of the natural form of the surface of the body, or what I call 'superficial anatomy.' You must learn to know where is the outer end of the clavicle, where is the outer end of the acromion, and where is the coracoid process, if you expect to determine the existence or absence of a dislocation. This exercise you can pursue in your bedrooms on your own persons or on the persons of others. With a camel's-hair pencil moistened with the tincture of iodine, you can mark out on the skin the line of the clavicle, acromion, spine of the scapula, etc. In attempting this for the first time you will probably find that there is much to learn that you did not know before, however thoroughly you have studied the anatomy of the shoulder in the dissecting-room, when the skin has been removed. The same applies to all the other joints of the body; and now you will understand why some men, perhaps wholly ignorant of anatomy as it is usually taught, but familiar by long practice with superficial anatomy, will recognise in a moment the nature of a joint injury, which you may fail after a very careful examination to detect.

"Let us return to the consideration of the two special signs of this dislocation (liable to only one exception, as I shall hereafter explain) which I wish to add to those already given by surgical writers. *First*, while the head of the humerus remains in its socket, if a rule be laid upon the outside of the arm from the shoulder to the elbow, it will not touch the acromion, but will be distant from it at least half an inch, generally one inch or more. On the other hand, if the bone is removed from the socket, in whatever direction it may be displaced, whether forwards, downwards, or backwards, unless the shoulder is much swollen, the rule, placed as described, will touch the acromion. *Second*, if, standing behind the patient (in the case of the right shoulder), the thumb and forefinger of the left hand are made to grasp the top of the shoulder in such a manner as that the interdigital commissure shall rest upon the acromion, just outside of the acromio-clavicular articulation; and if then the thumb and finger are dropped perpendicularly, the tip of the finger will (in the case of the head not being dislocated) rest upon the centre of the round upper extremity of the humerus, as it projects in front of the acromion, while the end of the thumb will rest upon the humerus behind. But the head will be felt only indistinctly by the thumb, for the reason that, instead of projecting as it does in front, it actually recedes a little beneath the acromion. Up to this moment the surgeon may entertain some doubt whether he is actually grasping with his thumb and finger the head of the bone; but if he now moves the elbow of the injured limb forwards, so as to carry the head of the humerus backwards in its socket, he will feel it press strongly against the thumb. This will be conclusive. If a dislocation exist, the head of the bone cannot be felt in this situation and by the thumb thus placed.

"I have told you that both of these differential signs are liable to one exception. The phenomena would be the same so far as these two signs are concerned, whether there was a dislocation of the head of the humerus, or a fracture with displacement of the neck of the scapula. The latter accident must, therefore, be first excluded by a careful application of the rules of diagnosis given in treatises on surgery; but that upon which you can most safely rely is the relative infrequency of the two accidents. It is doubtful whether a long and active surgical practice will ever furnish you with an example of fracture of the neck of the scapula, while you will meet with a great many cases of dislocation of the humerus."

Abuse of Anæsthetics.

On the remarkable case of an "Ether-Breather" (*Medical Times and Gazette*, April 10), related by Dr. Ewald, coming on for discussion at the Berlin Medical Society, Dr. Westphal observed that he had met with a somewhat similar case occurring in the person of a country medical practitioner. Affected with asthma, due to emphysema, he had contracted the habit of administering chloroform to himself in order to enable him to perform his journeys with less suffering; and to such an extent had he employed the chloroform that he had reduced himself to an insupportable condition, and endeavoured to terminate his existence by opening the radial artery. This, however, was tied in time, and he was placed in the lunacy ward of the Charité Hospital. So extreme was his passion for inhaling chloroform, that when this was denied him he would throw himself at the feet of the nurse imploring for more. Wine was substituted for chloroform, and at last this was left off. One night, without apparent cause, he was found dead in his bed, and the autopsy yielded nothing but negative results. This is the only case of such an abuse of chloroform that Dr. Westphal has met with, and he thinks that in similar cases where the patient shows himself powerless to resist such a propensity, it should be ascertained whether he is not the subject of a psychosis. In this point of view it is of interest to observe that many persons addicted to the immoderate use of morphia, chloral, and other narcotics, can frequently be shown to have inherited a disposition to neuroses or psychoses. Dr. Ewald observed that there was another case recorded in *Virchow's Archiv*, B. xvi., of a propensity to inhale chloroform, but in this, as in Dr. Westphal's case, the habit was acquired through its therapeutical employment. Prof. Langenbeck observed that it was not rare to find patients indulging in large quantities of morphia, especially by injections, without giving any signs of the existence of a psychosis. Dr. Westphal, however, believed the connexion was of sufficient frequency to render it desirable that the question should be followed up. Dr. Vollborth referred to the case of a lady who inhaled daily 250 grammes of ether, and who had exhibited some symptoms of psychosis.

Hofrath Prof. Rokitansky.—The *Wiener Med. Zeit.*, in one of its recent numbers, observes that it had all along stated that Prof. Rokitansky had no real intention of giving up his posts of Medical Referee of the Ministry of Education and Professor of Pathological Anatomy; and notwithstanding the positive assertion of the appointment of Prof. Heschl as his successor in the latter post, Prof. Rokitansky is again advertised as the Professor. Notwithstanding his jubilee and his having passed his seventieth year, and the numerous visits of intended professors, everything is to go on as of old, and "Father" Rokitansky is to lecture this summer and probably next year too—in fact, as long as he chooses; no change in the Professorship being possible without the consent of the Referee for Medical Education!

FOREIGN AND COLONIAL CORRESPONDENCE.

AMERICA.

PHILADELPHIA.

ANNUAL REPORT OF THE SURGEON-GENERAL, UNITED STATES ARMY—AMERICAN MEDICAL ASSOCIATION—ARMY MEDICAL MUSEUM—DR. WASHINGTON L. ATLEE ON THE HISTORY OF OVARIOTOMY—REPORTS OF THE STATE BOARD OF HEALTH, MASSACHUSETTS, "ON HOSPITALS," "ON THE POLITICAL ECONOMY OF HEALTH."

THE annual report of the Surgeon-General, United States Army, is nowadays a dry and uninteresting pamphlet, compared with the very readable statistics of sickness and wounds rendered available half a score of years ago by the sad realities of internecine strife. The reader feels, after a hasty survey of such an official document at the present day, like one who takes up a dull and prosy book after perusing a profusely illustrated novel or book of travels. And yet reminiscences of the past still cluster around these dry details of to-day, for the war left a legacy of national expense in the shape of "appliances for disabled soldiers," "trusses for ruptured soldiers," and the consolidation of statistics, in addition to the establishment of an immense army medical museum and library. The report presented a month or two ago contains a few interesting facts, which may be briefly referred to, inasmuch as a comparison is made with similar statistics of your own Army Medical Department. The average losses of the army, says the report, by deaths and discharges for disability during the five years 1868-73 have been 47 per 1000 of strength for the white troops, and 52 per 1000 for the coloured. In the case of the white troops—deaths from disease, 10; deaths from wounds, accidents, and injuries, 5; discharges from disability, 32 per 1000 of strength. In the case of the coloured troops—deaths from disease, 15; deaths from wounds, accidents, and injuries, 5; discharges from disability, 32 per 1000 of strength. It appears from the report of the Army Medical Department of Great Britain that the average losses by death and discharges for disability among the troops stationed in the United Kingdom from 1861 to 1870 inclusive was 43·21 per 1000 of strength, of which 9·45 were deaths and 33·76 discharges; and although, as shown by the same reports, the ratio of discharges during the ten years was much smaller in the case of the troops serving in India, viz., 19 per 1000 of strength, yet this was balanced by a greater mortality, viz., 21·3 for Bombay, 22·62 for Madras, and 29·67 for Bengal. The mortality from wounds, accidents, and injuries in the United States army is deserving of comment. For the last six years it has averaged about 5 deaths per 1000 of strength for both white and coloured troops, while during the six years from 1866 to 1871 inclusive the mortality from all causes of the same class in the British army was only 1 per 1000 of strength for troops serving in the United Kingdom, and 2·37 per 1000 for troops serving in India.

The number of deaths from homicide in the United States army among the white troops during the five years mentioned exhibited an average annual ratio of 83 per 100,000 of mean strength; while among the coloured troops it was 254 per 100,000. These figures are strikingly in excess of the proportion of homicides in the English army. During the six years from 1866 to 1871, inclusive, there were but 9 homicides reported among the troops serving in the United Kingdom, with a strength ranging between 70,000 and 100,000 men, the average annual ratio being only 2 homicides per 100,000. Among the troops serving in India, with a strength ranging between 53,000 and 59,000, the total number during the six years was 18, the average annual ratio being rather more than 5 per 100,000.

The number of recent suicides in the army corresponds to a ratio of 54 per 100,000 of mean strength; the average annual ratio for the five years being 63 per 100,000 among the white troops and 26 among the coloured. The ratios for the English army for troops serving in the United Kingdom, from 1866 to 1871, inclusive, averaged annually 36 per 100,000; for troops serving in India, 55 per 100,000.

Perhaps one of the most interesting features of the report is the statement that there is now on file in the Surgeon General's office, in the division of surgical records, an aggregate account of 222,497 surgical cases, and of 40,126 operations. It is proposed to publish a descriptive anatomical catalogue of the Army Medical Museum, in which the most important element will be the craniological chapter. It is stated that the medical officers of the army have collected a much larger series of American skulls than have ever before been available for study, and that the collection embraces many ancient crania from caves and tumuli, from Greenland and Alaska to Florida and Arizona, and specimens from the majority of the existing tribes of Indians, and of the extinct tribes of the historic period. These, as well as a sufficient series of skulls of the white and black races, have been carefully measured and figured by autographic drawings, so that the dimensions may be verified. Anthropologists in different parts of the world are anxious for the data thus accumulated for comparison with similar data published in Sweden, Russia, Germany, Italy, France, and England. The French Government, through its Legation here, after making repeated applications for the tables of cranial measurements, employed an artist to make casts and take photographs of a series of typical skulls, and a professor of Bonn made the study of the collection the object of a trip across the Atlantic. The Army Medical Museum, on July 1, 1874, contained the following number of specimens:—Surgical section, 6447; medical section, 1225; microscopical section, 6738; anatomical section, 1119; section of comparative anatomy, 1404; miscellaneous section, 186; total, 17,119 specimens.

Preparations are already in progress for the annual meeting of the American Medical Association at Louisville in May next. The great drawback to all of these meetings hitherto has been the difficulty of securing a large representative attendance of medical men from places distant from the city chosen for the session of the convention. If it should meet at Philadelphia, for instance, the probability is that the Southern and Western States would be but poorly represented in numbers, while many of those who would come from remoter regions might not be exemplars of the dignity and intellect of the profession. I do not see how, in an immense country like this, the National Association can ever be wholly unsectional, for assuredly the members who live within a radius of a few hundred miles will be more prompt in their attendance than their medical cousins further removed. Professor Gross has recently written a letter to one of our medical journals, which has been somewhat conspicuous for its disparagement of the labours of this body, urging upon the profession the propriety of a fuller representation at Louisville. The Association already numbers nearly 5000 members, and, according to Professor Gross, "has done more in harmonising, unifying, and socialising the medical profession of this country than all the medical societies, great and small, civic and rural, that have ever been formed on this continent."

Dr. Washington L. Atlee, the celebrated ovariotomist, on retiring from his position as President of the Philadelphia County Medical Society, in the early part of this month, took occasion to give a retrospect of the struggles and triumphs of ovariotomy in Philadelphia. This important surgical procedure—the mortality from which is said to be no greater than that from amputation of the leg or arm, and far less than from amputation of the thigh—doubtless had, in its infancy, violent opponents in every portion of the world, and some of your own prominent ovariotomists could probably record experiences quite as memorable as those furnished by Dr. Atlee. So much more marked, therefore, is the triumph for the skilled hands and intelligent, fearless, earnest operators who have advocated this great surgical labour of modern times, in spite of prejudice, contumely, and professional odium. The writer of this address, in his exhibit of the hostility of prominent surgeons and obstetricians to ovariotomy in its infancy, is necessarily forced to use names unsparingly, and to revive reminiscences that could not be altogether grateful to these gentlemen if they were living,—for most of them are dead, and occupied high places in the profession. Dr. John L. Atlee, in 1843, removed both ovaries, and the patient is still living. Dr. Washington L. Atlee performed ovariotomy in the following year for the first time, and since that date has operated in nearly three hundred cases. In the *American Journal of the Medical Sciences*, April, 1845, he published an account of all the cases of ovariotomy (101 in all) that had ever been reported from every part of the world. Three names—L'Aumonier, Dzondi, and Galezowski—were recorded before the name of Ephraim McDowell, of Kentucky, "the father of ovariotomy." These were inconsiderately placed there as referring to cases associated with the ovary, but should have been omitted under the head of ovariotomy. The same may be said of the Houston case, which

he exhumed from the "Philosophical Transactions Abridged," vol. vii., p. 541, and transferred to the *American Journal of the Medical Sciences*, April, 1849, p. 534, as a case occurring in British surgery in 1701. In this instance he was unjustly liberal to our English brethren in giving to them the honour of the first ovariotomy. As it cannot be regarded in this light, he takes this occasion to acknowledge his error, inasmuch as Mr. T. Spencer Wells, on his authority, says: "From this case it will appear that ovariotomy originated with British surgery on British ground."

Dr. Atlee soon found that his predilection for ovariotomy placed him in a very unenviable position in Philadelphia in the then existing sentiment of the profession, a quarter of a century ago. The operation was everywhere decried. It was denounced by the general profession, in the medical societies, in all the medical colleges, and even discouraged by the majority of his own colleagues. He was misrepresented before the medical public, and was pointed at as a dangerous man, even as a murderer. The opposition went so far that a celebrated professor—a popular teacher and captivating writer—in his published lectures invoked the law to arrest him in the performance of this operation! It had been his invariable custom to invite members of the profession to witness the operation, in order that they might be able to form a proper opinion of its character, and to judge of its propriety. It was a rare circumstance during the probationary stage of the operation for anyone to accept the invitation cordially and gratefully. Some positively refused and emphatically condemned the operation, while others took the invitation as an insult. What is most remarkable, the strongest opposition came from those who had never seen the operation, who would not consent to see it, and who consequently knew nothing about it; while those who reluctantly ventured to witness it, as a general rule gradually modified their adverse opinions, and finally became advocates for it. Gentlemen who were bold enough to witness the operation were even directly accused by their professional acquaintances of having been *particeps criminis* in committing murder, notwithstanding these murdered patients recovered! Some, high in the profession, against all ethical considerations, would call upon patients who had fully decided upon the operation, for the purpose of warning them against him and certain death. The colleges proclaimed fiercely against the operation as unjustifiable and criminal. Sometimes the professors would go out of their way to denounce it. It was not uncommon for medical men to refuse to meet him in consultation, for no other reason than his persistence in performing ovariotomy.

Perhaps the most valuable series of reports on public hygiene published in this country are those annually issued by the State Board of Health of Massachusetts. That great State certainly occupies a very foremost ground in the zeal and earnestness with which it prosecutes all such inquiries, and in the elaboration of all its educational resources. The volume last issued, for 1874, about 550 pages, contains numerous valuable papers: one of these on "Hospitals," by Dr. George Derby, Secretary of the Board, presented some interesting facts and statistics, which may be quoted, especially as the subject of the relations of hospital construction to the successful issue of operations is nowadays engaging so much professional attention. After stating that American experience with civil hospitals corresponds with that of Europe, so far as hospital reforms, present and prospective, are concerned, Dr. Derby contrasts the mortality from amputations of limbs in four prominent American hospitals—the New York Hospital, the Pennsylvania Hospital, the Boston City Hospital, and the Massachusetts General Hospital—with that recorded in nine London hospitals. The American figures, he states, are derived from a pamphlet entitled "Amputations at the Massachusetts General Hospital," compiled by Dr. Jas. R. Chadwick in 1871; the English figures are taken from Dr. Simpson's essay on "Hospitalism." Both the American and English figures include amputations for disease, and primary and secondary amputations for injury.

	American Hospitals.			London Hospitals.		
	Whole number.	Deaths.	Ratio of deaths.	Whole number.	Deaths.	Ratio of deaths.
Thigh	404	139	34·41	459	211	46·0
Leg	481	143	29·73	352	155	44·0
Arm	195	34	17·44	145	51	35·1
Forearm	205	29	14·15	101	18	17·8

The comparison seems to be in our favour; but, as the writer remarks, when it is remembered that our hospitals are smaller than those of London, the difference is only such as might have been expected in accordance with the rules of Simpson and Evory Kennedy—that the mortality is (other things being equal) proportional to the size of the hospital, or the aggregation of the sick in one establishment. Alluding to the surgical experience of our late Civil War, he states that, fortunately for the interests both of humanity and science, the army authorities, early in the war, saw the wisdom of leaving this department to be managed by the medical profession, whose special training had fitted them for the work. Had the European customs and traditions—hampering the medical department with the authority of general officers—been followed in our army, such results could never have been reached. It was proved that the chance of recovery to both sick and wounded is better in the rudest barracks to which air has perfectly free access, or in tents, than in the most elaborate and completely appointed hospitals of great cities, in which the plans for supplying air are artificial. An application of these principles to civil hospitals already established, both here and in Europe, says Dr. Derby, is by no means readily accomplished. These establishments are rooted in conservatism; to destroy them and to build barracks in their stead would be thought almost sacrilegious.

In the same series of reports I find an excellent paper "On the Political Economy of Health," by Dr. Edward Jarvis, of Dorchester, Massachusetts, which, as it contains numerous matters of general interest, may be freely quoted. Regarding, as a general rule, the years of growth and development (from birth to the completion of the twentieth year) and of old age (from seventy and upwards) as the dependent periods, and the years of maturity (from twenty to seventy) as the sustaining period, and assuming that the effective power of a nation is in the number of its people in the sustaining period, and in the proportion these bear to the dependent classes, he deduced the following statistics, from recent available censuses of the nations mentioned, to exhibit the proportions of the sustaining and dependent classes in various countries:—

	Sustaining.	Dependent.			Number dependent for 1000 sustaining.
	20 to 70.	Under 20.	Over 70.	Total.	
France	60·30	36·09	3·64	39·68	657
Switzerland	56·20	41·22	2·58	43·80	779
Belgium	54·61	42·51	2·88	45·39	831
Sweden	54·51	42·67	2·82	45·49	834
Denmark	54·30	42·76	2·94	45·70	845
Spain	53·46	44·66	1·48	46·14	863
Holland	53·52	44·15	2·33	46·48	868
Prussia	52·62	45·34	2·03	47·37	880
England	52·21	45·04	2·74	47·78	915
Scotland	51·30	45·60	2·95	48·55	946
Norway	50·78	45·44	3·77	49·21	969
U.S. (white)	49·04	49·18	1·80	50·98	1,039
„ (coloured)	44·80	53·60	1·50	55·10	1,229
Ireland	46·50	52·03	1·48	53·51	1,201

Some curious facts are given by Dr. Jarvis, exhibiting the greater longevity of human life through progressive periods. He states that, by better adaptation of means, circumstances, and habits, life has been expanded, strength increased, and man's days on earth prolonged; by the improvements in agriculture and in vegetable and animal life he has obtained better and more constant food, and is therefore better nourished. By the improvements in the arts he is better clothed and housed, better protected from the elements. There is less sickness, and that which visits humanity is less destructive than in former ages. In ancient Rome, in the period 200 to 500 years after the Christian era, the average duration of life in the most favoured class was 30 years. In the present century the average longevity of persons of the same class is 50 years. The records of life and death in Geneva, in Switzerland, for the last three hundred years are more complete than any others now known. These show that the expectation of life from birth, or the average longevity, was—

21·21 years in the 16th century.
25·67 „ „ 17th „
33·62 „ „ 18th „
39·69 „ from 1801 to 1833.
40·68 „ „ 1814 to 1833.

In the sixteenth century 25·92 per cent. of the children died in their first year; in the nineteenth century the deaths at this age are reduced to 15·12 per cent. In the sixteenth century 61·11 per cent., and in the present century only 33

per cent., perished before they reached maturity at 20. In the former period 3·08 per cent. passed their threescore and ten years, and in the latter 17·94 per cent. had that length of life. As large a proportion now lived to 70 as lived to 43 three hundred years ago. Similar confirmatory statistics are detailed from the experience of France and Sweden; the expectation of life at birth in the latter country, for instance, having been 35 years and 3 months from 1755 to 1775; while it was 43 years and 5 months from 1841 to 1855. The average deaths were 1 in 36·2 of the living from 1746 to 1767, and 1 in 47·3 from 1842 to 1855.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

TUESDAY, MARCH 23.

Sir JAMES PAGET, Bart., F.R.S., D.C.L., LL.D., President, in the Chair.

PULSATING TUMOUR OF THE ORBIT.

A PAPER by Mr. WALTER RIVINGTON was read on a case of pulsating tumour of the left orbit, consequent upon a fracture of the base of the skull, cured by ligature of the left common carotid artery, subsequently to injection of perchloride of iron, after digital compression and other means of treatment had failed. The author prefaced the narrative of the case with an historical *résumé* of the views and observations placed on record by previous writers. The first known case was described by Mr. Travers, in 1809, as a case of aneurism by anastomosis, and the second by Mr. Dalrymple in 1812, under the same designation. Notwithstanding the observation of Guthrie, in 1823, of a case in which similar symptoms existing on both sides were shown by post-mortem evidence to have resulted from an aneurism of each ophthalmic artery within the orbit, the views of Travers were generally adopted for many years, as explanatory at least of the idiopathic cases of intraorbital aneurism. Mr. Busk, in 1835, met with a case which arose gradually after a fracture of the base of the skull; and was able to cite the prior case of a boy, under the care of Mr. Scott, in 1834, at the London Hospital, in which protrusion and pulsation of the eyeball supervened after an injury to the head occasioned by a fall into a ship's hold, and in which the subsequent occurrence of violent arterial hæmorrhage from the nose rendered it necessary for Mr. Scott to ligature the carotid,—a cure resulting. Mr. Busk combated the views of Travers, and advocated the view that his own case and previous ones had been cases of ordinary aneurism affecting the ophthalmic artery within the orbit. His paper had a marked influence on subsequent observers, as might be judged from the fact that M. Pétrequin, Mr. Curling, M. Bourguet, M. Legouest, Mr. Zachariah Laurence, M. Gioppi, Dr. Morton, and Dr. Schmid of Odessa, all diagnosed their cases as examples of aneurism of the ophthalmic artery; whilst M. Demarquay, Mr. Nunneley, Mr. Jos. Bell, Mr. Ernest Hart, Dr. Delens, Mr. Holmes, and others who had ably and successfully opposed the view of Travers, had repeated, with reinforcements of their own, Mr. Busk's arguments. To Mr. Nunneley was due the chief credit of first directing forcibly the attention of pathologists in England away from the orbit to the vessels lying beneath it; and he showed from post-mortem observations, in two out of six cases which he had met with, that the symptoms might be due to an aneurismal affection of the internal carotid artery in the cavernous sinus, or an aneurism of the ophthalmic artery within the skull. The record of Mr. Bowman's well-known case, by Mr. Hulke, in which no change was found in the arteries, but in which the cavernous, transverse, and petrosal sinuses were obstructed by clot; and M. Aubry's case of obliterated inferior petrosal sinus; and MM. Wecker and Richet's fatal case, were all so many indications that aneurisms within the orbit were only exceptional conditions. A brilliant light had been thrown on the pathology of the traumatic cases, by the publication of two cases under M. Nélaton in which all the symptoms had resulted from a direct communication between the internal carotid artery and the cavernous sinus produced by the fracture of the base of the skull; and a similar case observed by M. Hirschfeld. These cases, and cases of spontaneous rupture of an aneurismal carotid, related by M. Baron in 1835, and M. Gendren in 1841, were little known in this country until the publication of Dr. Delens' monograph, and Mr. Holmes's lectures at the College of Surgeons. The author's own case was briefly this. W. C., aged twenty-four, was admitted into the London Hospital in July, 1873, with a fracture of the skull. Six weeks later, the patient heard a noise in his head, like wind blowing; the eye gradually became prominent, pulsation of the eyeball was seen for a day or two, followed by the formation of a pulsating and thrilling tumour between the eye and the margin of the orbit. There was a bruit, continuous, with reinforcements, and the *bruit de piantement* could be heard at intervals. At the time of the commencement of the aneurismal symptoms, Mr. Reeves was in charge of Mr. Rivington's wards, and carried out very thoroughly digital compression, without making any impression on the disease. Ligature of the carotid was discussed, but negatived at a consultation. A further trial of compression, digital, instrumental, and direct, having been made without effect, combined with veratrum, and the affection at the end of a year being decidedly aggravated, threatening extinction of vision and preventing work, an injection of five drops of a neutral watery solution of the perchloride was made; but, this proving to be insufficient in quantity to cause enough coagulation in the dilated ophthalmic vein, and a second injection being impracticable on account of subsequent swelling, the carotid artery was tied by Mr. Rivington, and effected a cure of the disease; a slight bruit only remained, but superficial ulceration of the cornea occurred a few days after ligature, and resulted in opacity. The author then discussed at length the causation, symptoms, pathology, differential diagnosis, and treatment of the affection, the following being a few of his conclusions:—1. Of sixty-two recorded cases, twenty-nine were idiopathic, and thirty-three traumatic; of the twenty-nine idiopathic cases, eleven were affected on the left side, and thirteen on the right; whilst of thirty-three traumatic cases, twenty-two were affected on the left side, and nine on the right, the side affected not being mentioned in the others. Thus the preponderance of cases in which the affection had existed on the right side was entirely maintained by the traumatic cases. 2. Pulsation of the eyeball and a pulsating tumour might be absent, but no case should be regarded as one of so-called intraorbital aneurism, unless, in addition to exophthalmos and chemosis, a bruit were present. 3. The only true basis for the pathology of intraorbital aneurism was the record of post-mortem examinations, to which allusion had been already made. By this the doctrine of aneurism by anastomosis had been negatived, and a variety of morbid conditions had been disclosed (*vide supra*). 4. It was of great importance to recollect that, in eight out of twelve cases examined after death, the ophthalmic vein had been found varicose and enlarged, and in four certainly had formed the pulsating tumour observed during life at the orbital margin. The distension of veins might reach to the bridge of the nose and the forehead. After specifying the distinctive features of erectile tumours of the orbit, pulsating encephaloid cancer, spheno-orbital meningocele, and rejecting as efficient causes of the affection arterio-venous aneurism of the orbit, cirsoid aneurism, and aneurism by anastomosis within the orbit, and morbid conditions of the sympathetic nerves and ganglia, the author pointed out the necessity of studying the mode of occurrence of the symptoms, the nature of the paralytic symptoms of orbital muscles (if present), the character of the bruit and pulsating tumour, and other points, for the purpose of forming an opinion as to the pathological cause of the affection in any given case. Having discussed the means of treatment, and given the statistical results, the author showed that the symptoms might return in three different ways; that loss of vision might occur in cases treated by any method, or not treated at all, the result depending chiefly on the degree of interference with the circulation by the formation of coagula before anastomosing channels could be established. The conclusions as to treatment were the following:—(1) Belladonna, digitalis, veratrum, and ice were worthy of a trial; (2) digital compression should always be essayed; (3) instrumental compression was more difficult, and more likely to injure important nerves; (4) galvano-puncture was not well suited for application to a thin-walled vein; (5) coagulating fluids were adapted only for cases of arterio-venous aneurisms; (6) ligature of the carotid was the remedy most generally applicable, but should not be hastily employed. The author expressed his obligations to Mr. Holmes for his interest in the case and supply of valuable information.

Mr. H. Power thought the affection a very rare one. He had not seen one in 15,000 or 20,000 patients, and he thought Sir W. Lawrence had not recorded one in his experience. As to treatment, he thought the perchloride dangerous, and would have preferred ligature. He showed a drawing of a nævus in an infant which had extended backwards into the orbit, that had been cured by a figure-of-eight ligature.

Mr. Hulke remarked on the doubtful use of the words "aneurism by anastomosis." As to erectile nævus in the orbit, von Graefe had described a case of encapsulated cavernous tumour, and Mr. Critchett had recorded a similar case. He doubted whether the tone of a bruit was of much value, but it was of importance whether it was continuous or interrupted. He strongly opposed the use of the perchloride in such cases.

Mr. Curling agreed with Mr. Power that the malady was very rare. The author had collected his materials from very various sources extending over a long period of time, and had found only sixty-two cases. Still it was important that surgeons should know something of the subject, lest they might meet with cases. As to treatment, he would speak of traumatic cases, and in these he regarded the early application of the ligature as of importance where vision was seriously threatened. He would not even wait to see what effects might be produced by digital compression. In idiopathic cases, where there was no indication of injury, digital compression and other measures might be tried before resorting to ligature.

Dr. C. J. B. Williams desired to call attention to the medical aspect of the subject. The disease described in many instances closely resembled exophthalmic goitre. He believed that in all such cases there was an enlargement of the carotid arteries extending to the arteries at the back of the eye, and sometimes accompanied by a murmur. Usually there was also enlargement of the thyroid, from enlargement of its vessels. The cases seemed to belong to a diseased condition that had scarcely received sufficient attention—viz., partial enlargement of arteries. There was often at the same time an anæmic state of the system. He thought that, in such cases, medical treatment, applied early, was quite as successful as surgical. As he had said on a former occasion, "the physician's iron was better than the surgeon's steel"; and cases of the kind were readily amenable to the internal use of perchloride of iron, with strychnia, digitalis, good living, etc. His remarks, of course, were not applicable to traumatic aneurisms of the orbit.

Mr. W. Adams called attention to Pravaz's experiments on the injection of perchloride of iron; he had found that one drop was sufficient to coagulate one drachm of blood. The solution of perchloride of iron contained free hydrochloric acid; and this, if it escaped into the cellular tissue, would produce serious destruction of the parts. He briefly related a case in which he had injected perchloride of iron into the tibial artery of a child.

Mr. Hulke said that, some years ago, he had injected two drops of solution of perchloride of iron into the vein over the tendo Achillis in dogs, by Pravaz's plan: the result was instantaneous death; extensive coagula were found in the veins.

Mr. C. Heath had seen a case where a bruit was heard, and a ligature applied to the common carotid artery: after death, no aneurismal state of the arteries was found. Another case of the same kind had been referred to by Mr. Rivington; and, if two cases had occurred, could it be inferred that there had been aneurism in all the successful cases?

The President had never seen a case of pulsating tumour in the orbit; but he would point out that any tumour deeply set in bone would commonly pulsate, even though it had no blood-vessels, receiving an impulse from the vessels, however small, in the neighbourhood. This might be noticed in tumours of the antrum. Pulsation, perceptible to the eye, was also communicated to the pus in cases of necrosis. In the same way, he considered, increased pulsation of the ophthalmic artery from any cause would be followed by a communication of the pulsatile movements to the eye.

Mr. Rivington having replied, the Society adjourned.

THE PATHOLOGICAL SOCIETY.

Tuesday, April 21.

Mr. Campbell De Morgan, F.R.S., in the Chair.

The discussion on Dr. Bastian's paper on the Germ Theory of Disease was resumed.

Dr. Maclagan (Dundee), who was called upon by the Chairman, said that out of the many points raised by Dr. Bastian he would limit his remarks to one—viz., the germ theory as applied to the specific fevers. But he had, in the first place, to take exception to certain things apparent in the general tenor of Dr. Bastian's paper. In the first place, it was quite open to him to hold the doctrine of the evolution of living things, while he was a believer in the germ theory. The two questions were quite distinct. There was another idea pervading the whole of Dr. Bastian's paper that he must also protest against. Dr. Bastian attributed to the supporters of the germ theory the opinion that those minute organisms were in a causal relation to the disease. He was not aware that this had been asserted. Dr. Sanderson, for example, had laid it down that all microzymes are not contagia, but that all contagia may be microzymes. The connexion has never been declared to be causal; and, if it had, that notion would now have to be given up, for it must be admitted that Dr. Bastian had proved bacteria to be pathological products. One of Dr. Bastian's facts was that the virulence of the contagia diminished according to the development of organisms in them. But, as an advocate of the germ theory, he would claim that fact in its support. He doubted whether the true disease-germs had ever been seen; and it was open to one to argue that, as protoplasm undergoes a bacterium degeneration, the disease-particles may undergo the same. Passing to the specific fevers, he entered on a detailed argument to show that, while the physico-chemical theory was insufficient to account for their phenomena, the germ theory furnished a satisfactory *rationale* of the facts. Thus, on the supposition of a germ agency, there would be an enormous consumption of material in the production of millions of those organisms, and this would take the form chiefly of a waste of nitrogen and water. Now, the characteristic symptoms of the febrile state may be traced to the excessive using up within the body of the same two substances. Other characteristics of fevers were in like manner made intelligible by this hypothesis, such as their specificity and definite duration, the fact of their being produced but once in the same individual, and their being accompanied by a definite local lesion. There appeared to be a probable connexion between the specific properties of the contagium and the occurrence of local mischief. It is in this or the other tissue or organ, whose inflammatory affection is the result, that the contagium finds that *something* which is necessary for its propagation and fecundation, as distinguished from its organic growth. This requisite may be conveniently called the "second factor." The second factor varied in the different fevers. In small-pox it was the skin; in scarlet fever, the skin and throat; in typhoid, the mucous membrane of the intestine. The contagiousness of the fever also varied according to this second factor. In the two former diseases it was represented by a large extent of surface, while in typhoid the second factor was of limited extent, and the contagiousness was in direct relation. Further, the occurrence of definite local lesions suggested the analogy of parasitic diseases. It was common to all parasites to have certain favourite seats; and analogy would lead us to think of those contagia that are associated with definite local lesions as having the characteristics of parasites. Proceeding to speak of the surgical applications of the doctrine, he said that the wound resulting from an accident or operation represented what he had called the second factor; without some solution of continuity, the diseases which antiseptic surgery sought to avert would never occur. It was no argument against the theory that there was a certain percentage of failure. That was, indeed, to be expected; for direct contact with the wound was not the only way that the contagia could enter by; they might enter by the lungs and reach the wound through the circulation. In conclusion, he said that, though pathology owed much to biology and chemistry, her advance ought not to be limited by the imperfections of the former sciences. On the contrary, these sciences had something to learn from pathology. He would be a bold man who would deny the existence of all other organisms than those he could see through a microscope, or who would say that the limits of organised life had been reached. There were more things in heaven and earth than were dreamt of in our philosophy.

Dr. Dougall (Glasgow), who was also invited by the Chairman to address the Society, said that, after reading the lucid and apparently exhaustive paper of Dr. Bastian, he thought that those who had been wavering between the physico-chemical theory and the germ theory would not now hesitate to adopt the former. His own opinion had been moulded by researches the opposite of those that have mostly served to

form the opinions of others. While others had been applying themselves to cultivate organisms, he had been trying to discover what might be most inimical to their development and fatal to their vitality. All the statements on this subject seemed to him capable of being put into two great categories. According to the one school, bacteria are the cause of the conditions in which they are found; according to the other school, they are the result of those conditions. He was himself strongly of the latter opinion, and he considered the general acceptance of Dr. Bastian's views only a question of time. Out of a very large number of experiments he had made, he would select for relation the two following: An aqueous solution of blood-serum is taken and divided into two portions, to one of which a small quantity of a mineral acid is added. The vessel that does not contain the acid is found soon after to be teeming with bacteria, to have a fetid odour, and to be turbid. The solution with the acid has remained clear, and contains, perhaps, a few torulæ or a few filamentous tufts or wisps like thistle-down. After four months the acidulated solution ceases to give the test for albumen. It contains no bacteria; it is not putrid, but emits rather a mouldy odour. The putrefying solution gives a precipitate of albumen for twelve months after. In the one case there is putrefaction, in the other fermentation. The second experiment is to take a portion of the same blood-serum, and add an eighth or tenth of its bulk of liquor potassæ. It is found that the mixture, from whatever cause, gives off a putrid odour. At the end of two or three months the fluid ceases to give a precipitate of albumen. There are no organisms present, yet there is putrefaction. Now, if there may be putrefaction without organisms, the latter are at least not the sole cause of putrefaction. In the solution to which the potash was added, organisms could not exist, and yet there was putrefaction. The putrefaction occurred either spontaneously or according to the physico-chemical theory. With regard to Mr. Lister's views, he contended that the action of an antiseptic was a very different thing from the action of an antizymotic. He had found by experiment that carbolic acid actually preserved vaccine lymph; he had kept the latter for thirty-six hours exposed to the vapour of carbolic acid, and found it as active as ever. The testimony of surgeons was conflicting. Thus, he had lately been told by a surgeon of a large hospital that pyæmia was very rife in the wards of his colleagues, where the antiseptic system was practised, whereas he himself, who did not follow the antiseptic method of dressing, had had no cases of pyæmia. As to the germ theory of specific fevers, he considered that Dr. Richardson had given that its *quietus* several years ago. It seemed to him a matter of wonder, supposing germs were so reproductive and possessed the persistence of life they were said to have, that man or beast is now alive, and that the world has not been depopulated. The able epitome by Dr. Sanderson, recently published, was a contribution, on the question of the existence of organisms in disease, of great and permanent value. But the presence of these organisms might be accounted for on the physico-chemical theory. Out of the four diseases embraced in Dr. Sanderson's epitome, only one—relapsing fever—was epidemic, and he referred his hearers to the splendid work of Dr. Murchison for very strong evidence that relapsing fever originates *de novo*, and that the organisms found in that condition of the system are the products of the diseased process. In conclusion, Dr. Dougall expressed the opinion that we should never cope successfully with communicable diseases unless we recognised the fact that all contagious viruses have arisen and do arise *de novo* every day, both in and out of the body: in the body, to speak generally, through a violation of the laws of health; out of the body, through a certain unexplained synthesis of effete nitrogenous matter. It is those who hold this opinion that will be most speedily gratified by seeing a diminished zymotic mortality as the fruits of their labours.

Dr. Crisp proposed to adduce some facts in illustration from the diseases of the lower animals. He believed in the saying that there were more false facts than false theories. Some thirty years ago he was the first to direct attention in this country to the disease among animals known as splenic apoplexy. The lesion consisted of a sudden enlargement and engorgement of the spleen, which in an ox might reach the weight of twenty to thirty pounds. The blood was found to contain multitudes of bacteria; and Davaine, whose researches were not sufficiently valued, succeeded in a series of cases in causing death in the rabbit by inoculating this blood. Dr. Crisp then referred to the presence of bacteria in a disease that he had recently had under observation among his own poultry. In pleuro-pneumonia and other similar diseases of cattle, he had, however, not found the organisms that were to be met with in splenic apoplexy.

Dr. Sanderson asked leave to reply to a remark of the previous speaker, in which his name had been associated. Whether or not he had at one time been ignorant of Davaine's researches on splenic fever, it was pretty clear that Dr. Crisp's information on the subject was imperfect up to the present moment. Branell, of Dorpat, and Pollender had discovered organisms in the blood of animals dying of splenic fever, and they had made this discovery several years before Davaine.

Dr. Crisp: I did not, sir, say that Davaine was the discoverer of this fact. I only said that his experiments were more practical; and I referred to the subject because it is the fashion now to ignore everything French, and to swallow and believe everything that comes from Germany.

Mr. Hutchinson said he did not expect to have joined in the discussion, because he understood it was the wish of the Society rather to elicit facts from those who had been making systematic researches with the microscope or otherwise; but, failing these, he had a few observations to make. He thought it unwise to speak of the so-called virulent forms of inflammation at the same time and in the same manner as the specific fevers. And, as an example, he had to confess his disappointment that Dr. Maclagan, in his very able speech, should have sought to establish the germ theory of inflammation by means of the strong evidence that there is for the germ-origin of the specific fevers. It is a matter of clinical experience in surgery, that the facts that apply to specific fevers do not apply to the "virulent" inflammations. With regard to such inflammations as gonorrhœa, gonorrhœal ophthalmia, erysipelas, etc., he thought that the choice of an explanation was not necessarily limited to the germ theory and the physico-chemical theory. There was yet another theory that might be placed side by side with those two. It was that the products of inflammation might be themselves the means of contagion, both in the same individual, and, under favourable conditions, by being transplanted to another. It was essential that the cellular products of inflammation, to be the means of infection, should be in full vitality. It was specially against the germ theory, as applied to such inflammatory processes as gonorrhœa, that we find in them various degrees of severity. Those who practised inoculation of the conjunctiva with gonorrhœal pus (to cure granular lids), were familiar with the fact that the intensity of the inflammation produced may be made to vary according to the kind of pus selected for inoculation. It would be somewhat strange if the causal agency of organisms could be so modified. Admitting a pus-cell to be a germ, in a wide sense, these variations in degree could be explained. The degree of the inflammation in the recipient of the infection corresponded exactly to the degree in the patient from whom it was derived. Anyone proceeding to work out this subject might place before him the hypothesis that the contagion is owing to cell material supplied by the inflammatory process; and, further, that almost all cell elements arising in the patient's body are capable of carrying contagion. There are, however, many determining circumstances. Thus, the virus, to be effective, must be obtained from a tissue similar to that in which it is to be inoculated. The age of the patient, the state of health, and the like, are likewise determining factors. As regards the application to practice, if the doctrine here stated be correct, we shall give up the antiseptic treatment of wounds, and fall back on the antiphlogistic; and it was his conviction that such would be the case. For his own part, he had had as good results in attempting to prevent inflammation—for instance, by ice-bags—as in trying to keep out putrefaction. In conclusion, it was necessary to point out that the action of the so-called antiseptics was not limited to the prevention of putrefaction. For instance, carbolic acid tended to repress cell-growth. Thus, its application prevented the wound from inflaming; and those who used it knew that it sometimes, through the same repressive action, prevented the wound from healing. The washing out of a wound with carbolic acid solution was an effective means of preventing inflammation, and of preventing the formation of those cells which would spread the inflammation.

Mr. Knowsley Thornton thought that there was a certain resemblance between the contagious agency of the pus cell, as stated by Mr. Hutchinson, and the hypothetical substance

to which Billroth had given the name of phlogisto-zymoid. He had named also another substance septio-zymoid, which was the cause of pyæmia; and Billroth contended that these two substances were closely allied to each other, and might be identical. There were, however, many evidences against such a view. Thus, if a wound were treated antiseptically, with all the precautions which those who had the germ theory at heart would apply, it might be impossible to avoid the products of inflammation, from tension of the parts and the like, but the suppuration would not be putrid suppuration. The pus produced by this "tensive" inflammation, once evacuated, does not further accumulate. The cause being removed, the inflammatory action stops; but, if there were such a substance as Billroth supposes, we should expect a continuous action. Again, if the phlogisto-zymoid and the septio-zymoid were the same, the "tensive" inflammation would go on to septic suppuration. But that does not take place. It was sometimes objected, that in the practice of ovariotomy the facts were not favourable to the germ theory. There was a large surface freely exposed to the action of the germs that were supposed to pervade the atmosphere. He could at least say that when septicæmia did occur after ovariotomy, it was of the most rapid and virulent kind. It was fortunately very rare; and he believed it was so rare because in ovariotomy the parts after the operation were in a condition least exposed to "tensive" inflammation. The vitality of the tissues thus being preserved, they did not present a favourable locality for the action of germs.

It was arranged that Dr. Bastian should occupy the first part of next meeting with his reply.

MEDICAL NEWS.

University of Aberdeen.—At the late medical graduation term, the following candidates, after the usual examinations, received degrees in Medicine and Surgery:—

The Degree of M.D.

Thomason, William James, M.R.C.S., L.S.A., L.M., Royal Navy; Wilson, James, M.R.C.S., L.S.A., late Surgeon Royal Navy.

At the same time the following gentlemen received promotion to the degree of M.D.:—

Adams, James, M.B., Ashburton, Devon; Duguid, William Robt., M.B., C.M., Buckie, by Fochabers; Farquhar, James, M.B., C.M., Pudsey, near Leeds; Gosse, Charles, M.B., C.M., Adelaide, South Australia; Greenway, James R., M.B., C.M., London; King, Alfred, M.B., Balham, Surrey; Lloyd, Edward James, M.B., C.M., the Infirmary, Denbigh; Lowson, David, M.B., C.M., Huddersfield; McCalman, Robt. Gilmour, M.B., C.M., Laing, Sutherland; Nicholls, Henry A. A., M.B., C.M., Dominica, West Indies; Ogston, Francis, M.B., C.M., Aberdeen; Orchard, James S., M.B., C.M., Salford Hospital, Manchester; Orchard, Thomas N., M.B., C.M., Pendleton, Manchester; Reid, James, M.B., C.M., Ellon; Sinclair, William Japp, M.B., C.M., Clinical Hospital, Manchester; Smith, James Broom, M.B., C.M., Loftus-in-Cleveland; Venn, Albert John, M.B., C.M., London; Welford, George E., M.B., C.M., Sunderland.

The Degree of M.B.

Anderson, James, Skene; Austin, John Alfred, Ceylon; Bailey, Samuel Henry, Nottingham; Bannerman, William, M.A., Banff; Barron, John, M.A., Aberdeen; Blackhall, Adam, Fraserburgh; Carey, John Thomas, Frogmore, Guernsey; Cran, George, Tarland, Aberdeenshire; Kharshedji Ardeshir Dalal, Bombay; Elliott, Frederick Hawes, Andover, Hants; Edmond, George Maitland, M.A., Aberdeen; Garvin, Thomas Forrest, Colombo, Ceylon; Hardwick, Frederick Septimus, Sullington, Sussex; Harris, John, Newcastle, New South Wales; Hutchings, Arthur Carey, Alderbury, Salisbury; Innes, John Fraser, Hampstead; Jack, William, Latheron, Caithness; Laws, Robert, M.A., Aberdeen; McAldowie, Alex. Morison, Aberdeen; McDougall, Robert Horsburgh, Farr, Sutherland; Mearns, John Herbert, Sheffield; Moir, John Hay, Woodside; Pearson, John Caie, Aberdeen; Reid, George, Aberdeen; Ross, James, M.A., Balintore, Ross-shire; Thomson, John, Lybster, Caithness; Tuckey, Charles Lloyd, Canterbury; Vice, William Armston, Leicestershire; Wallis, John Michael A.; Wardrop, Douglas, Aberdeen; Westland, Albert, M.A., Aberdeen; White, Edward Arthur, Norwich; Wright, Frederick Wade, Wakefield, Yorkshire.

The Degree of C.M.

Anderson, James; Austin, John Alfred; Bailey, Samuel Henry; Bannerman, William; Barron, John; Blackhall, Adam; Cran, George; Kharshedji A. Dalal; Elliott, Frederick Hawes; Edmond, George Maitland; Garvin, Thomas Forrest; Hardwick, Frederick S.; Harris, John; Hutchings, Arthur Carey; Innes, John Frazer; Jack, William; Laws, Robert; McAldowie, Alex. Morison; McDougall, Robt. Horsburgh; Mearns, John Herbert; Moir, John Hay; Pearson, John Caie; Reid, George; Ross, James; Thomason, Wm. James; Thomson, John; Tuckey, Charles Lloyd; Vice, Wm. Armston; Wardrop, Douglas; Westland, Albert; White, Edward Arthur; Wilson, James; Wright, Frederick Wade.

Of the above-mentioned candidates, George Maitland Edmond, John Harris, Alexander Morison McAldowie, Robert Horsburgh MacDougall, and Albert Westland received their degrees in Medicine and Surgery with highest academical honours; William Bannerman and William Jack their degrees in Medicine and Surgery with honourable distinction.

On this (the first) occasion the John Murray Medal and Scholarship was awarded to Albert Westland, as the most distinguished graduate of his year.

At the same time George Robert MacGregor and Alex. Disney Leith Napier were certified as having passed all the examinations, but did not graduate; and the following were declared to have passed part of their examinations:—

Alexander, Wm. Copland; Allan, John; Bell, Henry Rufus; Brander, James; Broomhead, Charles; Buckland, Alfred George; Burnett, Robert Wm.; Carline, Wm. Arthur; Castor, Christian Francis; Cheyne, Walter Smith; Craib, James; Cran, Robert; Davidson, Alexander; Dixey, Harry Edward; Doyle, Charles Wm.; Duirs, David Peter; Eccles, Arthur Symons; Fergusson, William; Goldsbrough, Giles F.; Guild, Robert K.; Hicks, Edward J. Wm.; Hodgson, Alfred; Jack, Robert M.; James, Walter Culver; MacGregor, Alexander; Mackenzie, Alex. Wm.; McLeod, Patrick B. H.; Mason, John Wright; Noble, James; Pearse, Francis J.; Reid, William; Robertson, William S.; Seymour, Charles; Shand, Henry Miller; Sibbald, Thomas M.; Simpson, James; Simpson, William J. R.; Smith, Hay Livingstone; Smith, James; Stuart, Donald; Walker, George A.; Ward, Walter A.; Watson, Henry; White, William; Willans, William B.; Williams, Alexander; Wilson, John Osbert; Wilson, Robert M.; Winchester, Henry; Young, Alex. S. W.

The next professional examination for degrees in Medicine commences on Saturday, July 24, 1875.

University of St. Andrews.—The following gentlemen, having passed the required examination, obtained the degree of Doctor of Medicine on April 22:—

Bird, William, York.
Devereux, Daniel, Tewkesbury.
Eyton-Jones, Thomas, Wrexham.
Kesteven, William B., London.
MeVail, John C., Kilmarnock.
Ryott, Frederic E., Newbury, Berks.
Sedgwick, James, Boroughbridge, Yorks.
Sweeting, Thos., Basingstoke, Hants.
Wolston, Christopher, Bournemouth.

Royal College of Surgeons of England.—The following gentlemen having undergone the necessary examinations for the diploma, were admitted Members of the College at a meeting of the Court of Examiners on the 22nd inst., viz.:—

Beaumont, William Mardon, L.S.A., Oxford, student of the Middlesex Hospital.
Bell, John Duncombe, L.S.A., Antigua, of St. Bartholomew's Hospital.
Bond, George Weddall, L.S.A., Pulham, Norfolk, of Guy's Hospital.
Cadge, William Hotson, Carlton Colville, Suffolk, of St. George's Hospital.
Edwards, David, L.R.C.P. Lond., Mold, Flintshire, of University College.
Greenwood, Charles, Nether Broughton, of University College.
Hartley, John Fleming, Thorpe, Salvin, Notts, of University College.
Johnson, Edward Thornton, South Norwood, of St. Mary's Hospital.
Lockwood, John Parker, New Hampton, Middlesex, of Guy's Hospital.
Smith, William Romanis, Oxford, of King's College.

Fourteen candidates out of the sixty-two examined having failed to acquit themselves to the satisfaction of the Court of Examiners, were referred to their studies for six months; and eight candidates having been approved in Surgery, will be admitted Members of the College when qualified in Medicine. Of those who offered themselves for examination for the Membership of the College, there was one "M.D. Queen's University of Ireland," three "L.R.C.P. Lond.," one "L.R.C.P. Edin.," one "M.B. Aberdeen," one "M.B. Glasgow," one "L.K. & Q.C.P. Ireland," and ten "L.S.A." Among the visitors who attended these examinations were Drs. Barton of Dublin, Fleming of Glasgow; Struthers, Parkes, C.B., of Netley; Burkhardt of Wildbad; and Messrs. Quain, Mason, Lowne, Furner, etc., Fellows of the College.

The following gentlemen passed their Primary Examinations in Anatomy and Physiology at a meeting of the Court of Examiners on the 27th inst., and when eligible will be admitted to the Pass Examination, viz.:—

Aylward, Ernest, student of the Edinburgh School.
Bailey, Henry Frederick, of University College.
Barnard, John Henry, of Guy's Hospital.
Benthall, Albert, of King's College.
Boissier, Arthur Henry, of the Bristol School.
Cash, John Theodore, of the Edinburgh School.
Chapman, James Milne, of the Edinburgh School.
Fitzpatrick, Alfred Edward, of the Liverpool School.
Hadden, Walter Baugh, of the Liverpool School.
Harrison, Damer, of the Liverpool School.
Hunt, Robert, of the Manchester School.
Johnston, Alexander John James, of Guy's Hospital.
Kay, Walter Smith, of the Edinburgh School.
Miller, Richard Shalders, of University College.
Norris, Edward Stacey, B.A. Cantab., of the Cambridge School.
Norton, Thomas Chalmers, of the Bristol School.
Pollard, Evlyn Richard Hugh, of the Dublin School.
Porter, William Smith, of the Leeds School.
Rean, William Henry, of the London Hospital.
Scattergood, Arthur Kimberley, of the Leeds School.
Smith, William Barron, of the Manchester School.
Stock, William Roger Williams Gregory, of the Bristol School.
Taylor, Frank, of the Bristol School.
Thomas, Abraham Garrod, of the Edinburgh School.
Thorp, James Herbert, of the Leeds School.
Wanostrocht, Vincent, of the Edinburgh School.

The following gentlemen passed on the 29th inst., viz.:—

Ainsley, Thomas George, student of the Newcastle School.
Bailey, Robert Greenoak, of the Leeds School.
Baker, Frederic Grenfell, of St. George's Hospital.
Bibby, John, of the Liverpool School.
Blacker, Ernest, of the Bristol School.
Blackmore, Alfred, of the Manchester School.
Booth, Thomas Carter, of the Manchester School.
Cockell, Frederick Edgar, of St. Thomas's Hospital.
Cooper, James, of the Edinburgh School.
Davies, Louis Walter, of the Liverpool School.
Dumbleton, Edgar Hunt, of the Birmingham School.
Gamble, Ernest Langwith Gomportz, of St. Thomas's Hospital.
Granger, Edgar Bridden, of Guy's Hospital.
Grant, James Dundas, of the Edinburgh School.
Green, Charles, of the Newcastle School.
Hassall, John, of the Edinburgh School.
Hinings, John William, of the Leeds School.
Jackson, Edwin, of the Manchester School.
Kisby, George, of the Manchester School.
Malvin, Mark, of the Newcastle School.
Milner, Henry George, of the Bristol School.
Morton, Augustus Charles, of Guy's Hospital.
Parke, Thomas Henry, of the Manchester School.
Plumbe, Samuel Thomson, of St. Bartholomew's Hospital.
Pryce, Evan William, of St. Bartholomew's Hospital.
Smith, Alexander James, of University College.
Warren, Charles Edward Henderson, of the Edinburgh School.
Wilson, Robert Studholm, of the Liverpool School.
Woolley, Samuel Poole, of St. Thomas's Hospital.

APOTHECARIES' HALL. — The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, April 22:—

Barrow, John, Hilldrop-crescent, Camden Town.
Chadwick, George Richard, King's Lynn, Norfolk.
Lush, John Selfe, West Lavington, Wilts.
Makins, George Henry, Danesfield, Walton-on-Thames.
Musgrave, Reginald Vernon, 39, Finchley-road, N.W.
Strickland, Arthur William, St. George's, Wellington.
Thomson, George William, Hemel Hempstead.

The following gentlemen also on the same day passed their primary professional examination:—

Collier, Herbert, St. George's Hospital.
Ellis, Joseph Watson, St. Bartholomew's Hospital.
Farnell, Henry Dawson, University College.
Gillard, Clarence Richard, St. Thomas's Hospital.
Grimwood, John Joseph Wright, Guy's Hospital.
Heelas, James, University College.
Merga-Hussein-Khan, St. Mary's Hospital.
Robertson, Frederick Freer Leslie, St. Bartholomew's Hospital.
Thompson, Harry Young, St. Bartholomew's Hospital.
Williams, Alfred Glover, St. Bartholomew's Hospital.

At the preliminary examination in Arts held at the hall of the Society on April 23 and 24, sixty-two candidates presented themselves, of whom twenty-four were rejected, and the following thirty-eight passed, and received certificates of proficiency in general education—viz., in the First Class, in order of merit:—

First: A. B. Lee. Second: J. P. Hardman, W. C. E. Taylor, and G. E. Wainwright. Fifth: H. S. Frakes. Sixth: C. B. Richardson and G. B. Wall. Eighth: J. R. Day, F. C. Fisher, and S. H. Lindeman. Eleventh: C. F. Cuthbert and J. Whiting.

The Second Class, in alphabetical order:—

J. W. Aird, Isabella Bartholomew, H. A. Beeham, A. Beverley, R. Brooks, J. F. Burnes, G. H. Dodson, A. W. M. Drew, R. E. Durell, R. H. Fuller, F. J. Grindon, St. V. L. A. Hammick, E. A. Harbord, B. A. Y. Jollivet, G. L. L. Lawson, C. A. McAnally, A. K. Morgan, J. N. Pogose, John Rees, T. S. Rogers, J. J. Rolands, A. Smith, C. A. Smith, E. A. Swithinbank, F. H. Villanueva, and H. Wakefield.

APPOINTMENT.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that place.

SKERRITT, E. MARKHAM, B.A., B.S., M.D. Lond., L.R.C.P. Lond.—Physician to the Bristol General Hospital, *vice* T. E. Clark, M.D., resigned.

BIRTHS.

COOKE.—On April 19, at 16, Woburn-place, Russell-square, W.C., the wife of T. Cooke, F.R.C.S., of a son.

LOMAS.—On April 23, at 99, Gower-street, W.C., the wife of William Lomas, M.D., M.R.C.P., of a daughter.

MACDONALD.—On April 21, at Woolston, the wife of Dr. J. D. Macdonald, R.N., F.R.S., Deputy Inspector-General of Hospitals and Fleets, of a son.

WHITMARSH.—On April 24, at 1, Clapton-square, Lower Clapton, E., the wife of Lloyd Whitmarsh, L.R.C.P., L.S.A., of a daughter.

SMITH.—On April 21, at 68, Harley-street, Cavendish-square, W., the wife of Gilbert Smith, M.D., of a son.

SOUTHEY.—On April 26, at 6, Harley-street, Cavendish-square, W., the wife of Reginald Southey, M.D., of a son, stillborn.

MARRIAGES.

COLE—ELY.—On March 30, at Lucknow, India, the Rev. Thomas Fredk. Cole, of Taljarie, Bengal, to Dorothy, third daughter of the late George E. Ely, M.D., of Rochester.

HARDIE—WOOD.—On April 20, at St. James's Episcopal Church, Leith, Thomas Hardie, M.D., F.R.C.P., to Isabella, third daughter of the late Christopher Wood, Esq., merchant, Leith.

SMYTH—WEBB.—On April 21, at Christ Church, Wellington, Shropshire, Acheson W. Smyth, Castrues, co. Donegal, late 89th (Princess Victoria's) Regiment, younger son of W. D. Smyth, Esq., Dunnahoe, Londonderry, to Damaris Anne, only daughter of the late Thomas Fryer Webb, M.R.C.S., Wellington.

WEMYSS—MARTIN.—On April 22, at Embden House, Broughty Ferry, N.B., John Watson Wemyss, M.D., L.R.C.S., to Mary, elder daughter of the late Andrew Martin, Esq., and niece of David Martin, Esq.

DEATHS.

EVANS, DAVID PETER, M.B., M.R.C.S., at Belper, Derbyshire, on April 20, in his 54th year.

FARMER, ETHEL, second daughter of Surgeon-Major W. Langford Farmer, A.M.D., of scarlatina, on April 22, aged 4 years and 3 months.

LAMB, GEORGE HENRY, only son of the late Dr. George Lamb, of Dacca, Physician-General of Bengal, at 11, Colville-gardens, Kensington-park, long of St. Andrews, on April 24, in his 64th year.

LAW, ROBERT, M.D. Dub., H.F.K.Q.C.P.I., late King's Professor of Institutes of Medicine in the School of Physic in Ireland, at 25, Upper Merrion-street, Dublin, on April 23.

MACDONALD, SARAH PHEAE, wife of Dr. J. D. Macdonald, R.N., F.R.S., Deputy Inspector-General, at Woolston, on April 22, aged 34.

CAPHOOT, THOMAS FREDERICK, infant son of P. Orphoot, M.D., 113, George-street, Edinburgh, at Peebles, N.B., on April 23.

RANKINE, ROBERT, of the late H.E.I.C. Bengal Medical Service, and J.P. for the county of Middlesex, at 44, Porchester-terrace, Hyde-park, on April 21, in his 81st year.

TOOGOOD, ANN, widow of Jonathan Toogood, M.D., at the Manor House, Weston, near Bath, on April 27, in her 89th year.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

BRADFORD INFIRMARY AND DISPENSARY.—Physician. Candidates must be duly qualified. Applications, with testimonials, to Mr. Charles Woodcock, Secretary, 65, Market-street, Bradford, on or before June 12.

BROADMOOR CRIMINAL LUNATIC ASYLUM.—Assistant Medical Officer. Candidates must be duly qualified and registered. Applications, with testimonials, to the Medical Superintendent, Broadmoor Asylum, near Wokingham, Berks.

EVELINA HOSPITAL, SOUTHWARK-BRIDGE-ROAD, S.E. — Registrar and Chloroformist. Candidates must possess a recognised qualification. Applications, with testimonials, immediately, to the Committee of Management.

ROYAL ORTHOPÆDIC HOSPITAL, 315, OXFORD-STREET, W. — Surgeon. Candidates must be F.R.C.S. Eng. Applications, with testimonials, to the Secretary, on or before May 12.

ST. GEORGE'S (HANOVER-SQUARE) DISPENSARY, 59, MOUNT-STREET, GROSVENOR-SQUARE, W.—Physician. Candidates must be F. or M.R.C.P. Applications, with testimonials, to the Secretary, Mr. G. H. Leah, jun., 73, Park-street, Grosvenor-square, W., on or before May 8.

SALOP AND MONTGOMERY COUNTIES LUNATIC ASYLUM.—Assistant Medical Officer. Applications, with testimonials, to Mr. G. De C. Peele, Clerk to the Visitors, Shire Hall, Shrewsbury, on or before May 14.

SCARBOROUGH DISPENSARY AND ACCIDENT HOSPITAL.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to be addressed to the Medical Staff, under cover to the House-Surgeon, on or before May 17.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, WOLVERHAMPTON.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Chairman of the Medical Committee, on or before May 3.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Bingham Union.—Mr. H. Wotton has resigned the Workhouse; salary £20 per annum.

Penistone Union.—The Penistone District is vacant; area 17,380; population 6095; salary £21 per annum. Also the Workhouse; salary £30 per annum.

Ulverstone Union.—Mr. G. Stuat has resigned the Colton District; area 24,805; population 3763; salary £35 per annum.

APPOINTMENTS.

Axbridge Union.—Thomas McClure, F.R.C.S., L.R.C.P. Edin., to the Second District.

City of London Union.—Walter C. S. Burney, L.R.C.S. Ire., L.K.&Q.C.P. Ire., as Assistant Medical Officer and Dispenser at the Bow Infirmary.

Leominster Union.—Robert Williams, B.M. and M.C. Edin., to the Kingsland District.

Nuneaton Union.—Isaac Pitt, M.R.C.S. Eng., L.S.A., to the Chilvers Coton District.

County of Devon.—Alexander W. Blyth, M.R.C.S. Eng., L.S.A., re-appointed Analyst for one year.

AT the last meeting of the Council of the Royal College of Surgeons, Mr. John Steele Perkins, L.S.A., of South-street, Exeter, was elected a Fellow of the College; his diploma of membership bearing date June 4, 1830.

Dr. Bell Pettigrew, F.R.S., Lecturer on Physiology at Surgeons' Hall, Edinburgh, has been awarded the Godard Prize of the French Academy of Sciences for his original anatomical and physiological memoirs. Dr. Pettigrew, in virtue of the above distinction, becomes a Laureate of the Institute of France.

Northwoods, near Bristol.—We understand that the management and proprietorship of this well-known and long-established asylum, erected many years ago by the late Dr. J. Hawes Fox, of Bristol, has passed from Dr. J. G. Davey into the hands of Dr. Reginald Eager and Mr. T. G. Seymour. Dr. Eager has been the Medical Superintendent of St. Luke's Hospital for the past five years.

Prof. Maurizio Buffalini.—This, perhaps the most illustrious of modern Italian pathologists, died at Florence on March 31, in the eightieth year of his age. In 1863, as the result of a general subscription among the whole of the profession in the peninsula, a gold medal bearing his effigy was presented to him. His funeral was conducted on the grandest scale, deputations from all the Italian universities attending, and ministers of state, the most eminent *savants*, and the municipal authorities taking part in the ceremonies. He has left a sum of £400 for the award of a prize every ten years in encouragement of the experimental method of investigation. —*Union Méd.*, April 15.

Collegiate Elections. — The annual election of Fellows into the Council of the Royal College of Surgeons will take place in July next, when the retiring members, who go out in rotation, will offer themselves for re-election. They are Mr. Prescott Hewett, of St. George's Hospital, Vice-President of the College; Mr. John Birkett, of Guy's Hospital; and Mr. Spencer Smith, of St. Mary's Hospital. The Fellows will be glad to know that Professor Thomas Longmore, C.B., etc., has consented to take the chair at the annual festival. Perhaps it would be impossible to select a better man from either of the public services than this deservedly popular officer. At the moment of going to press we hear that Mr. C. G. Wheelhouse, of Leeds, will be brought forward for one of the seats.

Collegiate Prizes.—As already announced, no award was made for the Jacksonian Prize of the Royal College of Surgeons at the last meeting of the Council, when it was stated that only two essays had been sent in, and neither possessed sufficient merit. The following are the subjects for the present and ensuing year, viz.:—"The Use of the Galvano-Caustic in the Removal of Morbid Growths," and "The Treatment of Cancer of the Rectum, particularly as regards the possibility of Curing or Relieving the Patient by Excision of the affected part." The Collegial-Triennial Prize consists of the John Hunter Medal executed in gold to the value of fifty guineas, or, at the option of the successful author of the dissertation, of the said medal executed in bronze with an honorarium of £50. The subject of this prize is "The Radicles of the Lymphatic System in relation to the External and Internal Surfaces of the Body." To prevent a repetition of the blunder made on Christmas-day last by one of the competitors, who sent in his essay at midnight, no essay will in future be received after four o'clock on December 30.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—Bacon.

S. T. B.—*Transactions of the Medical and Chirurgical Society*, vol. xxv., page 280.

Aqua.—Sir Hugh Myddelton, the founder of the New River, was for many years a goldsmith in Basinghall-street. He was of Welsh parentage, the sixth son of Richard Myddelton, who had been Governor of Denbigh Castle during the reigns of Edward VI., Mary, and Elizabeth.

W. A. M.—"This apoplexy will, certain, be his end."—*Shakespeare.*

S. F.—Dr. John Latham was twice married. His second wife was Miss Delamott, of Ealing, to whom he was married in 1798.

Hants.—The outbreak of cholera at Dronet's Infant Poor Establishment, Tooting, occurred on December 29, 1848. The deaths in one week amounted to 112.

Sylvanus.—Dr. Robert John Thornton was for four years Physician to the Marylebone Dispensary, where he first introduced the foxglove as a cure for scarlet fever. On his retirement the directors and governors of the charity presented him with a piece of plate.

J. O.—Professor Faraday died August 25, 1867, aged seventy-three.

Godfrey.—John Hill, the apothecary, of St. Martin's-la e, died of gout on November 21, 1775. His tincture of Bandana, which he sold, he warranted as a specific for that disease. Some epigrammatist wrote the following lines on his death:—

"Poor Doctor Hill is dead! Good lack!
Of what disorder? An attack
Of gout. Indeed! I thought that he
Had found a wondrous remedy.
Why, so he had, and when he tried
He found it true—the Doctor died."

Septimus.—See Holmes's "Diseases of Children," second edition, page 233.

An Army Surgeon.—John Hunter filled some of the highest positions in the Medical Department of the British Service, having been appointed in 1776 Surgeon-Extraordinary to the Army, in 1783 Deputy Surgeon-General, and 1791 Surgeon-General, an office corresponding with that of the Director-General under existing arrangements. He held this office during the early part of the war with France which preceded the peace of Amiens. After Hunter's death the direction ceased to be vested in an individual, and instead, an Army Medical Board was constituted of a Physician-General, Surgeon-General, and Inspector-General of Hospitals.

A Subscriber.—In the *London Hospital Reports*, vol. iii., pp. 331-336, two cases are related with interesting details of incomplete paraplegia from injury of the spine, in both of which the patient recovered.

Michael O.—The Microscopical Society of London was instituted September 3, 1839; first *Transactions* published 1842. The Quekett, 1865.

Albertus.—"Oft, too, some wretch, before our startled sight,
Struck as with lightning by some keen disease,
Drops sudden, by the dread attack o'erpowered:
He foams, he groans, he trembles and he faints;
Now rigid, now convulsed, his labouring lungs
Heave quick, and quivers each exhausted limb.
Spread through the frame so deep, the dire disease
Perturbs his spirit, as the briny main
Foams through each wave beneath the tempest's ire.
He groans since every member smarts with pain,
And from his inmost heart, with wontless toil,
Confused and harsh articulation springs.
He raves, since soul and spirit are alike
Disturbed throughout and severed each from each,
As urged above distracted by the bane.
But when, at length, the morbid cause declines,
And the fermenting humours from the heart
Flow back, with staggering foot the man first treads,
Led gradual on to intellect and strength."
—"*De Rerum Natura*," 3, 1, 486-504, *by Mason Good.*

Viator.—Dr. George Lipscombe became, in 1811, co-editor of the *National Adviser*, a newspaper projected and partly conducted by Mr. Henry Redhead York.

A Provincial Fellow.—We have heard that it is the intention of Mr. Wheelhouse, of Leeds, to offer himself for a seat in the Council of the College of Surgeons. The provinces at present are represented by Dr. Humphry, F.R.S., of Cambridge; Mr. G. Southam, of Manchester; and Mr. A. Baker, of Birmingham. Professor Longmore, C.B., of Netley, having been invited, has consented to take the chair at the Fellows' dinner, when there is no doubt he will be supported by a large number of distinguished medical officers of both services. He is an old Guy's man.

A Fellow, Southampton, and F.M.—The annual election of Fellows into the Council of the College of Surgeons will take place in July next. The retiring members of Council are Mr. Prescott Hewett, of St. George's Hospital, Vice-President of the College; Mr. John Birkett, of Guy's Hospital; and Mr. Spencer Smith, of St. Mary's Hospital, who, we understand, will offer themselves for re-election.

A Candidate.—As some members of the Court of Examiners wished to show their loyalty, as members of a Royal College, on such an interesting occasion as the installation of H.R.H. the Prince of Wales, we understand that was the reason there was no meeting of the Court on Wednesday.

Bibliopole.—Your communication should be addressed to the journal in which the statement was made. The accommodation for reading appears ample. We have never experienced the difficulty mentioned; on the contrary, every facility is offered for study in the well-arranged and well-conducted library. Mr. Chatto, the excellent librarian, is a member of the College.

Malaria in India and Tile-Drainage.

TO THE EDITOR OF THE MEDICAL TIMES AND GAZETTE.

Sir,—It has often occurred to me that it might be worth while to try the experiment on some malarious station in India of regularly tile-draining the whole station and the surrounding country to, say, the extent of a mile on every side. By such a plan it seems to me that we might prevent the generation of malaria to a great extent within the drained district; and such malaria as was generated without would, let us hope, be so diluted by the time it reached the station itself as to be pretty nearly harmless. We most of us are aware how draining is thought to have banished malaria from Britain; and why should it not do as much for India? And surely, great as the undertaking may be, it is not beyond the power of the Government of India to make the above experiment with one station, and then, if it was found that intermittents and remittents decreased in that station to a considerable extent, perhaps even from a money point of view it might be worth while to extend the draining to other stations, and so save the health and lives of the expensive British soldiers.

I am, &c., D. R.

COMMUNICATIONS have been received from—

Mr. S. Courtney, Leatherhead; Mr. S. J. Burrows, Witheridge; Mr. C. Greig, Clifton; Mr. C. C. Aldred, Yarmouth; Dr. J. R. Gray, Liverpool; Dr. R. J. Anderson, Newry; The Secretary of the Royal Institution, London; Mr. Lawson Tait, Birmingham; Mr. H. Sewill, London; The Registrar of Apothecaries' Hall, London; Mr. J. S. Brazier, Aberdeen; Sanitas; Mr. F. J. Gant, London; Dr. E. Haughton, Norwood; Mr. A. G. Burness, M.B., London; Mr. Teevan, London; Mr. W. A. Reeves, London; The Treasurer of St. Thomas's Hospital, London; Dr. A. H. C. Mayer, London; Mr. J. Hutchinson, London; Dr. E. M. Seebaritt, London; Dr. Hanofield Jones, London; Dr. Baldino, Royston; The Secretary of the London Anthropological Society; Mr. R. Walker, St. Andrews; The Registrar-General, Edinburgh; Mr. R. Cunliffe Owen, Loudon; Dr. Stephen Mackenzie, London; Dr. Powell, London; Dr. J. Hughlings-Jackson, London; Mr. H. Morris, London; Mr. J. Chatto, London; Dr. Sparks, Weymouth; Dr. Crichton, London; Dr. Wiltshire, London; Dr. J. Lewtas, Liverpool; Dr. A. M. Buchanan, Glasgow; Mr. C. S. Welbea, London; Mr. Custance, London; Dr. Roth, London; Mr. W. R. Smith, Winchester.

BOOKS AND PAMPHLETS RECEIVED—

Loomis's Lectures on Diseases of the Respiratory Organs, Heart, and Kidneys—Smee's The Mind of Man, being a Natural System of Mental Philosophy—Nouveau Dictionnaire de Médecine et de Chirurgie Pratiques, tome xx.—Clinical Lectures and Essays by Sir James Paget, Bart., edited by Howard Marsh, F.R.C.S.—Taylor on Syphilitic Lesions of the Osseous System in Infants and Young Children—Sixth Annual Report of the State Board of Health of Massachusetts—Wildungen: its Baths and Mineral Springs, by Dr. A. Stœcker.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—National Food and Fuel Reformer—Philadelphia Medical Times—Pharmaceutical Journal—Centralblatt für die Medicinischen Wissenschaften—La France Médicale—Iron—Wiener Medizinische Wochenschrift—Journal des Sage-Femmes—Irish Hospital Gazette—Leeds Mercury—The Scotsman—The Poona Observer—Chicago Journal of Nervous and Mental Disease—American Journal of Insanity—American Journal of the Medical Sciences.

APPOINTMENTS FOR THE WEEK.

May 1. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

Royal Institution, 2 p.m. Annual Meeting.

3. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

Medical Society of London, 8½ p.m. Dr. Buchanan will deliver the Annual Oration, "On some Points of Importance relative to Modern Hospitals."

Odontological Society, 8 p.m. Meeting.

Royal Institution, 2 p.m. General Monthly Meeting.

4. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Pathological Society, 8½ p.m. Adjourned Debate "On the Germ Theory of Disease: being a Discussion of the Relations of Bacteria and Allied Organisms to Virulent Inflammations and Specific Contagious Fevers."

Royal Institution, 3 p.m. Prof. Gladstone, "On Chemical Force."

5. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Obstetrical Society, 8 p.m. Adjourned Discussion "On the Relation of Puerperal Fever to the Infective Diseases and Pyæmia." The debate will be resumed by Dr. Barnes.

Royal Microscopical Society, 8 p.m. Mr. H. J. Slack, "On the Relation of Angular Aperture to Surface Markings and Accurate Vision."

6. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.

Harveian Society, 8 p.m. Mr. Teevan, "On Urinary Affections of Children."

Royal Institution, 3 p.m. Prof. H. G. Seeley, "On the Fossil Forms of Flying Animals."

7. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

Royal Institution (Weekly Evening Meeting, 8 p.m.), 9 p.m. Prof. Cornu (École Polytechnique), "On the Velocity of Light."

VITAL STATISTICS OF LONDON.

Week ending Saturday, April 24.

BIRTHS.

Births of Boys, 1129; Girls, 1125; Total, 2254.
Average of 10 corresponding years 1865-74, 2240·6.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	803	797	1600
Average of the ten years 1865-74	747·7	705·3	1453·0
Average corrected to increased population	...	...	1555
Deaths of people aged 80 and upwards	...	...	59

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	3	11	...	10	...	1	...	3
North	751729	...	...	7	1	13	1	4	1	1
Central ...	334369	...	...	4	...	9	...	1	1	...
East	639111	1	1	5	1	24	...	2	2	5
South	967692	...	2	7	4	29	3	5	2	4
Total	3254260	1	6	34	6	85	4	13	6	13

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·882 in.
Mean temperature	46·6°
Highest point of thermometer	70·8°
Lowest point of thermometer	30·6°
Mean dew-point temperature	37·3°
General direction of wind	E.&E.N.E.
Whole amount of rain in the week	0·32 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, April 24, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1875.)	Births Registered during the week ending April 24.	Deaths Registered during the week ending April 24.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3445160	45·7	2254	1609	70·8	30·6	46·6	8·12	0·32	0·81
Portsmouth ...	122632	27·3	69	46	...	...	...	...	...	...
Norwich	82842	11·1	47	49	66·0	30·0	43·2	6·28	0·00	0·00
Bristol	196186	44·1	148	100	72·4	32·3	47·8	8·78	0·40	1·02
Wolverhampton ...	71718	21·1	52	30	74·0	31·8	47·8	8·78	0·24	0·61
Birmingham ...	366325	43·6	278	182	73·0	31·8	46·9	8·28	0·29	0·74
Leicester	109830	34·3	90	37	73·2	29·2	48·4	9·11	0·05	0·13
Nottingham ...	92251	46·2	53	60	72·2	29·4	48·6	9·23	0·02	0·05
Liverpool	616063	99·1	416	261	70·2	35·8	49·5	9·72	0·00	0·00
Manchester ...	356626	83·1	271	220	76·0	37·5	51·6	10·90	0·00	0·00
Salford	135720	26·3	143	83	74·5	36·0	49·8	9·89	0·00	0·00
Oldham	87437	18·7	64	53	...	...	...	...	...	...
Bradford	168305	23·3	124	102	70·0	36·0	48·0	8·89	0·00	0·00
Leeds	285118	13·2	215	118	71·0	35·0	47·9	8·83	0·00	0·00
Sheffield	267881	13·6	222	119	71·0	34·7	47·5	8·61	0·00	0·00
Hull	133932	36·8	89	68	70·0	29·0	44·6	7·01	0·00	0·00
Sunderland ...	106342	32·2	90	49	80·0	34·0	49·9	9·94	0·00	0·00
Newcastle-on-Tyne	137665	25·6	112	44	67·0	38·0	47·1	8·39	0·04	0·10
Edinburgh	211626	50·5	130	83	...	...	...	...	...	...
Glasgow	534564	88·6	433	319	68·6	28·1	47·1	8·39	0·00	0·00
Dublin	314666	31·3	202	129	71·9	27·0	47·7	8·72	0·32	0·81
Total of 21 Towns in United Kingdm	7742889	37·0	5502	3752	80·0	27·0	47·8	8·78	0·09	0·23

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·88 in. The lowest was 29·67 in. on Wednesday afternoon, and the highest 30·10 in. at the end of the week.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

NOTES ON THE INVERTEBRATA

FOR THE

USE OF STUDENTS OF ZOOLOGY.

BEING AN OUTLINE OF A COURSE OF LECTURES DELIVERED FROM THE CHAIR OF NATURAL HISTORY IN THE UNIVERSITY OF EDINBURGH.

By THOMAS H. HUXLEY, LL.D., Sec. R.S.

In the lowest animals, the substance of the body is not differentiated into histogenetic elements—that is to say, into "cells" or nucleated masses of protoplasm, which by their metamorphosis give rise to tissues. But, in all other members of the animal kingdom, the first step in the process of development is the conversion of more or less of the protoplasm of the ovum into such cells. The animals which present the former characters are the PROTOZOA; the rest are the METAZOA.

Of the Metazoa there are some which possess a notochord, and, in the adult state, have the muscles of the trunk subdivided into segments or myotomes. They constitute the great group or sub-kingdom of the VERTEBRATA, and will not be dealt with in the present notes, which will treat of the rest of the Metazoa and of the Protozoa. These are commonly spoken of as the INVERTEBRATA; but it must be recollected that they comprise several groups, each of which is morphologically to be regarded as the equivalent of the whole of the vertebrate division. The Arthropoda, the Mollusca, the Echinodermata, the Cœlenterata, the Protozoa, are such groups, each as distinctly characterised as the Vertebrata, and presenting within itself a multitude of modifications of one fundamental type comparable to those observed in the vertebrate sub-kingdom. But, in addition to these, there is a number of smaller and less defined groups which tend to fill up the intervals between the foregoing. The separation of the Invertebrata into sharply characterised assemblages is thus rendered extremely difficult, and the difficulty increases as, with the improvement of our knowledge of morphology, supposed barriers break down, and what were imagined to be distinct groups run into series, exhibiting different degrees of modification of one and the same fundamental plan.

But the knowledge of the facts of zoology is the important matter, while the manner in which this knowledge is arranged and stated is a secondary question; and therefore, in the following pages, I shall commence by giving a brief statement of these facts, so far as they concern invertebrate animals, in such order as may be most convenient, reserving the problem of classification for final consideration.

The Protozoa.—The simplest form of animal life imaginable would be a protoplasmic body, devoid of motility, maintaining itself by the ingestion of such organic matters as might come into contact with it, and increasing by simple growth or extension of its mass. But no such form of animal life is known; the very simplest animals with which we have any sufficient acquaintance possessing contractility, and not only increasing in size, but, as they grow, becoming divided, and thus undergoing multiplication.

In its feeblest manifestations, the contractility of animals results in mere changes of the form of the body, as in the adult Gregarinæ; but, from their sluggish shortenings and lengthenings of the different diameters of the body, all gradations are traceable, through those animals which push out and retract broad lobular processes, to those in which the contractile prolongations take the form of long and slender filaments. Whether thick or filamentous, such contractile processes are called "pseudopodia," when their movements are slow, irregular, and indefinite; "cilia" or "flagella," when they are rapid and occur rhythmically in a definite direction; but the two kinds of organs are essentially of the same nature. It will be convenient to distinguish those Protozoa which possess pseudopodia, as "myxopods," and those which are provided with cilia or flagella, as "mastigopods."

The Protozoa are divisible into a lower and a higher group. In the former—the MONERA—no definite structure is discernible in the protoplasm of the body; in the latter—the ENDOPLASTICA—a certain portion of this substance (the so-called nucleus) is distinguishable from the rest; and, very commonly, one or more "contractile vesicles" are present. The name of contractile vesicles is given to spaces in the protoplasm, which slowly become filled with a clear watery fluid, and, when they have attained a certain size, are suddenly obliterated by the coming together, on all sides, of the protoplasm in which they lie. This systolic and diastolic movement usually occurs at a fixed point in the protoplasm, at regular intervals, or rhythmically. But the vesicle has no proper wall, nor in most cases is any trace of it discernible at the end of the systole. Occasionally, the vesicle certainly communicates with the exterior, and there is some reason to think that such a communication may always exist. The function of these organs is entirely unknown, though it is an obvious conjecture that it may be respiratory or excretory.

The "nucleus" is a structure which is often wonderfully similar to the nucleus of a histological cell, but, as its identity with this is not fully made out, it may better be termed "endoplast." It is, usually, a rounded or oval body embedded in the protoplasm, and but slightly different therefrom in either its optical or chemical characters. Generally it becomes more deeply stained by such colouring matters as hæmatoxylin or carmine, and resists the action of acetic acid better than the surrounding protoplasm.

In a few Protozoa there are many endoplasts in the substance of the body, and the protoplasm shows some tendency to become partially differentiated into cells. But where, as in the Infusoria, the body presents a definite organisation, with permanently differentiated constituents which may be distinguished as tissues, these tissues do not result from the metamorphosis of such cells, but originate by direct changes of the physical and chemical characters of the protoplasm.

Conjugation, followed by the development of germs, which are set free and assume the form of the parent, has been observed in several groups of the Protozoa, but it is not yet quite certain how far sexual distinctions are established among these animals.

I. THE MONERA.

In the lowest forms of animal life the entire living body consists of a particle of gelatinous protoplasm, in which no nucleus, contractile vesicle, or other definite structure is visible; and which, at most, presents a separation into an outer, more clear, and denser layer—the ectosarc; and an inner, more granular, and fluid matter—the endosarc. The outer layer is the seat of active changes of form, whereby it is produced into pseudopodia, which attain a certain length and are then retracted or effaced by the development of others from adjacent parts of the body. These pseudopodia are sometimes broad short lobes, at others elongated filaments. When lobate, the pseudopodia remain distinct from one another, their margins are clear and transparent, and the granules which they may contain plainly flow into their interior from the more fluid central part of the body. But when they are filiform they are very apt to run into one another, and give rise to networks, the constituent filaments of which, however, readily separate and regain their previous form; and whether they do this or not, the surfaces of these pseudopodia are beset by minute granules, which are in incessant motion—like those which are observable on the reticulations of the protoplasm of the cells in a *Tradescantia* hair.

The myxopod thus described moves about by means of its contractile pseudopodia, and takes the solid matters which serve as its food into all parts of its body by their aid; while the undigested exuvia of the food are rejected from all parts of the body in the same indiscriminate way. It is an organism which is devoid of any visible organs except pseudopodia, and, so far as is known at present, it multiplies by simple division.

The *Protamœba* (with lobate pseudopodia) and *Protogenes* (with filamentous pseudopodia) of Haeckel are Monera of this extremely simple character. In *Myxodictyum* (Haeckel) the pseudopodia of a number of such Monera run together, and give rise to a complex network, or common plasmodium.

It is open to doubt, however, whether either *Protamœba*, *Protogenes*, or *Myxodictyum* is anything but one stage of a cycle of forms, which are more completely, though perhaps not yet wholly, represented by some other very interesting Monera, also discovered by Haeckel.

Thus, the genus *Vampyrella* is a myxopod with filamentous pseudopodia, one species of which infests one of the stalked Diatomaceæ, *Gomphonema*, feeding upon the soft parts of the frustules of its host, by inserting some of its pseudopodia through the raphe of the frustule, which it envelopes, and absorbing the contained protoplasm. Having thus provided itself

with abundant nourishment, by creeping from frustule to frustule of the *Gomphonema*, it thrusts aside the last evacuated frustule from its peduncle, and, taking its place, draws in its pseudopodia, becomes spherical, and surrounds itself with a structureless cyst, enclosed in which it remains, perched upon the peduncle of the *Gomphonema*. Soon, its protoplasm undergoes division into four equal masses, and each of these becoming converted into a young *Vampyrella*, escapes from the cyst, and recommences the predatory life of its parent. In this case, the myxopod becomes encysted, and then undergoes fission into bodies, each of which passes directly into the form of the parent.

In another genus (*Myxastrum*) an additional complication is introduced; the myxopod becomes encysted, and then divides into many portions; each of these elongates, and becomes enclosed within a delicate, fusiform, silicious case. Thus enclosed, the germs are set free by the bursting of the cyst, and, after a while, the contents of the silicious cases emerge, and pass at once into the myxopod state.

In other genera, not only does the myxopod become encysted, before it undergoes fissive multiplication, but the forms thus produced differ from the myxopod in being free-swimming organisms, propelled by a long vibratile filament or flagellum, like those flagellate Infusoria which are termed monads. After swimming about for a while, these mastigopods draw in their flagella, and become creeping myxopods. This cycle of forms is exhibited by the genus *Protomonas* of Haeckel. Lastly, in *Protomyxa* (Haeckel) there is an alternation of a mastigopod with a myxopod form, as in *Protomonas*. But each myxopod does not become encysted alone. On the contrary, a certain number of the myxopods unite together, and eventually become fused into a spheroidal plasmodium, which exhibits no trace of their primitive separation. The plasmodium surrounds itself with a structureless cyst, divides into numerous portions, which are converted into flagellate mastigopods, and these finally return to the myxopod condition. The cycle of life is here singularly similar to that presented by the vegetable organisms termed *Myxomycetes*.

I have shown (and the observation has been confirmed by Haeckel and others) that, in the chalky mud which occupies the bottom of the deep seas, a reticulated, gelatinous, granular substance (*Bathybius*) occurs in great abundance. It is possible that this may be a plasmodium analogous to *Myxodictyum*, but its true nature requires further elucidation.

There is no means of knowing whether the cycle of forms presented by *Protomonas* and *Protomyxa* is complete, or whether some term of the series is still wanting; and considering how low down among plants the sexual process occurs, it seems quite possible that some corresponding sexual process yet waits to be discovered among the Monera. It is possible that the fusion of separate *Myxodictya* and *Protomyxæ* into a plasmodium may be a process of sexual conjugation. On the other hand, it may well be that these extremely simple organisms have not yet reached the stage of sexual differentiation.

The Foraminifera.—Doubtless many Monera remain to be discovered, but they will probably be minute and inconspicuous organisms like the majority of those already described. The Foraminifera, on the other hand, are monera of the *Protogenes* type, which, nevertheless, play and have played an important part in the history of the globe, by reason of their power of fabricating skeletons or shells, which may be composed of horny (chitinous?) matter, or of carbonate of lime, secreted from the water in which they live, or may be fabricated by sticking together extraneous matters, such as particles of sand.

The first step from such an organism as *Protogenes* to the Foraminifera is seen in the *Lieberkühnia* of Claparède, where the pseudopodia are given off from only a small part of the surface of the body, the rest remaining naked and flexible.

In *Gromia*(a) there is a similar restriction of the area from which pseudopodia proceed, but the rest of the body is invested by a case of a membranous substance. Let this case become hardened by the attachment of foreign bodies—as particles of sand, or fragments of shelly matter, as in the so-called arenaceous Foraminifera,—or let a deposit of calcareous salts take place in it, and the *Gromia* would be converted into a Foraminifer.

The infinitely diversified characters of the skeleton of the Foraminifera depend—firstly, upon the structure of the skeletal substance itself; and, secondly, upon the form of the protoplasmic body, which last, again, is widely dependent upon the manner in which successive buds of protoplasm are developed from the parent mass, which, to begin with, is always simple in form and commonly globular.

The substance of the calcareous skeleton itself, whatever be its form, is either perforated or imperforate. In the Imperforata (*Gromidæ*, *Lituitidæ*, *Miliolidæ*) the pseudopodia are protruded from only one end of the body, the rest of which is cut off from the exterior by the skeleton.

In the Perforata the substance of the shell is perforated by more or less delicate canals, which are filled with the protoplasm, which thus reaches the surface and gives off pseudopodia all over the body. Hence, while the hard parts of the Imperforata form a sort of exo-skeleton, those of the Perforata have rather the nature of an endo-skeleton.

The simplest skeletons are spherical or flask-shaped, and single chambered. But complication arises by the addition of new chambers, which may form a linear series, or be coiled upon one another in various ways, or be irregularly aggregated. Moreover, the new chambers may overlap those already formed in different degrees, and the interspaces between the walls of the chambers may be variously filled up by secondary deposition, until such large and apparently complicated bodies as the Nummulites are built up.

The calcareous and arenaceous Foraminifera are inhabitants of the sea, some frequenting the surface and others the bottom, in all hot and temperate latitudes. From the early part of the Silurian epoch, and probably much earlier, they have played a most important part in the formation of calcareous rocks. Chalk is mainly composed of their remains, as is the early tertiary nummulitic limestone, and a chalky deposit, for the most part made up of the skeletons of *Globigerina*, *Orbulina*, and *Pulvinulina*, at present occupies the greater part of the surface of the globe which is covered by the ocean. No difference is observable between the *Globigerina* of the cretaceous epoch and that of the present day, and there can be no doubt that the species has persisted unchanged throughout the vast period of time represented by the cretaceous, tertiary, and quaternary epochs.

II. The Endoplastica.

1. *The Radiolaria.*—Most species of the genus *Actinophrys*, or "sun-animalcule," which is common in ponds, are simply free swimming myxopods with stiffish pseudopodia, which radiate from all sides of the globular body, and in which the substance of the latter presents one or more "contractile spaces" or "vacuoles," which rhythmically become distended with water, and are then obliterated by the contraction of the surrounding protoplasm. But in the *Actinophrys* (or more properly *Actinosphærium*) *Eichhornii*, the central part of the protoplasm is distinguished from the rest by containing a number of endoplasts. They thus lead to the Radiolaria (Polycistina of Ehrenberg), the simplest forms of which essentially consist of a myxopod, provided with filamentous, radiating, and often anastomosing, pseudopodia, in the centre of the body of which is a capsule filled with protoplasm; this sometimes contains only an oil-globule, at others cells or nuclei, and crystalline bodies. In the layer of protoplasm from which the pseudopodia proceed, cellæform bodies of a bright yellow colour, which have been found to contain starch, are usually developed,(b) and this layer also gives rise to a skeleton of a horny, or, more usually, silicious, character, which may have the form of detached spicula, or of coarticulated rods, or of networks, or plates of silicious matter, often of the most exquisite delicacy and beauty. Most of the Radiolaria are simple, solitary, and microscopical in size; but some, such as *Collosphæra* and *Sphærozoum*, are formed of aggregates of such simple forms, and float as visible gelatinous masses at the surface of the sea, which is the habitation of the great majority of the Radiolaria.

The manner of multiplication and development of the Radiolaria has not yet been thoroughly worked out. Cienkowsky, however, has observed, in *Collosphæra*, that the protoplasm contained in the central capsule breaks up into numerous rounded masses. The several capsules which are associated together in this compound Radiolarian then become isolated, by the dissolution of the protoplasm which invested and connected them, and finally burst, thus giving exit to the rounded bodies, which, while yet within the capsules, were observed to be in

(a) *Gromia*, however, may belong to the Endoplastica, as its protoplasm is said to contain nuclei.

(b) Even after the death of the Radiolarian these yellow cells are said by Cienkowsky to thrive and multiply, and the possibility that they may be parasites must be borne in mind.

active motion. The germs (for such they appear to be) thus set free are 0·008 mm. long, ovate, and carry two flagelliform cilia at their narrow ends; so that they resemble monads. Each has in its interior a crystalline rod and a few minute oil globules. The further development of these mastigopods has not yet been traced; but if, as is probable, they pass into young Radiolaria (which, according to Haeckel, possess no capsule, but resemble *Actinosphæria*), the Radiolaria would typify *Protomonas* among the Monera. Neither conjugation nor fission has been observed among the ordinary Radiolaria, but both these processes take place in *Actinosphærium*; and, considering the resemblance of the young *Radiolaria* to *Actinosphærium*, it seems probable that conjugation and fission will yet be discovered among them.

The marine Radiolaria all inhabit the superficial stratum of the sea, and must fabricate their skeletons at the expense of the infinitesimally small proportion of silex which is dissolved in sea-water; but when they die, these skeletons sink to the bottom, and there accumulate, together with the Foraminifera, in the warm and temperate regions of the globe; and with the cases of the diatomaceous plants, which abound at the surface along with the Radiolaria all over the globe, and, in the absence of Foraminifera, predominate in extreme northern and southern latitudes.

Extensive masses of tertiary rock, such as that which is found at Oran, and that which occurs at Bissex Hill, in Barbadoes, are very largely made up of exquisitely preserved skeletons of Radiolaria. But, though there can be little doubt that Radiolaria abounded in the cretaceous sea, none are found in the chalk, their silicious skeletons having probably been dissolved and redeposited as flint.

2. *The Protoplasta.*—The proper *Amœbæ* resemble *Protamœba* very closely, but present an advance upon its structure by exhibiting a distinct endoplast and a contractile space; and, in Arcella, there are many such nuclei. They thus stand in somewhat the same relation to *Protamœba* as *Actinophrys* does to *Protogenes*.

Moreover, there are *Amœbæ* in which the power of throwing out pseudopodia is confined to one region of the body; and others, as *Arcella*, in which a shell is formed over the rest of the body. But the *Amœbæ* present no such diversity of skeletal development as the Foraminifera do. They multiply by division, and in some cases—*e.g.*, *A. sphærococcus* of Haeckel—become encysted before they divide.

Amœbæ (the proteus animalcules of the older writers) are not uncommon, and sometimes are very abundant in fresh water, and they also occur in damp earth and in the sea, but there is much doubt whether many of them are to be regarded as independent organisms, or whether they are not rather stages in the development of other animals or even of plants, such as *Myxomycetes*. Leaving out the contractile vesicle, the resemblance of an *Amœba* in its structure, manner of moving and even of feeding, to a colourless corpuscle of the blood of one of the higher animals is particularly noteworthy.

3. *The Gregarinidæ* are very closely allied to the *Amœbæ*, but, in the cycle of forms through which they pass, they curiously resemble *Myxastrum*. In form, they are spheroidal or elongated oval bodies, sometimes divided by constrictions into segments, and, occasionally, having one end of the body produced into a sort of rostrum, which is armed with recurved horny spines.

In the ordinary *Gregarinæ* the body presents a denser cortical layer (ectosarc) and a more fluid inner substance (endosarc), in which last the endoplast is embedded. The presence of contractility is manifested merely by slow changes of form, and nutrition appears to be effected only by the imbibition of the fluid nutriment, prepared by the organs of the animals in which the *Gregarinæ* are parasitic. There is no contractile vesicle.

The *Gregarinæ* have a peculiar mode of multiplication, sometimes preceded by a process which resembles conjugation. A single *Gregarina* (or two which have become applied together) surrounds itself with a structureless cyst. The nucleus disappears, and the protoplasm breaks up (in a manner very similar to that in which the protoplasm of a sporangium of *Mucor* divides into spores) into small bodies, each of which acquires a spindle-shaped case, and is known as a pseudonavicella or pseurosperm. On the bursting of the cyst these bodies are set free, and, when placed in favourable circumstances, the contained protoplasm escapes as a small active body like a *Protamœba*. M. E. van Beneden has recently discovered a very large *Gregarina* (*G. gigantea*), which inhabits the intestine of the lobster, and his careful investigation of its structure and development has yielded very interesting results.

Gregarina gigantea attains a length of two-thirds of an inch. It is long and slender, and tapers at one extremity, while the other is obtuse, rounded, and separated by a slight constriction from the rest of the body, which is cylindroidal. The outer investment of the body is a thin structureless cuticle; beneath this lies a thick cortical layer, distinguished by its clearness and firmness from the semifluid central substance, which contains many strongly refracting granules. In the centre of the body the ellipsoid nucleus, with its nucleolus, fills up the whole cavity of the cortical layer, and thus divides the medullary substance into two portions. The body of this *Gregarina* may present longitudinal striations, arising from elevations of the inner surface of the cortical layer, which fit into depressions of the medullary substance; but these are inconstant. On the other hand, there are transverse striations which are constant, and which arise from a layer of what are apparently muscular fibrillæ, developed in the peripheral part of the cortical layer, immediately below the cuticle. The fibrillæ themselves are formed of elongated corpuscles joined end to end. A transverse partition separates the cephalic enlargement from the body, and the layer of muscular fibres only extends into the posterior part of the enlargement.

The embryos of *Gregarina gigantea*, when they leave their psorospermiæ (or pseudonavicellæ) are minute masses of protoplasm similar to *Protamœbæ*, and like them devoid of nucleus and contractile vesicle. They soon cease to show any change of form, and acquire a globular shape, the peripheral region of the body at the same time becoming clear. Next, two long processes bud out from this body, one actively mobile, the other still. The former detaching itself, assumes the appearance and exhibits the motions of a minute thread-worm, whence M. van Beneden terms it a pseudofilaria. The enlargement at one end becomes apparent, the pseudofilaria passes into a quiescent state, and the nucleolus makes its appearance in its interior. Around this a clear layer is differentiated, giving rise to the endoplast, and the pseudofilaria passes into the condition of the adult *Gregarina gigantea*.

4. *The Catallacta* of Haeckel, represented by the genus *Magosphæra*, are, in one stage, myxopods with long pseudopodia, which, broad and lobe-like at the base, break up into fine filaments at their ends, and may therefore be said to be intermediate between those of *Protogenes* and those of *Protamœba*. Moreover, this myxopod is provided with a distinct endoplast and a well-marked contractile space. When fully fed, it secretes a cyst and divides into a number of masses, each of which is converted into a conical body, with its base turned outwards and its apex inwards. These conical bodies are embedded in a gelatinous matter, and thus cohere into a ball, from the centre of which they radiate. Each develops cilia around its base, and contains an endoplast and a contractile vesicle. After the complex globe thus formed has burst its envelope, it swims about for a while like a *Volvox*. Each ciliated animalcule feeds by taking in solid particles through its disc. The ciliated animalcules then separate, and, finally, retracting their cilia, become myxopods such as those with which the series started. *Magosphæra* is thus very nearly an endoplastic repetition of the moneran *Protomonas*—the mastigopod being provided with many small cilia, instead of with a couple of large flagella. On the other hand, the Catallacta are closely allied to the next group, and, I am disposed to think, ought to be included in it.

5. *The Infusoria.*—Excluding from the miscellaneous assemblage of heterogeneous forms which have passed under this name the Desmidiæ, Diatomaceæ, Volvocinæ, and Vibrionidæ, which are true plants, on the one hand, and the comparatively highly organised Rotifera on the other, there remain three assemblages of minute organisms, which may be conveniently comprehended under the general title of Infusoria. These are—(*a*) the so-called Monads, or *Infusoria flagelleta*; (*b*) the *Acinetæ*, or *Infusoria tentaculifera*; and (*c*) the *Infusoria ciliata*.

(*a.*) *The Flagellata.*—These are characterised by possessing only one or two long whip-like cilia, sometimes (when more than one are present) situated at the same end of the body, sometimes far apart. The body very generally exhibits an endoplast and a contractile vesicle. There is no permanently open oral aperture, but there is an oral region, into which the food is forced, and passing into the endosarc, remains for some time surrounded by a globule of contemporaneously ingested water—a so-called "food vacuole." Professor H. James Clark, who has recently carefully studied the Flagellata, points out

that in *Bicosœca* and *Codonœca* a fixed monadiform body is enclosed within a structureless and transparent calyx. In *Codosiga* a similar transparent substance rises up round the base of the flagellum, like a collar. In *Salpingœca* the collar around the base of the flagellum is combined with a calycine investment for the whole animal. In *Anthophysa* there are two motor organs—the one a stout and comparatively stiff flagellum, which moves by occasional jerks, and the other a very delicate cilium, which is in constant vibratory motion.

The discrepancy between the two kinds of locomotive organs attains its maximum in *Anisonema*, which presents interesting points of resemblance to *Noctiluca*.

Multiplication by longitudinal fission was observed in *Codosiga* and *Anthophysa*, and probably occurs in the other genera. In *Codosiga*, the flagellum is retracted before fission takes place, but the body does not become encysted; in *Anthophysa* the body assumes a spheroidal form, and is surrounded by a structureless cyst, before division occurs.

Conjugation is not known to occur among most of the *Infusoria flagellata*, nor do any of them exhibit a structure analogous to the endoplastule of the *Ciliata*. In *Euglena* viridis (which, however, may be a plant) Stein(c) has observed a division of the "nucleus" to take place, whereby it becomes converted into separate masses, some of which acquire an ovate or fusiform shape, surrounding themselves with a dense coat, while others become thin-walled sacs, full of minute granules, each of which is provided with a single cilium. The ultimate fate of these bodies has not been traced.

A careful study of the singular genus *Noctiluca*, led me, in 1855, to assign it a place among the *Infusoria*, and recent investigations have conclusively proved that it is one of the *Flagellata*.

The spheroidal body of *Noctiluca miliaris* is about one-eightieth of an inch in diameter, and, like a peach, presents a meridional groove, at one end of which the mouth is situated. A long and slender, transversely striated, tentacle overhangs the mouth, on one side of which a hard toothed ridge projects. Close to one end of this is a vibratile cilium. A funnel-shaped depression leads into a central mass of protoplasm, connected by fine radiating bands with a layer of the same substance which lines the cuticular envelope of the body. There is no contractile vesicle, but an oval endoplast lies in the central protoplasm. Bodies which are ingested are lodged in vacuoles of the latter until they are digested.

According to the observations of Cienkowsky,(d) if a *Noctiluca* be injured, the body bursts and collapses, but the protoplasmic and other contents, together with the tentacle, form an irregular mass, the periphery of which eventually becomes vacuolated, enlarges, and secretes a new investment. But even a small portion of the protoplasm of a mutilated *Noctiluca* is able to become a perfect animal. Under some conditions, the tentacle of a *Noctiluca* may be retracted into the body, and, at all times of the year, spheroidal *Noctilucæ*, devoid of flagellum, tooth, or meridional groove, but otherwise normal, are to be found. These last are probably to be regarded as encysted forms. Multiplication may take place in at least two ways. Fission may occur in the spheroidal forms as well as in those possessed of a tentacle; it is inaugurated by the enlargement, constriction, and division of the endoplast. This process takes place more especially in the latter part of the year.

Another mode of asexual multiplication which has a singular resemblance to the process of partial yelk division occurs only in the spheroidal *Noctilucæ*. The endoplast disappears, and the protoplasm, accumulating on the inner side of one region of the cuticle, divides first into two, then four, then eight, sixteen, thirty-two, or more masses: the division of the protoplasm being accompanied by the elevation of the cuticle into protuberances, which, at first, correspond in number and dimensions with these division masses. When the division masses have become very numerous, each protrudes upon the surface, and is converted into a free monadiform germ provided with a nucleus, a beak, and a long tentacle, which is hardly to be distinguished from a flagelliform cilium.

The process of conjugation has been directly observed. Two *Noctilucæ*, applying themselves by their oral surfaces, adhere closely together, and a bridge of protoplasm connecting the endoplasts of the two becomes apparent. The tentacula are thrown off, the two bodies gradually coalesce, and the endoplasts fuse into one. The whole process occupies five or six hours.

(c) "Organismus der Infusionsthiere," ii., p. 56.

(d) "Ueber Noctiluca Miliaris,"—Schulze's *Archiv für Mikroskop. Anatomie*. 1872.

Spheroidal or encysted *Noctilinæ* may conjugate in a similar manner. In this case, the regions nearest the endoplasts are those which become applied together. Whether this process is of a sexual nature, or not, is not clearly made out. Cienkowsky admits that it may hasten the process of multiplication by monadiform germs described above.

Noctiluca is extremely abundant in the superficial waters of the ocean, and is one of the most usual causes of the phosphorescence of the sea. The light is given out by the peripheral layer of protoplasm which lines the cuticle.

The *Peridineæ* form another aberrant group of the *Flagellata*, leading to the *Ciliata*. The body is enclosed in a hard case (sometimes produced into rays), which at one part presents a groove-like opening, laying bare the contained protoplasm, in which lies an endoplast, and in some cases a contractile vesicle. One or more flagelliform cilia, with usually a wreath of short cilia, are protruded from the protoplasm, and serve as locomotive organs. The mouth is a depression, whence, in some cases, an œsophageal canal is continued and terminates abruptly in the semi-fluid central substance of the body, the food-particles being lodged in vacuoles formed at its extremity, as in the *Ciliata*. No other mode of multiplication than that by fission has yet been observed in the *Peridineæ*; but this fission is sometimes preceded by the enclosure of the animal in an elongated crescent-shaped cyst.

(*b.*) *The Tentaculifera.*—The *Acinetæ* have no oral aperture of the ordinary kind, but filiform processes or tentacula, which are usually slender, simple, and more or less rigid, radiate from the surface of the body generally, or from one or more regions of that surface. At first sight, these tentacula resemble the radiating pseudopodia of *Actinophrys*, but on closer inspection they are seen to have a different character. Each, in fact, is a delicate tube, presenting a structureless external wall, and a semi-fluid granular axis, and usually ends in a slight enlargement or knob. It may be slowly pushed out or retracted, or diversely bent. But, instead of playing the part of mere prehensile organs, these tentacles act, in addition, as suckers; the *Acineta* applying one or more of these organs to the body of its prey(e)—usually some other species of Infusorium,—when the substance of the body of the latter travels along the interior of the sucker into the body of the *Acineta*. Solid food is not ingested through these tentacles, so that the *Acinetæ* cannot be fed with indigo or carmine. In the interior of the body there is an endoplast(f) with one or more contractile vesicles, and it may be either fixed by a stalk or free.

The *Acinetæ* multiply by several methods. One of these is simple longitudinal fission, which appears to be rare among them. Another method consists in the development of ciliated embryos in the interior of the body. These embryos result from the separation of a portion of the endoplast, and its conversion into a globular or oval germ, which, in some species, is wholly covered with vibratile cilia, while, in others, the cilia are confined to a zone around the middle of the embryo. The germ makes its escape by bursting through the body wall of its parent. After a short existence (sometimes limited to a few minutes) in the condition of a free swimming animalcule, provided with an endoplast and a contractile vesicle, but devoid of a mouth, the characteristic knobbed radiating processes make their appearance, the cilia vanish, and the animal passes into the *Acineta* state.

The *Acinetæ* have frequently been observed to conjugate, the separate individuals becoming completely fused into one, and their endoplasts coalescing into the single endoplast of the resultant *Acineta*; but it is not certainly made out, whether this process has, or has not, anything to do with the process of the development of ciliated embryos just described.

(e) Stein ("Der Organismus der Infusionsthiere," i., p. 76) thus describes the method by which an *Acineta* seizes its prey—"If an infusorium swims within reach of the *Acineta*, the nearest tentacles are swiftly thrown towards it, and at the same time often become much elongated, bent, or irregularly twisted about. The knob-like ends of these tentacles, which come into immediate contact with the surface of the entangled prey, spread out into discs, and adhere fixedly to it. When many of the tentacles have thus attached themselves, the imprisoned animal is no longer able to escape, its movements become slower, and at length cease. Those tentacles which have fixed themselves most firmly shorten and thicken, and draw the prey nearer to the body. . . . Suddenly, as soon as the sucking disc has bored through the cuticula of the prey, a very rapid stream, indicated by the fatty particles which it carries, sets along the axis of the tentacle, and, at its base, pours into the neighbouring part of the body of the *Acineta*. . . . The cause of the movement is unknown. It is not accompanied by any discernible movement of the walls of the tentacle."

(f) No endoplastule, such as exists in other *Infusoria*, has been observed as yet in the *Acinetæ*.

Under some circumstances, the *Acinetæ* draw in their radiating processes, and surround themselves with a structureless cyst; but this process does not appear to have any relation to either mode of multiplication.

In *Acineta mystacina* and *Podophrya fixa*, a peculiar mode of multiplication by division occurs. At the free end of the body a portion becomes constricted off, together with part of the endoplast, from the remaining stalked part. The tentacula are drawn in, and the segment becoming elongated, developes cilia over its whole surface and swims away.

(*c.*) *The Ciliata.*—The characteristic feature of the *Ciliata* is, that they are provided with numerous vibratile cilia, which are the organs of prehension and locomotion. According to the distribution of the cilia, Stein has divided them into the *Holotricha*, in which the cilia are scattered over the whole body, and are of one kind; the *Heterotricha*, in which the widely diffused cilia are of different kinds, some larger and some smaller; the *Hypotricha*, in which the cilia are confined to the under or oral side of the body; and the *Peritricha*, in which they form a zone round the body.

In the simplest and smallest *Ciliata*, the body resembles that of one of the *Flagellata* in being differentiated merely into an ectosarc and endosarc, with an endoplast and a contractile vesicle. In most, if not all cases, however, there is not only an oral region, through which the ingestion of food takes place, but an œsophageal depression leads from this into the endosarc; and it may be doubted whether, even in the simplest *Ciliata*, there is not an anal area through which the undigested parts of the food are thrown out.

The genus *Kolpoda*, which is very common in infusions of hay, is a good example of this low form of ciliated Infusorium. It has been observed to become quiescent, surround itself with a cyst, and then divide into two, four, or more portions, which assume the adult form and then escape from the cyst.

Encystment, whether followed or not by division, is very common among all the *Ciliata*, and a species of *Amphileptus* has been observed to swallow—or rather envelope—a stalked bell-animalcule (*Vorticella*), and then become encysted upon the stalk of its prey, just as *Vampyrella* becomes perched upon the stalk of the devoured *Gomphonema*.

In the higher *Ciliata*, the protoplasm of the body becomes directly differentiated into various structures, in the same way as has already been seen to be the case in *Gregarina gigantea*, but to a much greater degree.

Thus, in the *Peritricha*, of which the bell-animalcules, or *Vorticellæ*, are the commonest examples, the oral region presents a depression—the vestibule,—from which a permanent canal—the œsophagus—leads into the soft and semi-fluid endosarc, where it terminates abruptly; and immediately beneath the mouth, in the vestibule, there is an anal region which gives exit to the refuse of digestion, but presents an opening only when fæcal matters are passing out. Except where the ciliated circlet, or rather spiral, is situated, the outer wall of the body is relatively dense and forms a *cuticula*, and not unfrequently secretes a transparent cup or case foreshadowing the theca of hydrozoal polypes. Moreover, in the permanently fixed *Vorticellæ*, the stalk of attachment may present a central muscular fibre, by the sudden contraction of which the body is retracted, the stalk being at the same time thrown into a spiral. In the *Paramœcia*, beneath the thin superficial transparent cuticle from which the cilia proceed, there is a very distinct cortical layer, fibrillated in a direction perpendicular to the surface, and, in some species, beset with minute rod-like bodies similarly disposed, which under some circumstances shoot out into long filaments, and have been termed *trichocysts*. In *P. bursaria*, granules of chlorophyll are dispersed through this layer. In *Balantidium*, *Nyctotherus*, *Spirostomum*, and many others, the cortical layer is divided by linear markings into bands, which there is reason to believe are rudimentary muscular fibres.

In many *Ciliata*, the endosarc appears to be almost fluid. The food, which is driven into the mouth and down the œsophagus by the constant action of the cilia, accumulates at the bottom of the œsophagus, and then, with the water which surrounds it, is passed, at intervals, with a sort of jerk, into the endosarc, where it lies, close to the end of the œsophagus, as a food vacuole, for a short time. But it soon begins to move, and, along with other such vacuoles formed before and after it, circulates in a definite course up one side of the body and down the other, between the cortical layer and the endoplast. This movement is particularly free and unrestricted in *Balantidium*, while, in *Paramœcium*, the tract through which the food vacuoles move is more definitely limited; and, in *Nyctotherus*, appears to be confined to a part of the body between the end of the gullet and the anal region, which, in this Infusorium, is seated at one end of the body. In fact, the finely granular endosarc of *Nyctotherus* so limits the passage of the food vacuoles, that the tract along which they pass might properly be described as a rudimentary intestinal canal.

The contractile vesicles attain their greatest complexity in the *Paramœcia*, in which there are two—one towards each end of the body. They are lodged in the cortical layer, and, in diastole, they are bounded externally only by the cutiele, through which it is very probable that they communicate with the exterior. When the systole takes place, a number of fine canals, which radiate from each vesicle, are seen to become distended with clear watery fluid forced out of the vesicle. These canals are constant in their position, and some of them may be traced nearly as far as the mouth; so that the canals and vesicles form a permanent water-vascular system. The endoplast is finely granular, like the substance of the endosare. It is frequently said to be enveloped in a distinct membrane, but I am disposed to think that this is always a product of reagents. Attached to one part of it there is very generally (but not in the *Vorticellæ*) a small oval or rounded body, the so-called "nucleolus" or *endoplastula*. The endoplast is commonly said to be embedded in the cortical layer, but this is certainly not the case in *Paramœcium*, *Balantidium*, or *Nyctotherus*.

Most, if not all, of the *Ciliata* multiply by division, and this is generally effected by the formation of a more or less transverse constriction, whereby the body becomes divided into two parts, which separate, each developing those structures which are needed for its completion. The endoplast, however, always elongates and divides, one portion going along with each product of fission. Neither budding nor longitudinal fission (among the free *Infusoria*) occurs, the appearances which have been regarded as evidence of these processes being due to the opposite operation of conjugation. M. Balbiani,(g) its discoverer, thus describes this process of conjugation in *Paramœcium bursaria*:—

"The *Paramœcia* assemble in great numbers either towards the bottom or on the sides of the vase in which they are contained. They then conjugate in pairs, their anterior ends being closely united; and they may remain in this state for five or six days or more. During this period, the nucleus and nucleolus become transformed into sexual organs.

"The nucleolus is changed into an oval capsule, marked superficially by longitudinal striæ. Sooner or later, it usually becomes divided into two or four portions, which grow independently, and form many separate capsules. About the time of separation, each of these is found to be a capsule containing a bundle of curved rods (*baguettes*), enlarged in the middle, and thinner at the ends.

"The nucleus also becomes enlarged, and gives rise—in a manner not clearly explained—to small spherical bodies analogous to ovules.

"It is usually about the fifth or sixth day after conjugation that the first germs appear, as little rounded bodies, formed of a membrane which is rendered visible by acetic acid, and of greyish pale homogeneous or almost imperceptibly granular contents, in which, as yet, neither nucleus nor contractile vesicle is distinguishable. It is only later that these organs appear. The observations of Stein and of F. Cohn have shown how these embryos leave the body of the mother under the form of *Acinetæ*, provided with knobbed tentacles and true suckers, by means of which they remain for some time adherent to her, and nourish themselves from her substance. But their investigations have not disclosed the ultimate fate of the young.

"I have been able to follow them for a long period after their detachment from the maternal organism; and I have been able to assure myself that, after having lost their tentacles, becoming clothed with vibratile cilia, and acquiring a mouth, which makes its appearance as a longitudinal groove, they return definitively to the parental form, developing in their interior the green granules which are characteristic of this *Paramœcium*, without undergoing any more extensive metamorphosis."

In Plate IV., which accompanies his paper, Figs. 19-22, Balbiani figures all the stages by which the acinetiform embryo becomes a *Paramœcium*.

(g) Balbiani, "Note relative à l'Existence d'une Génération Sexuelle chez les Infusoires,"—*Journal de la Physiologie*, tome i., 1858.

So far as the fact of conjugation, the changes in the "nucleolus," and the development of filaments in it, with the subsequent detachment, by division, of masses from the "nucleus" are concerned, these statements have not been modified by M. Balbiani, while they are fully confirmed by the observations made by himself, Claparède and Lachman, Stein and Kölliker, and others, in *Paramœcium bursaria*, *P. aurelia*, and other ciliated *Infusoria*.

In the closely allied *Paramœcium aurelia*, the occurrence of the various stages of conjugation, conversion of the "nucleolus" into bundles of spermatozoa, and subsequent division of the "nucleus" is also established by the coincident testimony of Balbiani and Stein. Balbiani affirms that, in this species, the clear globular bodies which result from the division of the "nuclens" pass out of the body without undergoing any further modification, and he considers them to be ovules. Steiu also admits that he has never seen acinetiform embryos in this species.

But, as it would seem, on the strength of these negative observations in *Paramœcium aurelia*, Balbiani, in his later publications, asserts that the "acinetiform embryos" observed not only in *Paramœcium*, but in *Stylonychia*, *Stentor*, and many other ciliated *Infusoria*, are not embryos at all, but parasitic *Acinetæ*; and he makes this assertion without explicitly withdrawing the statement given above of his own observation of the passage of the acinetiform embryo of *Paramœcium bursaria* into the parental form. Engelmann and Stein, on the other hand, hold by Balbiani's original doctrine, and give strong reasons for so doing. Among the most forcible analogical arguments are those afforded by the process of sexual reproduction observed by Stein in the peritrichous *Infusoria*.

In the *Peritricha* (*Vorticellidæ*, *Ophrydidæ*, *Trichodidæ*) conjugation takes place by the complete and permanent fusion of two individuals, which are sometimes of equal dimensions, while, in other cases, one is much smaller than the other, and while it is in course of absorption looks like a bud, and was formerly taken for such. The small individuals usually take their origin from a group of small stalked *Vorticellæ*, which are produced by the repeated longitudinal division of a *Vorticella* of the ordinary size. The result of the conjugative act is that the "nuclei" of the two individuals, either before or after their coalescence, break up into a number of segments. The segments may remain separate or coalesce into a single mass, called by Stein *placenta*. In the former case, some of the segments become germ masses, while the others reunite to form a new "nucleus"; in the latter, the placenta throws out a number of germ masses, and then assumes the form of an ordinary "nucleus." The germ masses give off portions of their substance, including part of their "nucleus," and these become converted into ciliated embryos, which escape by a special opening.

Knobbed tentacles, like those of the *Acinetæ*, have not been observed in the embryos of the *Peritricha*, nor has their development been traced out. If the bodies regarded as acinetiform embryos of the *Ciliata* are really such, they may be taken to represent the myxopod stage of the *Catallacta*, and the relations of the *Acinetæ* to the *Ciliata* would appear to be that they are modifications of a common type, differing from the *Catallacta* in having tentacula instead of ordinary pseudopodia. In the *Acinetæ*, the tentaculate stage is the more permanent, the ciliated stage transitory; while, in the *Ciliata*, ciliated stage is the more permanent, and the tentaculate stage transitory.

(*To be continued.*)

Treatment of Vaginism.—M. Bouchut observes that the spasm of the vaginal sphincter is often due to the same cause as the spasm of the anal sphincter—a very small, painful, longitudinal fissure being detectable at the lower part of the orifice of the vagina. Forced dilatation would seem to be indicated here, as in the fissure of the anus; but in M. Bouchut's opinion, before having recourse in either disease to so painful a procedure, we should try simpler measures, which will often prove efficacious. To this end he strongly recommends vaginal suppositories formed of five parts of cocoa butter and three parts of extract of rhatany thoroughly well incorporated. One of these is to be introduced into the vagina night and morning, and allowed to dissolve there. The patient should also employ a bran bath for an hour daily.—*Gaz. des Hôp.*, May 1.

ORIGINAL COMMUNICATIONS.

THREE CASES OF INTESTINAL OBSTRUCTION;

WITH REMARKS.

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Case 1.—*Intestinal Obstruction—Tumour detected in Abdomen—Relief from Remedies for Four Months—Death—Autopsy—Cancerous Stricture.*

A. H., female, aged fifty-two, admitted September 29, 1874; seen by me on October 1. An emaciated, cachectic-looking woman. Has been ill since last November (1873); has had much constipation; was taken worse three weeks prior to date of admission with violent pains, such as she suffers now, in the abdomen. On uncovering the surface, prominences are seen formed by distended portions of bowel; two on the left side are especially evident, extending from the left flank downwards and inwards, and another near the margin of the right ribs. The abdomen is large, but not at all tense or tender: all its left side is resonant, but most of the right is comparatively dull. On vaginal examination, the rectum is felt quite empty; the cervix uteri appears normal. Enemata have been given, and masses of scybala brought away. Has vomited to-day some yellow, thoroughly fæcal matter, half fluid. No cough or chest trouble; heart's souuds sharp, first like second; pulse 108, small, weak; temperature 98·5°; tongue normal. A sister died of cancer of the intestine, and three brothers of phthisis. Brandy ℥vj., milk, beef-tea, strychniæ gr. $\frac{1}{20}$, acidi nitrici ℥j., aq. ℥ss., 4tis horis.

October 2.—Less vomiting; abdomen same; no sleep from excruciating pain occurring in paroxysms, which oblige her to support her abdomen with her hands; it is still soft, and free from tenderness. Omittur mist.; opii. gr. j., ext. bellad. gr. $\frac{1}{6}$, in pil., 2dis horis, vel minus sæpe.

3rd.—Has had a very comfortable night, and has not been sick. Three pills given 2dis horis, subsequently one 4tis horis. Is fed with small quantities frequently.

5th.—Much pain all last night; every now and then the surface of the abdomen is raised by the intestinal prominences before noticed, and the appearance of these coincides with tormina, attended with much pain. Large enema to be thrown up slowly.

6th.—Has passed a number of membranous pieces of whity gelatinous stuff, which present under the microscope no definite structure, and seem to be only a kind of mucous layer entangling *débris* of fatty and starchy particles. Is still suffering much pain. Four pints of thin gruel were thrown up yester-evening. Temperature 98·2°; pulse 104. Calomelanos gr. x. h. n.

7th.—Had less pain; slept in the night. Rept. calomel.

12th.—Abdomen soft, not distended; pain less severe; pulse distinct. Has had chloral gr. xx. o. n. since 10th.

15th.—Abdomen has lessened a good deal in size, is much less prominent; left side resonant, right dull. Bowels have been moved twice the last two days, on each day after a simple enema.

17th.—Bowels have acted several times, but no lumps have come away. Pt. c. pil. opii c. bellad. ter die.

19th.—Abdomen collapsed; right region is now resonant as well as left. She feels better, but looks emaciated and feeble; has no pain, or only a little at times. Bowels acting regularly; stools not lumpy.

22nd.—Doing well. Stewed eels.

26th.—Bowels continue to act; but she has again a good deal of pain in abdomen, and the right flank, towards which she always lies, is dull, and close to the anterior superior iliac spine a roundish or cylindroid firm, smooth mass, about one inch and a half long, is felt. She looks distressed. Pt. c. pil.

31st.—Had, she says, a pretty solid stool last night. Had a copious enema on 28th, and bowels acted four times afterwards.

November 5.—Bowels continue to act; she had a spontaneous evacuation last night, but her abdomen is much distended, more than it has been for a good while. Pills taken 4tis horis since 2nd.

12th.—Feels much better to-day; bowels open twice last night.

18th.—Had much pain on 16th. Abdomen less large; but

intestinal prominences are still apparent on surface. Bowels acted well last night with a solid stool. Ext. nucis vomicæ gr. j. bis die.

20th.—Bowels open four times, with good healthy evacuations; stools passed much more easily. Some green matter vomited in night.

23rd.—Better; abdomen smaller; less pain; bowels open. Besides the solid tumour there is a notable fulness in the right iliac region; a resonant swelling is sometimes well marked there, and disappears or lessens very much with a gurgle on pressure being made over it. She expels a good deal of flatus.

26th.—Improving. Bowels open. She has begun to eat chicken.

30th.—Doing well; but is very thin. Bowels open three times last night.

December 4.—Very poorly yesterday, with pain in abdomen, and sickness. She had eaten a chop. To-day she is much easier.

9th.—Is very comfortable to-day, but had much pain last night, and flatus rolling about. Right flank is still enlarged and full and dull, as compared to the left, and the tumour is still felt in the iliac fossa. Taking nux vomica still.

14th.—Not much desire for food.

23rd.—Has much burning pain in lower abdomen, and much sickness; brings up muco-watery fluid. The nux vomica pills were replaced about this date by the opium and belladonna, which were given more or less frequently, according to the degree of pain.

31st.—Doing well. Takes pills less often.

January 9th, 1875.—Abdomen large. Can only take milk and brandy.

11th.—Abdomen much distended; much pain; intestinal prominences marked. Bowels not open four days.

25th.—Suffering much pain, relieved for a few hours by subcutaneous morphia, but not by the opium and belladonna pills.

27th.—Pain occurs in severe tormina; pulse very weak and failing, 100; temperature 98·4°. Face sunken and pallid; half livid. Bowels not open thirteen days. Died on 28th.

Post-mortem (Nov. 30).—Heart and lungs normal, but pushed up so as to occupy a small space by the distended intestines. Liver small, weighing thirty ounces, contained three rather firm whitish nodules, probably scirrhus. The small intestine in about its lower half was greatly distended with flatus and fæces of normal yellow appearance; and so was also the lower part of the cæcum and the vermiform appendix. Just beyond this point, in the situation of the tumour felt during life in the right iliac fossa, was a cancerous growth which constricted the canal so much that only a large flexible catheter could be passed through it. The walls of the constricting annular growth were about a quarter of an inch thick, its length about an inch. The small and large intestine below the constriction seemed to have exchanged characters—the small intestine was large and had thick coats; the large was small in size and thin-walled. All the other organs were normal, except that the spleen was very small, weighing only two ounces and a half.

Remarks.—The family tendency to cancer of the bowels was noteworthy in this instance, and, assuming the patient's statement to be correct, this information, together with the other phenomena, pointed plainly to the cause of the obstruction. The great amount and persistence of the emaciation could not but sustain the gravest fears as to the ultimate result, even when the intestinal obstruction appeared to have quite yielded, and all the symptoms for a good while were much ameliorated. The diagnosis of stricture was quite in conformity with the gradual mode of invasion of the malady, which had been evidently coming on about ten months, though the more acute symptoms, denoting complete obstruction, only dated from three weeks previous. The palpable presence of a tumour, it may seem strange to say, rather raised a doubt in my mind as to the exact nature of the obstruction; for the annular growths which usually represent intestinal cancer are not, I think, generally manifest to touch, not having sufficient bulk of substance to oppose the overcrowding dilated intestines. The situation and size of the tumour were suggestive of intussusception, though, on this view, the free action of the bowels could hardly be accounted for. That life was considerably prolonged by the treatment can scarcely be questioned. Stercoraceous vomiting had set in when she was admitted; but this soon ceased, and she lived just four months longer. Not only the sedatives (so called) but the nux vomica were, I think, decidedly useful; and I conceive both sets of remedies acted in a like way—viz., by improving the innervation of the muscular coat, and enabling it to act more effectively in propelling the intestinal contents. The muscular fibres in the part involved in the cancer must have been so destroyed that it cannot be imagined that any spasmodic contraction took place which the sedatives allayed. On the other hand, it is evident that for some while a good deal of fæcal matter *was* propelled through the strictured part on into the lower bowel, and was evacuated per anum. Could this action have been maintained, life might have been prolonged indefinitely. If this be true as regards the above case, it will hold equally as regards most others of the same kind; as the canal is seldom so much narrowed by a physical obstacle as was the case here. It may well be doubted whether painful tormina are any evidence of especially active peristalsis. They seem to coincide with the appearance of prominences on the surface of the abdomen—that is, with bulgings caused by intestinal distension; and it is this distension, I take it, and not contraction, which causes the pain. Normal contractions of the voluntary muscles, however forcible, are painless; and there does not seem to be any reason why the case should be different with the intestinal. Pain in other situations seems mostly to be of the nature of a paralysis, and probably is so here, which adds to the probability that the motor function is in a like state. Though peristalsis thus is absent in the dilated segments which are presumably the seat of pain, yet the distension itself is no doubt caused by the painless contraction of healthier parts above. This, however, may be by no means excessive.

Case 2.—*Sudden Seizure while at work—Symptoms of Intestinal Obstruction—No Discoverable Cause—Administration of Large Enemata of Aloes and Nux Vomica—Recovery.*

H. B., male, aged thirty-one, goods guard on the Great Western Railway, was admitted on November 24, 1873. Has never had any fever or other severe illness; not ailing lately. His bowels act generally every day, and not costively. He has no lifting work, but has to run about much. He was quite well when he went to his work on the evening of November 19; in the course of the night he felt a pinching in his inside, and his bowels were relaxed and sickness came on. After this his bowels remained constipated, but the vomiting continued until his admission: any liquid swallowed was rejected soon after; the vomited matter was a dark fluid.

At present, temperature 98·7°; pulse 92, soft and open; countenance anxious; feet not cold; abdomen full, but not tense,—its parietes are yielding. The abdomen appears fullest below the level of umbilicus; there is some appearance of distended portions of intestine below and to left of umbilicus. No tumour discoverable; no hernia. Left flank rather dull, right resonant. Liver dulness not below ribs. The abdomen is dull below a horizontal line drawn through the anterior superior spines of the iliac bones; on the left this dulness extends up to the level of umbilicus; left hypochondriac and epigastric regions resonant. Lies with knees extended. Milk and beef-tea in small quantities frequently. Magnes. sulphat. ℥ss., atropiæ sulph. gr. $\frac{1}{100}$, glycerin ℳx., aq. ℥ss., 3tis horis.

November 25.—Two quarts of thin gruel were thrown up last evening, which brought away a notable amount of scybalous fæces; no action of bowels otherwise. Is not sick to-day. Urine is not albuminous; deposits lithic acid crystals. Pulse 76; temperature 97·1°. Lower abdomen a little more resonant.

26th.—Pulse 93, of good force; temperature 97·1°. Has had much sickness to-day. About the same quantity of fæcal matter was passed after the enema last night as on the previous night, but it appeared to be of more recent formation. ℞. Aloes gr. ij., ext. nucis vom. gr. j., ext. hyoscy. gr. j., in pil. 3tis horis. Rept. enema oleosum.

27th.—Had another large enema last night, and retained it all. His bowels acted at midnight, and have several times since; the stools are copious, yellow, and fluid. Pt. c. pil. ter die.

29th.—Bowels acted yesterday and to-day naturally. Broth diet.

December 1.—Going on well. Aloes gr. j., ferri sulph. gr. jss., ext. nucis vom. gr. ss., saponis gr. j., ter die.

3rd.—Feels very weak and looks anæmic; is otherwise well. Diet—chop, pudding, beer.

He continued to improve, and went out on the 12th.

Remarks.—That actual intestinal obstruction existed in this instance can hardly be doubted: the sudden setting in of

vomiting and constipation make this tolerably certain. But the nature of the obstruction is not clear. The fact that scybala were brought away by the first enema, while the matter evacuated by the second had the appearance of being more recent, indicates that blockage may have been caused by indurated and impacted fæces. But in opposition to this is the patient's statement that his bowels acted every day, and not costively, and the circumstance that the amount of scybala removed was not large. Organic stricture of course is out of the question; but a small intussusception may have existed, or an incarceration of the intestine by a band of adhesion. In one or other of these ways the intestinal canal may have been temporarily obstructed. Subsequently, probably from improvement in the innervation and muscular action of the affected part, the intestine escaped out of the confining loop, or the sheath of the invagination expelled the intruding segment, and so a pervious state of the canal was restored. The part of intestine involved is sometimes very small, not larger than the tip of a finger, as in one instance mentioned by Dr. Maclachlan. In such cases as these it is quite conceivable that "relief by natural resolution," as Dr. Brinton terms it, may occur, and that the same may be promoted by remedies. While recognising fully the uselessness and the injury likely to result from purgatives when there exists an insuperable obstacle in the intestinal canal, I suspect the plan of maintaining absolute rest of the involved tract may be pursued too exclusively. When cases are seen tolerably early, and when, as often happens, there is no certainty as to the cause of the obstruction, I think there is room for other methods. Taking cases of intussusception and incarceration, which make up, according to Dr. Brinton, 74½ per cent. of the total number, it seems tolerably certain that the mischief is produced by some deficiency or irregularity of nervo-muscular action. A part of the intestine is paralysed, dilated, and the more active segment above is intruded into it; or a portion of intestine having writhed itself through a loop, becomes paretic, and remains there, while more intestine crowds into the confined space, and so incarceration soon takes place. If these derangements go beyond a certain limit they become irremediable—the engaged parts lose all power to restore themselves; but in their earlier stages and in minor degrees the morbid action may be reversed, and a *restitutio ad integrum* be effected by judicious stimulation. The object of the physician then should be, not to narcotise the bowels, but to recreate and invigorate their nervo-muscular force, and promote its normal action. For this purpose nux vomica and belladonna, or their alkaloids, alone or associated with aloes, and electricity are agents which, I believe, seasonably employed, may render valuable service. A short trial will show whether these agents are likely to benefit or not. If they allay vomiting and distension, they are doing good, and should be continued, though no action of the bowels ensues; if, on the other hand, they appear to aggravate the symptoms, they should be promptly omitted, and opium alone or conjoined with small doses of belladonna relied on. Opium itself is far from being a mere sedative, but exerts very positively a tonic influence, especially upon vaso-motor nerves and organic muscular fibre. Dr. Abercrombie alludes to the fact as well known to every practical man, that there are cases of ileus which yield to a full dose of opium after the most active purgatives have been tried in vain.

Case 3.—Sudden Attack of Abdominal Pain not preventing work till next day—Hæmorrhage from Anus at first, and subsequent Draining away of Bloody Fluid—Death from Collapse—Invagination in Rectum—Peritonitis.

T. S., aged sixty, harness-maker, admitted May 12, 1874. Has generally very good health; has been laid up two or three days with rheumatics, but has not had rheumatic fever. His arm and back were severely burnt about seven years ago; he was nearly four months in hospital. Has seen blood on his shirt and drawers at times for the last twelve months. On May 5, while coming back from breakfast, he was seized with a sharp pain over the abdomen; went to the stool, and passed nearly a teacupful of blood, clotted. He went to work that day. Next day he was unable to stand; had the same pains on getting up, but they went away on his lying down. Since the 8th the pain has been perpetual; it is much relieved when he breaks wind; he passes bloody mucus, especially when he makes water. Temperature, 98·2°; pulse weak, 70; heart's sounds normal. Abdomen measures twenty-seven inches just below umbilicus. Has had only two stools since May 5. Urine acid, clear, no albumen.

May 15.—Complains of much pain in the abdomen; passes a little watery fluid per anum every few minutes. I find on examination per rectum a large tumour in the cavity of the bowel, which seems to be attached by a broad pedicle to its posterior wall. I could pass my finger round it. Opii gr. j. pro suppositorio.

18th.—State same. Abdomen dull at left flank; not much distended. On endeavouring to inject an enema the fluid returns very speedily; very little can be thrown up. No stool since admission. Opii gr. j. ter die.

On the 21st a very competent observer who examined him was convinced that a cancerous stricture was the cause of the symptoms, and affirmed that he had brought away an unmistakable morsel of cancerous growth. This of course discouraged any idea of operation.

On the 23rd he was very low, sinking, pulse failing, skin damp and clammy, abdomen tender, and distended to some extent. Much bloody slime continued to drain away, without any trace of fæces. Died at midnight; was quite conscious to the last.

Autopsy.—There was extensive peritonitis, and a largish invagination was found projecting into the rectum, and extending to within about three inches of the anus. The prolapsed portion of intestine was very dark from congestion, and its walls were thickened, but there was no trace of any cancerous stricture. The invaginated part was very easily replaced, and was not very readily brought down again. Both lungs were very much congested: the left was almost in a sloughing state, and had a very offensive smell. Heart, liver, spleen, and kidneys healthy.

Remarks.—The symptoms in this instance were well-marked and characteristic, though taken separately they were capable of being misinterpreted: the invagination certainly was; and the pain, apart from the hæmorrhage, seeing that the temperature was not elevated nor the pulse quickened, might have been regarded as of neuralgic character. It seems probable that a small part of the bowel only was invaginated at first, as the patient continued to work for the best part of a day after he was attacked. The next morning the symptoms were more severe. As they continued over eighteen days, and for at least fourteen were unattended with peritonitis, there was a fair opportunity for performing the operation advocated by Mr. Hutchinson. The autopsy showed how easily the intestine might have been replaced by the hand of the surgeon. I shall certainly feel inclined to recommend the operation of laparotomy in any case I may hereafter meet with.

REPORTS OF HOSPITAL PRACTICE
IN
MEDICINE AND SURGERY.

LONDON HOSPITAL.

REMARKS ON DIFFICULTIES IN THE DIAGNOSIS OF THE CAUSES OF APOPLEXY.

(By Dr. HUGHLINGS-JACKSON.)

In his article on Apoplexy (Reynolds's "System of Medicine," vol. ii., second edition), Dr. Hughlings-Jackson insists that it may be not only difficult but impossible to tell whether a patient's apoplexy be owing to alcohol or to some far graver cause. (As implied in this sentence, the term apoplexy is not used in these remarks as synonymous with cerebral hæmorrhage. Large cerebral hæmorrhage is only one of several causes of apoplexy.) What is meant is that it is often impossible to make a diagnosis in the scientific sense of the word. It is not asserted that we should often be wrong by mere routine guessing, aided by superficial examination. No doubt the police are nearly always right in their so-called diagnosis of drunkenness. The following is an illustration of the difficulty in diagnosis. It is true that there was no difficulty in declaring correctly that the man was dead drunk; that "diagnosis" had been made by the men who brought him to the hospital, for it was known that he had swallowed a vast quantity of intoxicating liquor. But from the symptoms (supposing, for example, the man had been found lying comatose on the pavement) a diagnosis in the real sense of the word would not have been easy.

H. M., twenty-one, was admitted comatose at 7 p.m., October 17. For the notes of his case we are indebted to Mr. Lewis.

Mackenzie. The patient had passed both fæces and urine in his trousers before admission. This is considered by some medical men to be valuable evidence in favour of drunkenness and against cerebral hæmorrhage as a cause of apoplexy. But, although a help, it, like the smell of drink, is not to be trusted. Besides other reasons for not trusting the smell of drink (strong in this case), we know that drunken men in apparently trivial falls suffer hæmorrhage into the arachnoid "cavity." The patient was universally powerless and profoundly unconscious. Had it been possible to rouse him in part—as, for example, to resist examination, or to swear, or even to put out his tongue—there would have been no evidence of decisive value towards the diagnosis of drunkenness. It is not true that patients fatally ill from cerebral hæmorrhage cannot be roused to some extent; sometimes they can be roused. It is perfectly certain that such things as we have mentioned are done by those who are fatally ill from intracranial hæmorrhage. Moreover, certain elaborate actions are gone through by some patients fatally ill from intracranial hæmorrhage. For example, a patient who died in a few hours of cerebral hæmorrhage was seen by Dr. Sutton, Mr. Lewis Mackenzie, and other good observers to twirl his moustache frequently. More recently, a patient, two hours and a half before he died of enormous cerebral hæmorrhage, tried to button his brace with his left hand, and succeeded in doing it in about a minute. He nodded and shook his head when told to do so, although after a long interval; half an hour later he was deeply comatose, and could not be roused. Some patients with fatal meningeal hæmorrhage are very uproarious. In cases of cerebral hæmorrhage there are seen all degrees from confusion of thought to deepest coma; there are cases in which, as the phrase goes, the patient is "perfectly conscious." This is not *à priori* remarkable, as there are all sizes of clots from that of a pea or less upwards. Consciousness is not an entity, at least so far as medical men are concerned with it. It is, however, a word somewhat misapplied by medical men. Thus, there is the remark, "The patient was confused, but was perfectly conscious": really "to be confused" is to have *defect of consciousness*.

To return to our case. The patient's pupils were minutely contracted to the size of a pin's head. This is not a mere routine expression. The reporter of the case is fully aware that in many cases of apoplexy the pupils cannot be said to be either contracted or dilated. Extreme contraction of the pupils most often occurs in hæmorrhage into the pons. It is, however, only the sign of a very grave lesion in any part of the encephalon. (In the "gravity" of a lesion there are two factors: *size*—quantity destroyed—and *suddenness*—rapidity of destruction.) It is most important to note that the state of the pupils varies very much with the temporary condition of a comatose patient. Thus it often happens that if we disturb a patient, comatose from *many* causes, if not from *any* cause, his pupils if contracted will dilate. Hence two observers must differ in their reports, if one examines the pupils first of all, and the other after the necessary disturbance of the patient to ascertain if any of his limbs are paralysed, etc. In this case Mr. Mackenzie noticed that "pulling the ear and hair of the left side dilated both pupils, and that at the same time the face became flushed."

The pulse was 84, irregular, and at times intermittent. This is a common kind of pulse in cases of severe cerebral hæmorrhage. The skin was dry and cold, the hands, feet, tips of ears, and nose especially so. Two thermometers were used. The temperature was taken in each axilla; the reading was 96°. The thermometers were kept in a quarter of an hour. Perhaps even this time was not long enough. In cases of cerebral disease with a probability of a low or a normal temperature, the thermometers should be kept in a long time. As to diagnostic value of the temperature, we may find a low temperature soon after an attack of cerebral hæmorrhage; later the temperature rises above normal. The patient's respirations were abnormal in character. The upper part of the chest rose when the epigastrium sank. This condition of things is found in some cases of paralysis of the intercostals, the rising of the chest being due to resiliency of the thoracic walls after "suction" by diaphragmatic action. This kind of respiratory action is found in cases of deep coma variously produced. It is not affirmed that in cases of coma it usually depends on paralysis of the intercostals. Dr. Hughlings-Jackson believes that such respiratory action does sometimes in cases of coma depend on such paralysis. Strange as it may sound, it is not easy for the inexperienced to tell, even in cases where the patient is comatose, whether respiration evidently abnormal is abnormal from a paralysis of the thorax or from paralysis of the diaphragm—that is, of course, when the respiration is very rapid.

To return to our case. After pinching, the respirations were accelerated, irregular, and jerking. There was some dulness at both bases, at the left especially. The patient coughed incessantly at times, but did not seem able to raise phlegm for a long time, and consequently became very livid in the face. Sonorous rhonchi were heard all over the front of the chest.

In one case of recovery from alcoholic poisoning, under care a few months ago, there was bloody expectoration for a few days. Dr. Hughlings-Jackson supposes it possible that hæmorrhagic pulmonary infarctions may occur in deep and continued alcoholic coma, as he believes they do in cases of coma from cerebral hæmorrhage.

The urine was acid, of specific gravity 1006, and contained no albumen.

The optic discs were normal, except that the large veins were much distended. They were black and round, and after the comatose stage it was noted that they showed the "light streak." Probably they would have showed it during the stage of coma. This condition of the discs may be found in cases of cerebral hæmorrhage, but often there is in such cases no obvious alteration in the fundus of any kind.

It was noticed by Mr. Lewis Mackenzie in this and in some other cases of alcoholic poisoning that the eyes were divergent during the stage of coma. In a subsequent case of alcoholic poisoning this was observed by Dr. Hughlings-Jackson; but the divergence is not diagnostic of apoplexy from alcohol, for the eyes were noted as divergent in the case of fatal cerebral hæmorrhage alluded to earlier in these remarks (the man who buttoned his brace).

Next morning the patient's temperature was 101°, and so in the evening. He got well rapidly. Dr. Hughlings-Jackson has only seen two deaths from acute alcoholic poisoning. The patients nearly always recover, however deep the coma may seem to be.

Four Children at a Birth.—A woman of small stature was delivered at Baltimore of four children, the first a shoulder presentation, the others footlings. Labour occupied about an hour and a half, and was free from pain, no contraction having resulted from two drachm doses of ergot. There were two placentæ, three children being attached to one of these, which was about fifteen inches in diameter, and on the fœtal surface had the appearance of three ordinary placentæ, with a cord in the centre of each. The maternal surfaces showed no marks of division, and they could not be separated without laceration. The children weighed about twenty-four pounds, and the placentæ about four pounds, giving nearly thirty pounds for the weight of the uterine contents. At the time of reporting (about three weeks after their birth) the children were strong and healthy, and bringing in a good income by their exhibition.—*Phil. Med. Times*, March 20.

The Proposed Hopkins University at Baltimore.—The editor of the *Philadelphia Medical Times* regards the munificent bequest of the late John Hopkins as of the highest importance in furnishing the means of providing for scientific medical careers and securing the effectual teaching of the higher branches of medical and other science. The testator has left the munificent sum of 3,500,000 dollars, or about a million sterling, for the purpose of founding a university, and a similar sum for the foundation of a hospital in connexion with it. The bequest has been left untrammeled by conditions, and the twelve trustees are said to have been well selected, and seem to be determined to construct a real seat of learning, and not a mere high school. They have taken Dr. Gillman, the President of the Californian University, into consultation, who advises that instruction should be given only to advanced students, leaving the work done now by undergraduates to be done elsewhere. He recommends the professors to be chosen from among the foremost men in their respective fields of inquiry, to pay them so liberally as to free them from the ordinary cares of life, and to relieve them from teaching any but advanced students. The publication of the results of their own researches will be looked forward to as the evidence of their having well used their fine opportunities. The trustees have cordially fallen in with these views, and have offered the presidency of the new university to Dr. Gillman.

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Medical Times and Gazette.

SATURDAY, MAY 8, 1875.

THE LATIN LECTURES AT THE GRESHAM COLLEGE.

On several occasions lately, notices, not very complimentary and not always quite just, have appeared in the public press on the lectures delivered at the Gresham College, and the *Times* of April 29 contained a letter from the Head Master of Christ's Hospital on the Latin Lectures on "Physic." It appears that the Rev. G. C. Bell had received a circular, signed by some half-dozen gentlemen, inviting his attention to the Gresham Lectures, and especially to the Latin Lectures, which, it was stated, had been attended during the last two terms by "serious and attentive audiences," and suggesting that these lectures might, like the Westminster Latin Plays, be useful "in some degree to the senior boys of our great schools." Accordingly, Dr. Bell invited two of his Grecians to go with him to a Latin lecture on "Physic," and he describes his experience. The lecture, appointed to be delivered at 6 p.m., commenced at 6.15, to an audience of twelve, and lasted about a quarter of an hour. It appeared to open, Dr. Bell states, "with a short description of an eruption of 'variola' or small-pox, and the symptoms were described with some minuteness. At 6.24 the lecturer, finding, perhaps, that the subject was wanting in interest, suddenly passed into an inquiry on the hindrances to length of life in a populous city; and this subject developed unconsciously into a panegyric on some men of science, whose names I had failed to catch before the lecture came somewhat abruptly to an end."

No one who knows the present Gresham Professor of Physic, either personally or by reputation, will take this as a fair example of his usual Latin Lectures, but the explanation of it is simple enough. The lecturer was hindered, as folks not rarely are, we have heard, in getting along the City streets, and as he hastily passed to his lecture-room he caught up what turned out to be a mixed bundle of notes for lectures on "Variola," on "Public Health," and "Public Men." So that the Head Master's experience was an unfortunate one; but, while recognising the well-known ability of the Professor, he very pertinently goes on, in his communication to the *Times*, to consider whether Latin lectures on "Physic," however valuable and consecutive, are likely to find adequate audience in the City at 6 o'clock p.m., and to ask whether Sir Thomas Gresham would have been content if he had been present himself?—whether he "would not have been the first to mark the changes which lapse of time has brought about in the City, where merchants and scholars used to have their homes in an age when Latin was the common language of educated men?" Mr. Bell's letter has been replied to by Mr. J. W. Bone, B.A., F.S.A., one of the signers of the circular, who appears to hold that the Latin Lectures are "an institution worth improving and conserving; to be built up and strengthened, instead of being either simply abolished or replaced with something entirely new"; and he would have the College devoted "to the advanced education of students of science and the nurture of classical scholarship." Both writers consider that "the whole system of the Gresham Lectures requires revision"; but we are confident that the general opinion will be that the desired reform should be in the direction suggested by Mr. Bell, when he asks if Sir Thomas Gresham would not desire that the "solemn comedy" of the Latin Lecture should cease, and that "his liberal foundation should be applied to purposes more likely to advance education in the city in which we live." Latin lectures have ceased to be given at our Universities, and even at the Royal College of Physicians the Harveian Oration is now delivered in English. It does, then seem simply absurd and out of date to give Latin lectures in the City. The Gresham Lectures on Music and on Geometry are now given in English only; and it is probable, we understand, that when the vacant chairs of Astronomy and Rhetoric are filled up, the professors will not be expected to be ready to lecture in Latin as well as in English; but the Gresham Professor of "Physic" must still lecture in Latin if an audience of a certain number (three, we believe, is the mystic number that compels the use of a dead language) is present at six o'clock. The English lecture follows later. He has had, we understand, to give seven or eight Latin lectures during the last six months, and during the previous seven years had to give two; while at his English lectures the audience rarely numbers less than 100, and sometimes he has had as many as 300 hearers.

Surely it would be infinitely better and more useful, from the educational point of view, to continue and develope the lectures which, being in a language understanded of the people, draw large audiences, than the Latin lectures, which, if given at all, are delivered to audiences which may be fit, but certainly are very few. The chair of Physic may be made, as the present Professor has constantly endeavoured to make it, highly useful as a means of educating people in preventive medicine in the broadest and fullest meaning of the term, and of spreading abroad such knowledge of the aims and principles of curative medicine as may be the best protection against quackery, which feeds on the credulity born of ignorance.

We have reason for the belief that the "system" of lectures at the Gresham College is under consideration by the Gresham Committee, and we shall, with interest and with some confidence, look for a liberal and common-sense reform.

A FEW MORE WORDS CONCERNING VIVISECTION.

Since last we wrote on this somewhat unsatisfactory subject, two communications, appealing more directly to the public than we can hope to do, have appeared, and deserve some notice at our hands. Certain preliminary questions have been fairly settled, but there are others still burning enough to demand careful investigation. Thus, it is agreed that experimentation on animals is carried on in many, if not all, British

schools of medicine; and that this cannot be done without inflicting much suffering upon animals is quite clear. The question then is, whether this suffering is compensated by the good done? We do not for a moment include here operations performed without a due attention to the use of anæsthetics where practicable: the absence of such precaution is cruelty, and should have nothing whatever to do with experimentation on animals. It is with the residuum of suffering, which cannot be overcome, however well the experiment may be conducted, that we have to do.

Of the two publications above referred to, one from the pen of Mr. George Hoggan appeared in last month's *Fraser*, and affords an excellent example of that gentleman's characteristic style. He speaks of some mysterious physiologist with whom he served three months. We should be glad to hear this gentleman's name. He tells us of the horror he experienced in this gentleman's laboratory. Why, in the name of humanity, then, did he not quit it? He warns us against sentimentality in discussing such a subject as vivisection, and forthwith disgusts us with an account of the relative behaviour of different animals when about to be operated upon—a description which we venture to call as overdrawn as disgusting, but well fitted to excite the feelings of those who have no access to the truth.

He next refers to the now notorious memorial to the Royal Society for the Suppression of Cruelty to Animals, and criticises the main points in it, on the whole not unfairly, and then returns with renewed zest to the study or quotation of Dr. Sanderson's "Handbook of the Laboratory." We need hardly say that this volume was written with no idea of its ever constituting the basis of a discussion on animal experimentation; its object was to help students and teachers in their work. The well-known modesty of the author led him to give the idea that the work was intended for students, young rather than old; but, in truth, it is used only by those who are advanced in the study of physiology, and are able to perform any ordinary experiment quite as well as the instructor. Moreover, it is as necessary nowadays to train physiologists as to train men in any other branches of the profession. The book is available, and a student may follow it to the end; but there is no more necessity for that than there was for Dr. Hoggan's remaining three months in the laboratory referred to. As long as Dr. Hoggan sticks to facts, these can be dealt with, but his horrid sentimentality is too much for anyone.

Very different in every way is the short paper by Sir Thomas Watson in this month's *Contemporary Review*. Short it is, to pithiness; but coming from him who is now looked upon as the Nestor of British Medicine, it will carry weight and gain confidence wherever read. The leader of physicians, he speaks as a physician only; whilst we have from the beginning spoken in the twofold guise of physician and teacher—hence, in certain respects our conclusions differ; but limiting our views to what appertains to medicine alone, we cannot but agree with the venerable physician. Sir Thomas begins as follows:—

"Vivisection—the cutting into live animals for scientific purposes—is it defensible? If so, for what special purposes may it be practised, and under what conditions and limitations? If it be true—as it certainly is true—that at a small expense of suffering in one of the lower animals we may obtain knowledge which enables us to prevent or mitigate pain much more severe and lasting—or even to ward off peril to life, or to prolong life—in a human being, surely vivisection is more than justifiable. For the teacher, who must first be a learner, it may become, within assignable restrictions and conditions, nothing less than a positive duty. What are those restrictions? 1. I hold that no vivisections are excusable which are made at random, simply to see what will happen. To justify them at all there must be some definite object in view of a previously instructed mind, some plain question to settle, some important doubt or uncertainty to remove, some hypothesis containing the promise of service to humanity to be confirmed or confuted, at least some reasonable hope and prospect of resulting benefit. 2. I hold that no man is justified in making any painful experiment upon a living creature who does not possess the skill, judgment, intelligence, and previous knowledge requisite to render the experiment successful and instructive; that all possible care should be taken by the experimenter to prevent the frustration of his object through want of foresight, of needful preparation of the necessary apparatus and implements; through a bungling use of these; or through the ignorance or stupidity of assistants; and to guard against everything that might prolong or enhance the pain which may be inseparable from the experiment, or that might defeat its conclusiveness, and so waste the painful trial altogether. 3. I hold that no teacher, or man of science, who, by his own previous experiments, or by his absolute knowledge of trustworthy and conclusive experiments made by others, has thoroughly satisfied himself of the solution of any physiological problem, is justified in repeating the experiments, however mercifully they may be conducted, or even in taking away the animal's life, merely to appease the natural curiosity of a class of students, or of scientific friends and acquaintances; still less for the sake of display or self-glorification. 4. If the alleged inferences from former experiments are not generally accepted by competent judges as just, or thoroughly established, then a single repetition of the experiments, to settle once for all a disputed point of importance, may reasonably be allowed."

Next follow some observations on the various modes of extinguishing pain, with the following final remarks:—

"Much more might be said on the whole question, but I shall have done enough if I have been enabled to calm disquietude upon the subject of vivisection, by showing that, however fearfully it may often have been abused, it may be both lawfully and mercifully practised; and that, when so practised, it is not open to the charge of wanton cruelty: but, on the contrary, is deserving of our approval and gratitude. It cannot be reckoned a pleasurable exercise; and it ought never to be resorted to for the satisfaction of mere curiosity, but solely for the immediate or ultimate benefit of society, which not unnaturally is inclined to look upon it with horror and disgust. The consolatory thought remains, that in proportion as our knowledge of the functions of the nervous system approaches to completeness, will the need for these painful methods of 'interrogating nature' continually lessen, and finally cease."

Take now a glimpse at the Anti-vivisectionists—the rabidest of the rabid. A society has been formed impatient to supersede the active exertions of the Society for the Prevention of Cruelty to Animals, with a full staff of officers of all kinds, and apparently rapidly collecting subscriptions. What race of mankind can be addressed in the following prospectus we can scarcely conceive; they can hardly be of the ordinary human type:—

"The object of the Society is a Law for the Total Suppression of Vivisection, or putting animals to death by torture, under any pretext whatever. To call on the Legislature for less would be to admit the principle, and thereby perpetuate the enormity, that man is justified in selfishly inflicting agony on the innocent. Opponents of the slave trade agitated not for restriction, but abolition. The wrongs perpetrated by man on animals are even more dire than those inflicted by him on his own species. The abolition of slavery was confessedly an act of high Christian philanthropy, and surely it is no less noble or less Christian to stop the sufferings of other helpless creatures of our God. The hideous cruelty of dissecting living animals, or inflicting on them, though innocent and defenceless, multitudinous deaths of excruciating and protracted agony, has secretly grown up in this nation—a nation which for ages past has been nobly distinguished by the courageous and unsanguinary character of its people. This moral ulcer has spread widely, and (whether it be or not a dreadful form of insanity) become dangerous and demoralising to society—a blot on civilisation—a stigma on Christianity. The public has little idea what the horrors of vivisection are: its crimes in studied, ingenious, refined, and appalling torture, in wantonness, uselessness, and wickedness cannot be surpassed in the annals of the world. It therefore calls for extirpation by the Legislature, cruelty being not only the worst of vices in itself, but the most retributive to mankind, more especially when perpetrated by the refined and educated."

We read of races, ancient and modern, who have given them-

selves up to the worship of the golden calf, but these seem to content themselves with the more commonplace bone and sinew of everyday life.

THE ADJOURNED DEBATE ON PUERPERAL FEVER.

The debate at the Obstetrical Society on Wednesday evening fully sustained the character it gained on the opening night, both as to the number and note of the speakers.

At the commencement a letter was read from Dr. Matthews Duncan, of Edinburgh, explanatory of views more briefly expressed in a letter from him read at the first meeting. He considers the midwife Mrs. Marsden has been harshly and unfairly dealt with, and says "homicide by infection" is new in law, and cannot be substantiated. Both the public and profession are deficient in information as to infection. He ridicules the opinion lately given in the *Times*, and thinks "homicide by infection" may be often as justly charged to surgeons and physicians as obstetricians. Absolute safety from infection in puerperal cases will never be obtained, but we are nearly as safe now as we ever can be. During thirty years of practice he has never thought it advisable to leave for a single day on account of infection. He advises certain rules as to antiseptic cleanliness of hands, etc. It would be injudicious for a man with a run of bad cases to go on with his practice, but not criminal.

Dr. Barnes, in reopening the debate, spoke as to its advantage not only in bringing the leading views and experiences of obstetricians into one focus, but in inducing strangers and those engaged in various branches of practice to give their experience also. He supported the opinions expressed in Dr. Duncan's letter, and said if these prosecutions went on it would become dangerous to practice. Passing to the subject of debate, he did not see his way to discard the term puerperal fever, but gave a wide definition of it as "a fever in a lying-in woman," this including, of course, many different conditions, which he divided into two great classes:—Heterogenetic, or those in which the poison comes from without; and autogenetic, or those in which the poison is formed in the patient. The former he considers the larger class. He agrees with Dr. Richardson as to the peculiar condition of the blood in the puerperal state predisposing to fever, and pointed to certain peculiar cases in surgical practice where vaccination or the sting of an insect might cause death from some unusual condition of the patient. In the heterogenetic class the symptoms appear earlier than in the autogenetic, and in the latter we may often arrest the disease by the prompt washing out of the uterus. Some women, however, are killed by a single dose of the poison, while others will stand repeated doses and give time for treatment. As to the mode of infection, he thinks the emanations from the skin and lungs of the attendant doctor or nurse are often charged with the poison, and are a fruitful source of infection. Vaginal examination is a common cause of infection; and he supported this view by cases and reference to the German lying-in hospitals. He advocates careful isolation, does not believe much in germs or bacteria, and considers the difficulties in procuring safety much greater in lying-in hospitals than in surgical ones.

Dr. Squire was surprised to hear Dr. Barnes support the views of Dr. Richardson as to the puerperal state being febrile. He confined himself chiefly to the second question in Mr. Wells's first division, and denied that small-pox, measles, or typhus produced puerperal fever. The specific fevers are not altered by the lying-in state, and should be diagnosed as in any other patient—*i.e.*, are not forms of puerperal fever. He separates erysipelas from them, however, and considers the evidence as to its leading to puerperal fever, and being convertible again into erysipelas, to be well established.

Dr. Brunton followed as a general practitioner, and did not believe in the danger from the specific fevers. He objected to Dr. Richardson's and Dr. Barnes's views as to the state of the blood, which he believed was in a state of special preparation just before and after labour to act as a natural safeguard, and not as a special source of danger. While doubting the danger from infection to anything like the extent generally believed in, he was ready to admit that when once a woman got puerperal fever others might be infected from her.

Dr. Huntley, of Jarrow, related his experiences in his own practice ten years ago, when he had fourteen cases and five deaths in two months; other practitioners round him being free from the disease. He believed he was not only the carrier of the poison, but that it was generated *de novo* in him in some way; and he thinks many infectious diseases may be so generated in the medical man or nurse, and thus propagated. He does not believe in the especial danger from scarlet fever in puerperal cases.

Dr. Brown, of Beckenham, followed with a relation of cases of scarlet fever in his own practice in support of this view of Dr. Huntley.

Dr. Swayne, of Clifton, supported Dr. Duncan's letter, and considered the panic consequent on the prosecutions was becoming a nuisance. He thought the person of the attendant conveyed infection more than his clothes. Some people absorbed and exhaled the poison more readily than others. Vaginal examinations are an especial source of danger.

Dr. Graily Hewitt considered puerperal fever essentially a form of blood poisoning—a form of pyæmia which may be induced by a very minute particle of the poison. There is no form of fever which we can distinguish as puerperal. He would divide cases into two classes—in one the poison is introduced from without; in the other there is no evidence of any such introduction of poison. Inoculation by the hands he thinks a common source of infection. Clothes he does not think carry infection so readily as the person. He regards puerperal and surgical pyæmia as identical. Lacerations of the perineum, and keeping the patient on her back, so that discharges are kept in contact with them, he thinks a great source of danger. His second class corresponds to the autogenetic cases of Dr. Barnes, and he points out how similar pyæmic cases may be produced in non-puerperal women by sponge-tents, etc. Finally, he regards the uterus after labour as a great sponge, full of large holes, plugged with clot, and any cause hindering its proper contraction and involution, such as hæmorrhage, specific fevers, etc., will open the road to pyæmia.

Mr. Callender next spoke. As a surgeon he would confine himself to septicæmia, and divide the subject into speculations and facts. Speculations—Is it due to some poison? If so, what is the source? With regard to this there are three main theories—(1) germs, (2) generation of poison in the fluids of wounds, and (3) generation from the products of inflammation. Facts—negative: no foulness about wounds; no contaminations from wounds of others. Then he would urge isolation, prevention of accumulation of discharges (especially during the first hours after an operation), and quiet of wounded parts. By such means we can banish septicæmia from surgical wards, and we get some light on speculation 1—viz., the cause appears to be a poison;—but no light on speculation 2, What is the source of this? In conclusion, he strongly advocated antiseptic surgery, and would give Professor Lister the greatest possible credit for his work, only differing from him in thinking the method might be simplified without altering the result. After various suggestions, and some discussion, during which Mr. Spencer Wells said that if the debate was adjourned to the July meeting, Dr. Fordyce Barker, of New York, would be present, and support, from his experience, the view that there is a distinct disease,

puerperal fever. The debate was adjourned to the June meeting, on the motion of Dr. Savage, seconded by Dr. Wynn Williams.

THE WEEK.

TOPICS OF THE DAY.

DURING the time the trial of Warren Hastings "drew its slow length along," it was remarked by Sheridan that the peers were constantly on the move whilst the trial stood still. This remark was justified by the delays, vacillations, and indecision of members of the House of Lords. They were constantly retiring to discuss points of etiquette, procedure, and as to the admissibility of certain evidence; so the trial stood still, and the Lords kept on the move. The proceedings with respect to the site of the proposed new Hospital at Hampstead are really becoming wearisome and annoying. Report after report, resolution after resolution, division after division, have been made, and we are now just at the point we were when this fierce and obstinate controversy began. It would be somewhat ludicrous, if the question were of a less serious character, to notice the contradictions of the different gentlemen who have reported for and against the present site. That these were *ex parte* reports, no one will doubt, and we think the question has been mystified and embittered by these curious documents. Even now it is not too late to settle the question in a satisfactory manner. A competent committee, totally unconnected with either of the parties at issue, should be formed to inquire into the entire subject, and their report should be final; or Government may feel obliged to step in and settle the question.

It is rare that a mistake in the dispensing of medicine is made a criminal offence. Vast latitude has been allowed by the judges as to the term "mistake." Many a culprit has escaped punishment on the ground that a "mistake" is not necessarily criminal. At the late Glasgow Assizes this routine practice was departed from. It appeared in evidence that an engine-fitter named Parker, whose child was suffering from some common infantile complaint, went to the dispensary of Dr. Allan Smith, and asked for a dose of "crystal powder," which is the common name for santonine—a vegetable alkaloid, frequently prescribed in such cases. Dr. Smith was not present, but the medicine was supplied by his assistant, a young man named Jamieson. By some unaccountable negligence Jamieson put up and gave to Parker a dose of several grains of strychnia. This the poor child took, and, after much suffering, in a quarter of an hour was dead. It appeared that Jamieson had no certificate of qualification, but had served as a dispenser for three years with credit to himself. This of course was not without its weight with the jury, who found the prisoner guilty, but recommended him to mercy. Lord Deas considered the case one of the gravest character, and said that "it would be a most unfortunate thing if the Court were to do anything indicating to the numerous class of persons employed in druggists' and chemists' shops that an offence of this kind, causing the death of a fellow-creature, was a light one. That was not so at all. On the contrary, it was a very serious offence, and the present was, moreover, a case in which it was difficult to perceive any mitigating circumstances, as not only were the two powders different in appearance, but, if the prisoner had only looked at the outside of the bottles, he must at once have perceived the difference." He sentenced Jamieson to three months' imprisonment.

At St. Mary's Hospital Medical School two extra scholarships are offered for award by competitive examination in the first week of October this year. One of these is a Scholarship in Natural Science, tenable for three years, of the value of £60 the first year, £25 the second, and £15 the third; restricted to students educated at Epsom College. The successful candidate will be required to enter as a perpetual student of St. Mary's Hospital.

Some eminent naturalists and physiologists, including Mr. Darwin, Professor Huxley, Dr. Sharpey, and others, have been in communication with members of both Houses of Parliament to arrange the terms of a Bill which would prevent any unnecessary cruelty or abuse in experiments made on living animals for the purposes of scientific discovery. It is understood that these negotiations have been successful, and that the Bill is likely to be taken in charge by Lord Cardwell in the House of Lords, and by Dr. Lyon Playfair in the House of Commons.

Mr. Daniel B. Baldwin, surgeon, has been elected Coroner for the district of Royston, Herts, vacant by the death of Mr. Thomas Sworder, solicitor.

At a meeting of the Court of Governors of Guy's Hospital, the following appointments have just been made:—Mr. H. G. Howse, M.S., as Surgeon to the Hospital; and Messrs. R. Clement Lucas, B.S., and C. H. Golding Bird, F.R.C.S., as Assistant-Surgeons.

Dr. R. Douglas Powell and Dr. Tatham have been elected Physicians to the Hospital for Consumption and Diseases of the Chest, Brompton.

THE HAMPSTEAD HOSPITAL QUESTION DECIDED.

ALTHOUGH the assertion will no doubt be found to be premature, it would actually seem as if the Hampstead Hospital controversy had at length come to a final conclusion. On Friday last a meeting of the Committee of the whole Board took place, for the purpose of determining upon a report to be presented for adoption by the managers in regard to the question of sites for the fever and small-pox hospital. Dr. Brewer presided over a large attendance of the managers, and the decisive motion was proposed by Mr. Wyatt, as follows:—"That it be reported to the managers that, after due consideration, this Committee is of opinion that the land in Mill-lane, offered by Mr. James Harvey, is not so eligible for the purposes of a hospital for epidemic diseases as the present site of the managers at Hampstead—one serious objection being its much greater distance from the parishes which would supply the majority of the patients. That it is also evident that the objections urged by the inhabitants of Hampstead against the present site would be equally strongly put forward by the owners of property near the Mill-lane site; and that although these objections might very probably be equally devoid of solid foundation when dispassionately considered, this Committee fails to see what justification the managers could give for removing from the one site to the other. That, in addition to this, the letter written by Dr. Frankland (who has for many years held, by appointment of the Registrar-General, the position of analyst of the water supplied by the London water companies, and who now officially reports thereon to the Local Government Board), in which he states that the contiguity of an infectious hospital to the reservoir of the Grand Junction Waterworks Company might endanger the purity of the water supplied therefrom, is calculated to create such alarm in the large district supplied by that Company, that the Committee feels that it would be most impolitic to attempt to utilise the site in Mill-lane for the erection of such hospital. The Committee therefore recommends the Board to decline Mr. Harvey's offer, with the object of putting an end to further agitation; it also recommends the Board henceforth to decline the consideration of any fresh sites, should such at any time be offered. That, with a view of quieting the fears of the inhabitants of Hampstead, the Committee advises that it be fully explained that it is at present intended that the Hampstead Hospital shall only be used for the reception of infectious cases in the event of such

an epidemic arising as would render the hospitals at Homerton and Stockwell unequal to provide for the patients sent thereto; and that if, in the meantime, the Hampstead authorities will point out what extra precautions they think might reasonably be taken for the protection of the neighbourhood, the managers will readily give their views a careful consideration." Mr. Ellis, of Paddington, seconded the motion, which was eventually carried by a majority of thirty-four to five. Should Mr. Wyatt's motion be finally accepted, the question will be settled definitely, and, in spite of all the agitation which has been brought to bear against it, the present site will after all be retained.

THE POLLUTION OF RIVERS BILL.

Last, although not least in importance, of the sanitary measures of the present Government, the long-expected Bill to prevent the pollution of rivers has just been introduced into the House of Lords by the Marquis of Salisbury. The labours of Royal Commissions on this subject have now extended over a period of ten years, and as some £20,000 of public money has been expended in their investigations, we naturally look for some satisfactory results of such work in the Bill before us. A statement was made that four elaborate reports have been laid before the House of Lords, but we look in vain for any indication that the substance of such reports has been adopted. It would seem therefore that the public surmise that Royal Commissions are merely convenient, although very expensive, temporary shelves whereon to deposit questions considered advisable to defer indefinitely, is not very far from being correct. The present Bill rejects the arbitrary chemical standards laid down by the Commissioners in reference to the character and ingredients of matter which might be thrown into streams, and which formed a part of the measure introduced by Lord Shaftesbury in 1872, but afterwards withdrawn. Lord Salisbury, in introducing the Bill, said that his view in dealing with nuisances was that "it was better to trust to the common sense of the tribunal to which the cases were referred than to lay down a number of unwieldly chemical tests." An essential and important feature in the new Bill is that the cases are not to be carried before any tribunal dependent upon local authorities; all offences under the Bill are to be taken to the county courts. The Bill thus strikes at the root of an evil which has long obstructed sanitary improvement. It is proposed to forbid the pouring of filthy, noxious, and polluting liquids into streams, and to leave it to the county-court judges to decide what liquids possess these qualities. No solid matter is to be put into streams. Sewage is to be freed from polluting qualities, or to be kept out of streams. Manufacturers and mine owners who have poured polluting liquids into streams for less than twelve years are to make them harmless within two years, but older offenders are only admonished to use the best available means for making their liquids harmless, without any penalty for non-compliance with the admonition. The Act is to be put in force by the rural sanitary authorities, with a power reserved to the Local Government Board to do the work in case the rural authorities failed in their duty. The Bill also proposes that the sanitary authorities in drainage should be grouped into Conservancy Boards as a better means of carrying out the provisions of the law.

THE ANNUAL ORATION AND CONVERSAZIONE OF THE MEDICAL SOCIETY OF LONDON.

On Monday evening, the 3rd inst., the Medical Society of London gave their usual *conversazione*, at which a numerous company of the Fellows of the Society and of visitors gathered together to hear the Annual Oration delivered by Dr. George Buchanan. The orator took for his subject "Some Points of Importance relative to Modern Hospitals," and the large and critical audience listened with earnest and gratified attention, as, from fulness of knowledge and experience, he set forth with force and eloquence the vast importance and the possible future of the "sanitary defences" of the land. We do not propose to attempt to give any abstract of his oration, as it will, fortunately, be published; but we may say that his main object was to point out the necessity of making provision throughout the country for the isolation of all cases of infectious or contagious disease, in such way as may prevent their spread among the population at large and the population within our hospitals. With the latter object he would have attached to every hospital a sanitary medical officer, who shall be responsible for the perfection of all sanitary arrangements of every kind; not only for ventilation, drainage, cleanliness, etc., but also for the isolation of all patients affected with erysipelas, fever, or any malady communicable, and therefore hurtful, to others. And with reference to the protection of the population at large, he dwelt at some length on the utterly insufficient accommodation provided throughout the country for cases of infectious disease, and on the duty of making proper provision for the isolation of first cases of any such disease in any locality. He illustrated his arguments by striking examples of the results of careful attention to and of neglect of this duty. At the *conversazione*, which was attended by upwards of 150 Fellows and their friends, a large variety of objects of art and science were exhibited by Drs. Routh, Godson, Brunton, De Havilland Hall, Theodore Williams, Messrs. Gay, Lennox Browne, and Pedler, including water colours, oil paintings, curious bronzes, casts, instruments, etc. Mr. Clover showed an ingenious apparatus for the double administration of ether and nitrous oxide.

ROYAL COLLEGE OF PHYSICIANS.

At the College meeting held on Thursday, the 29th ult., the Baly Medal was, on the recommendation of the Council, unanimously awarded to Professor Claude Bernard—an award which will be approved of by the whole profession. It has been the custom to present the medal when the College meets to hear the Harveian Oration, and it is hoped that Professor Claude Bernard's engagements may allow of his coming over to England to receive personally the honour offered to him. The Fellows resolved, also, to place statues in the three niches under the College portico; and for this purpose, and for other embellishments of the building which are in progress, the Fellows will be invited to subscribe a small sum in addition to the fund already available for these objects. The statues are to represent Linacre, the founder of the College (to be placed in the centre), Harvey, and Sydenham.

MEATH HOSPITAL AND COUNTY OF DUBLIN INFIRMARY.

On Saturday, May 1, the annual distribution of prizes, at the close of the winter session, took place in the theatre of this institution. The successful candidates were:—Hudson Case Prize, value £10—Mr. Clement Mallins and Mr. Gilbert Lynch (*equal*). Junior Surgical Prize—1st, Francis Charles Fisher; 2nd, John Patterson. Senior Surgical Prize—John J. Power. Medical Clinical Prize—None awarded. Dr. A. W. Foot, Senior Physician to the Hospital, distributed the medical prizes, and Mr. Porter, Surgeon to the Queen, and Senior Surgeon to the Hospital, presented the surgical prizes. The outgoing clinical clerks, Dr. David Drummond, Dr. James Moran, and Mr. Henry Plowman, having been called forward to receive their certificates of having acted as clinical practising assistants in the medical wards during the past six months, Dr. Foot observed that these gentlemen enjoyed the sad distinction of being the last of a long series of distinguished students whose certificates had been signed by Dr. Stokes. He (Dr. Foot) felt that he was speaking the truth when he said that though the Meath Hospital might be stand-

ing, none here present would be in it when these certificates would again be signed by the hand of such a man. With their conduct during their period of office the physicians had been satisfied in every particular—with the care they had taken of the patients, their interest in the economy of the Hospital, the medical skill they had exhibited, and, it was perfectly needless to add, with their personal deportment. Of the gentlemen elected to fill their places he would at present only say that they promised well, they had been elected on that account; and when they won their spurs they would be given them as cheerfully. The best advice he could offer them would be to imitate as closely as possible the example of these their predecessors. A large concourse of students loudly applauded the several successful candidates.

MEDICAL RELIEF AND EDUCATION IN SCOTLAND.

Sir Stafford Northcote received in Downing-street, on Saturday last, an important deputation of Scotch parochial boards to ask him to use his influence with the Government to place parochial medical relief and education grants for Scotland on an equal footing with the parochial boards or unions in England and Ireland. The Chancellor of the Exchequer, in reply to the various speakers on the subject, stated that he did not know that at that moment he could say anything more than that the Government will take the subject into consideration and see in what way they can deal with it. But he guarded himself against admitting any principle which has been laid down as always to be applied without any exception. He added, they would consider the matter with a desire to establish on the whole a fair relation between the subventions granted in one part of the United Kingdom and in the other. He further stated that they should not be able to make the change immediately, and that it must not be expected this year.

UNHEALTHY PLACES.

The Lords of the Treasury, on the recommendation of Lord Derby, are pleased to declare that the following places, comprising all those named in the said list, shall be deemed to be unhealthy places—viz., Fernando Po and Loanda, West Coast of Africa; Brunei, Borneo; Rio de Janeiro, Para, Pernambuco, Bahia, and Santos, Brazil; Greytown, Central America; Cartagena, Santa Martha, and Panama, Columbia (United States of); St. Thomas, Danish Possessions; Cayenne and Réunion, French Possessions; Port-au-Prince, Hayti; Tananarivo, Madagascar; Surinam, Netherlands Possessions; Callao, Peru; Poti, Russia; Havannah, Puerto Rico, and Manilla, Spanish Possessions; Soudina, Turkey; Canton, Whampoa, Amoy, Foochoo-foo, Ningpo, Shanghai, Swatow, Chefoo, New Cheang, Taiwan, Kinkiang, Hankow, Pekin, Taku, Pagoda Island, and Kiung-chow, China; Bangkok, Siam.

MUSEUM OF THE ROYAL COLLEGE OF SURGEONS.

The indefatigable Conservator is at present engaged in preparing a new edition of the Catalogue of Human Crania in the Museum, a work much needed, as the collection has more than trebled in numbers during the twenty years that have elapsed since the last catalogue was printed. Among the most recent additions to this department are three skulls of Chinese natives (presented by Mr. William Lockhart, F.R.C.S.), the skull of a Guanche or ancient inhabitant of the island of Teneriffe (from Mr. Le Gros Clark, F.R.S., President of the College), and the head of an Egyptian mummy (from Admiral Ommanney, C.B., F.R.S.).

UNQUALIFIED PRACTITIONERS AND CORONERS' INQUESTS.

At an inquest held at Islington last week on the body of a widow, sixty years of age, who had died without having been seen by a medical man, it transpired that the deceased had been attended by a chemist, who both visited her and prescribed medicine. The coroner (Dr. Hardwicke) remarked that the case was brought before the jury solely because the deceased was attended by an unqualified practitioner, who was unable to certify as to the cause of death. Several inquests were held every year from the same cause, and in this way the public were put to much extra expense.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

At a meeting of the College held on Tuesday, May 4, pursuant to the provisions of the Supplemental Charter, B. Wills Richardson, Edward A. Stoker, John Barker, Edward O'Grady, Robert McDonnell, William H. O'Leary, Henry Gray Croly, and William Thomson were elected Examiners for Letters Testimonial and Fellowship during the ensuing year. At the same time John R. Kirkpatrick, William Roe, and Henry Croly were elected Examiners of candidates for the Diploma in Midwifery; and Henry J. Tweedy, Stewart Woodhouse, and Frank J. Davys were appointed Examiners in General Education.

CHOLERA IN INDIA.

Cases of cholera among pilgrims in the city of Benares are announced in the last official crop and weather report at Allahabad, dated the 11th ult. In Oude a panic prevails in consequence of the cholera. From Cawnpore, Fyzabad, Jounpore, and Benares alarming accounts have been received. The railway train turned out eighteen corpses at Lucknow on the 8th. The Benares train, due at Lucknow on the night of the 8th, reached there on the morning of the 9th, having been delayed by frequent stoppages for the removal of the dead and dying. The grand Assoodhia Mela has been prohibited. In Lucknow cholera cases are few, only eight deaths having taken place last week.

HYDROPHOBIA IN EGYPT.

The *Times* correspondent, writing from Alexandria on the 10th ult., reports the health of Egypt to be excellent. The alarm raised a short time ago in Alexandria that hydrophobia prevailed to a most alarming extent among the dogs who swarm in the streets, and that some twenty fatal cases of hydrophobia had occurred, proved, on the investigation of the matter by the Board of Health, to be unfounded. The Board has certified that in all Egypt some three fatal cases had occurred in human subjects last year, and one in the present year.

"THE BRITISH AND FOREIGN MEDICO-CHIRURGICAL REVIEW."

The present number of this old-standing Review is in many ways worth looking at. It begins with a remarkably good article on the subject of vivisection—indeed, the best of the kind we have seen. It deals with the subject of experimentation on animals, as seen in everyday life, for no purpose at all; yet there is a great outcry when a few animals are operated on for the sake of science. Good, also, are the reviews on physiology and cerebral hæmorrhage—in short, the number is beyond the average of such works.

PARLIAMENTARY.—THE POLLUTION OF RIVERS—ARTISANS' DWELLINGS BILL—VACCINATION ACTS—ARMY MEDICAL OFFICERS—VIVISECTION.

In the House of Lords, on Friday, April 30,

The Marquis of Salisbury introduced the Bill for checking, as far as possible, the pollution of rivers. He referred to the Royal Commissions which had traversed the country and made very careful inquiries into the subject, so that the time had now arrived, he thought, when some legislation ought to follow the labours of these Commissions. Drainage must be put somewhere. It cannot be put in the air; nor at all times on the land; and when put on the land it necessarily passes into a river. The putting into rivers of the refuse of manufactories of all kinds—of dye works, of paper works, and, above all, of distilleries—has produced in many of our most useful streams a fearful condition of pollution. The noble marquis then quoted the evidence given

before the Commission with regard to certain rivers, from which it appeared that the stench from these rivers produced sickness. There was no doubt that those who interfered with their neighbours' rights below stream violated the law; but the law had hitherto been too weak to enforce the rights of those below stream. Some people had an objection to being rated to pay for the expense of an improved drainage of a district. The drainage of a district was not a matter which could be entrusted to local authorities. In any legislation that Parliament might undertake on this subject, he believed the assistance of some machinery other than that of local jurisdiction should be sought. That was a point on which the Bill that he intended to lay on their lordship's table differed from others which had been brought forward. He proposed not to carry a case before any local tribunal—that was to say, any tribunal dependent on the local authorities. In the Bill of 1872 ten standards were laid down in reference to the character and ingredients of matter which might be thrown into streams, and it was made an offence to transgress any of these standards. The difficulty that was felt with regard to these standards was that they struck too far, and that on the one hand they would include water flowing from perfectly innocent sources, while on the other they were not sufficiently stringent to affect the very nuisances against which the legislation was directed. His view was that in dealing with nuisances it was better to trust to the common sense of the tribunal to which the cases were referred than to lay down a number of unwieldy chemical tests. It was therefore proposed to forbid the pouring of filthy, noxious, and polluting liquids into streams, and to leave it to the county court judges to decide what liquids possessed the forbidden qualities. Sewage must either be freed from its polluting qualities or be kept out of the streams. With respect to liquids issuing from manufactories or mines, a distinction had been made between the various classes of offenders. Manufacturers or mine-owners who, at the passing of the Act, poured or permitted liquids to flow into streams, and who had not done so for more than twelve years, would be bound to make it harmless within a space of two years or be absolutely forbidden to pour or allow it to flow into streams. With regard to those who might be said to have a longer prescription, the Government felt that they could not well do more than prescribe absolutely that the offending persons should use the best available means for making the liquids harmless. The carrying of the Act into force would be entrusted to the rural sanitary authorities, with a power reserved to the Local Government Board to do the work in case the rural authorities failed in their duty. In addition to this, the Bill proposed that the sanitary authorities in drainage districts should be grouped into Conservancy Boards, as a better means of carrying out the provisions of the law.

Earl Fortescue expressed satisfaction with the course taken by the Government in proposing to deal with an important question. He also observed that, in his opinion, the most economical and desirable mode of dealing with the sewage which now in many cases finds its way into our rivers and streams, was to use it in fertilising the land by means of sewage farms or otherwise.

In the House of Commons, on Friday, April 30,

The Artisans' Dwellings Bill was read a third time and passed.

On Monday, May 3,

Mr. Selater-Booth, in reply to Mr. C. B. Denison, said that there was no report of systematic evasion of the Vaccination Acts at Skipton. Only one death seems to have occurred there in the last quarter, and the guardians have stated that it is their intention to proceed against defaulters. With regard to Keighley, there have been thirty-seven deaths during the last quarter, and the guardians have distinctly refused to instruct their officers to enforce the provisions of the law. Under these circumstances the Local Government Board have given directions that legal measures shall be taken to oblige them to do so.

Mr. Hardy, replying to Mr. O'Leary, said that certain instances had occurred of army medical officers being refused permission to exchange where their foreign services had been disproportionate to their service at home. He could assure the hon. member that no reasonable application to exchange had been or would be refused.

On Tuesday, May 4,

Mr. Hardy, in reply to Mr. George Browne's inquiry with reference to an increase in the half-pay of medical officers of the Army after twenty years service, as had been recently done in the Navy, said that the complaints of the medical officers of the Army were receiving full consideration, but it would be premature to express an opinion upon one part of the case.

In the House of Lords, on Tuesday, May 4,

Lord Henniker introduced a Bill, which was read for the first time, with a view of regulating the practice of vivisection.

REVIEWS.

Manual of Pathological Anatomy. By C. Handfield Jones, M.B. Cantab., F.R.S., F.R.C.P., and Edward H. Sieveking, M.D., F.R.C.P. Second Edition, revised, enlarged, and edited by Joseph Frank Payne, M.B. Oxon., F.R.C.P. London: J. and A. Churchill. 1875.

It is now more than twenty years since the first edition of this manual was published; and during the greater part of the interval the work has been the principal guide of English students in systematic pathological anatomy. The extraordinary advances which have been made in the meantime in the subject would appear to have demanded the association of a younger pathologist with the original authors; and their choice of Dr. Payne as editor of the new edition must be regarded as a very fortunate one. The result is, that the work has been fully brought up to the present date, and contains at once a description of the most important facts of human pathological anatomy, and an account of the leading views on the various subjects of general pathology. At the time of the appearance of the first edition the doctrine of the cellular pathology was little more than in its infancy, and the authors have reason to be congratulated on their appreciation of its importance at that early date. The doctrine has since undergone the greatest vicissitudes; and especially within the last eight years has been threatened with something like destruction. The attention which Virchow's cellular doctrine demands is freely bestowed upon it in this edition; and the great rival theories of Cohnheim on the one hand in regard to inflammation and new formations, and of Waldeyer and his followers on the other with respect to the origin of cancer, are fully stated and discussed.

On opening the volume, one is at first inclined to object to the arrangement of the contents—that is, to the system of the work,—which is virtually the same as in the first edition. Not only the unquestionable facts brought forward by the cellular pathologists, but the whole character of present physiology, would seem to indicate that the tissues so called, rather than the blood, should be the starting-point of a description of morbid anatomy, and their nutrition and functional activity the basis of pathology. But the work must not be too severely criticised from this point of view. It is essentially a manual of pathological anatomy, not of morbid physiology; it is evidently intended to furnish a concise account of the pathological anatomy of the principal tissues and organs, and this it assuredly does. Evidently for the same reason, it opens with a statement of the principles of general pathology, and proceeds thence to the special, instead of following the inverse order, which some might consider to be more logical. The morbid conditions of the blood, of the circulation (including inflammation and its complications), and of the tissues (including new formations, tubercle, etc.) are first discussed in general; and thereafter, as each great system is specially taken up, the same plan is followed in the description of the diseases which it presents. There can be no question that, by the adoption of some definite arrangement like this, great facility is afforded of easy reference, and of obtaining a short and clear account of any particular morbid condition which the student may meet with.

With regard to the matter of the work, we have already said that the results of recent discoveries have been fully introduced. We can believe that the incorporation of these has cost the editor very great labour, and that he would have saved himself much trouble, and perhaps produced a more readable book, by rewriting it from the beginning. In particular, we fail to see the value of retaining in the present edition the detailed accounts of many individual specimens and cases which were given in the first as having occurred when pathology was comparatively in its infancy. There have also occasionally been allowed to remain in the text some of the objectionable and perplexing expressions of remote pathology; and in attempting to combine the old and the new an uncertain and undecided account is sometimes furnished, as, for example, of "the Uses of Fibrine."

It is almost unnecessary for us to state that the editor has given in a very full manner the latest views on the great questions of inflammation, embolism and thrombosis, tubercle and phthisis, cancer, and the germ theory, although in some places he appears to be sorely cramped by the old text. This is particularly the case in the chapter on inflammation, and it would seem as if he had thus been compelled to introduce catarrhal, croupous, and diphtheritic inflammations at the beginning of the chapter on diseases of the respiratory organs. He wisely, as it appears to us, declines to discuss the many unsettled questions regarding tubercle, cancer, etc. Embolism and its relation to pyæmia are clearly and succinctly described. We question, however, the propriety of treating pyæmia and septicæmia in connexion with inflammation because "they are among the results, though only occasional ones," of it.

In the special portion of the work it is perhaps not remarkable that a critical examination may detect occasional faults both of omission and of commission. Thus, in the chapter on diseases of the pericardium and heart some facts of the greatest importance are passed over with a bare mention. It is said, for example, that "we occasionally meet with a small quantity of blood" in the pericardium in acute inflammation,—that "pericardial inflammation is also met with in cases of pyæmia, and is sometimes consequent upon . . . . necrosis of bone, ... and occurs, though rarely, among the sequelæ of scarlatina in children." Also that "obstruction or regurgitation at the mitral orifice also leads to dilatation and sometimes hypertrophy of the right side." We can find no description of acute parenchymatous myocarditis, or of the causes of endocarditis. In other places there is to our mind a decided want of clear and picturesque description of the features of important pathological changes; for example, of the appearances presented when the head is opened in cerebral hæmorrhage, tubercular meningitis, and certain other conditions of the cranial contents. Subarachnoid hæmorrhage is scarcely noticed. Diseases of the respiratory organs receive full attention, and the more recent views on the pneumonias and on phthisis will be found plainly and very sensibly stated. In the account of diseases of the stomach we believe that the editor might with great benefit have substituted the results of later investigators on the histology of the chronic diseases of the gastric wall, for those of the authors dating from 1854,—and this both as regards the description and the diagrams. And while we cannot withhold a word of praise for the labour bestowed on the description of the morbid anatomy of the liver, spleen, and other abdominal viscera, we must confess that the classification and general treatment of affections of the kidney appear to us unnecessarily complex and confused, and likely to disappoint the earnest student of Bright's disease.

The work contains nearly 200 engravings, most of which are good, although some, which represent the naked-eye appearances of common pathological conditions, might be considered unnecessary.

We understand that Mr. Darwin has been elected an honorary member of the Society of Naturalists in the Imperial University of Kazan, Russia.

The Fatal Balloon Ascent.—After M. Gaston Tissandier had read at the Académie des Sciences his account of his perilous balloon ascent, a letter was read addressed to the Academy by M. Faye, stating that he thought the Academy did wrong to encourage these ascents to such high elevations, inducing young and intrepid adventurers, full of zeal for science and scornful of danger, to risk their lives for results which after all are of little or no value. For, in fact, any knowledge we can obtain above an elevation of 7000 metres is quite unimportant, as by the aid of the knowledge obtained within this zone we can learn sufficiently well by calculation what takes place beyond it. Within this elevation the observer incurs no danger, especially when he avails himself of the various means that have been placed at his disposal; but beyond it there is a constant danger to life and little profit to be reaped, as syncope or asphyxia may at any time take place almost suddenly. This letter was listened to with profound attention, and made a great impression upon the Academy, for all present felt that the Academy, by the encouragement which it had given to an ascent executed under such perilous conditions, and with a prospect of obtaining such very unimportant results, had incurred a great moral responsibility.—*L'Institut*, April 28.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, April 13.

Sir James Paget, Bart., F.R.S., D.C.L., LL.D., President, in the Chair.

Syphilis among Troops in London, Paris, and Brussels. Mr. William Acton read a paper "On the Prevalence and Severity of Syphilis among the Troops quartered in London, as compared with the Rarity of the Disease among the Soldiers in the Garrisons of Paris and Brussels, from observations the result of a personal investigation made during the autumn of 1874." The author commenced by stating that on returning to England, after the completion of his medical studies in Paris, he was forcibly struck with the severity and the numbers of cases of syphilis in an *unprotected* (a) city like London as contrasted with a *protected* (b) city like Paris. In the year 1846 and again in 1860 he brought the subject before this Society, and called the attention of the profession to the fact that whereas the French and Belgian troops seldom suffered from venereal affections, the British soldier was affected with this contagious disease in the proportion of 181 per 1000, or one in every five men. During the autumn of 1874 he determined to again visit the Continent, and judge for himself what was the present condition of syphilis among the French and Belgian population; so that on his return he might be able to again make a comparison between the three cities, and judge what influence continental police regulations had had in checking, preventing, or stamping out this contagious disease. Before proceeding to the more immediate purport of the paper, the author begged the indulgence of the Fellows while he ventured to remind them of some of the great general laws which regulate syphilis, and with which hospital surgeons no doubt were familiar. 1. *Syphilis is a very wide-spread affection in England*, both among male and female adults, rendering inefficient large numbers of our troops, as shown in the last Army Returns, where it is stated that in 1872 (the last report published) cases of primary syphilis in the unprotected districts are still so prevalent as to form 123 per 1000 per annum. 2. *As regards the severity of the disease*, the author thought the complaint was less severe than formerly. The authorities in the city hospitals in this respect agree with him, and attribute this to the efficacy of the Contagious Diseases Acts at present in operation at Greenwich and Woolwich—a source formerly of much 'long-shore frightful disfiguration. The non-Government side of the Lock Hospital in-patients, as he shows later in his paper, demonstrates that syphilis in women is still a very serious complaint. 3. *That primary syphilis is a highly contagious affection* no one can doubt. The laws which it follows are now clearly known, and experience has shown that for its extension,

(a) The term *unprotected* district is meant to include the principal cities of the United Kingdom where women can practise prostitution in any public thoroughfare, at any hour of the day or night, without hindrance, and inveigle men to their homes; and this, too, under the very eyes of the authorities, who are powerless to interfere unless the solicitation be to the annoyance of any passenger or householder, who must in that case accompany the police to the station to charge the woman with the offence, which is rarely or never done. Should the authorities have credible evidence that the woman so conducting herself is suffering from a contagious disease, which she may communicate to others having relation with her, they cannot in any way interfere to prevent it. This woman, when unable any longer (in consequence of the severity of her disease) to follow her miserable calling, has no other resource (prostitution failing) to procure her a livelihood than to fall back on the foul wards of a workhouse.

(b) A *protected* district is one where a woman, instead of continuing wholly or in part to gain an honest livelihood, walks the streets, soliciting different men, and consequently comes under the cognisance of the police as being a common prostitute. The British Legislature has determined that in certain garrison towns such a woman, after being repeatedly warned and still persisting in a life of prostitution, shall submit to a medical examination, on the ground that, should she be diseased, she would communicate a contagious complaint to those having relation with her. It is further enacted that if the woman be found diseased she shall be at once sent to hospital, and not allowed to leave till she is, in the opinion of the surgeon, perfectly cured. If then desirous of abandoning her evil courses, the girl is relieved from further surveillance, and will be sent to her friends at the Government's expense. If, on the other hand, a common woman, on being discharged from hospital and released altogether from the operation of the Acts, returns to a protected district, and is again found by the police acting as a public prostitute, she must again be registered. In every case the authorities wish it to be clearly understood that they do not sanction or authorise prostitution; they only watch over it, from their anxiety to prevent its worst evils, and to ameliorate the condition of the women, and check disease.

dissemination, or outbreak, absolute contact is necessary. Avoid this, and the disease is under our control, as the primary manifestations cannot be communicated through the air or by the usual vehicles of infection. Another grand feature of the complaint is that it never (at least, in the present day) arises *de novo*. Unlike some other epidemics, this affection (syphilis) is traceable to communication from some person previously affected. 4. *Syphilis can be prevented and stamped out.* Mr. Acton stated that, if he had carried his hearers with him in the acceptance of the previous proposition, they must agree with him that the best way of prevention consists in offering men who have exposed themselves to infection a ready means of ablution; and the army authorities have now done this. The next broad principle is, as speedily as possible to destroy the local focus of contagion, so as to prevent extension of the disease, and to warn the male patient against infecting others. The institution of hospitals, free or otherwise, where the already infected may at once apply, is another valid and important means of prevention. Experience in all countries has determined that the mere treatment of these women as outpatients is a vain delusion. What we require is, that by segregating prostitutes as soon as diseased we should at once prevent them contaminating others. To do this effectually legislative measures have been necessary, and the women must not be allowed to leave the hospital until entirely cured. The author showed that wherever this has been done it has succeeded, without exception, in all countries, and with all classes. Those who are sceptical on this assertion are referred by the author to the instances of Hong-Kong and Dartmouth, where the disease has been reduced to a minimum. Having made these preliminary observations, the author proceeded to describe his Continental experience. The first city he visited was Brussels. In his search after syphilis he attended the wards of the military hospitals. There were only three cases of syphilis among the private soldiers, and among the non-commissioned officers he saw only two instances of men recovering from primary syphilis; and these were out of a body of troops amounting to 3500 men. There were only nine women confined in hospital in consequence of venereal disease—showing that in Brussels the police regulations have nearly stamped out the disease. Proceeding to Paris, Mr. Acton, in visiting the French military hospitals, could only discover six cases of primary disease and eight cases of secondary syphilis—fourteen cases in all—among the 3841 men forming the garrison of Paris. The author then described the diseases among the females, and showed that syphilitic affections are very slight among the women who avowedly give themselves up to prostitution; and attributed the decrease to the police regulations. Mr. Acton gave a table, showing that in the St. Lazare Hospital he could only find twenty-three cases of primary disease out of 202 patients confined in this institution, which is specially given up to women under the surveillance of the police. This small number, however, would have been sufficient to have inoculated the garrison of Paris had they been allowed to remain at large. Mr. Acton called attention to the fact that medical men in Paris assert that the British traveller, like the English sailor in French harbours, is the source of much of the syphilis to be met with in France, and that the disease would ere now have been stamped out had it not been that England and other unprotected countries are constantly flooding France with fresh cases of primary contagious disease, interfering much with its sanitary cordon. Returning to London, Mr. Acton personally attended the hospital of the foot guards. Here he found disease in proportions he was unprepared for. There were twenty-four cases of primary disease among 408 single men in the 2nd Battalion of Coldstream Guards quartered in London. In the 1st Battalion of the Scots Fusilier Guards Mr. Acton was shown twenty-five cases of severe forms of syphilis among 505 unmarried men. To obviate the objection that these comparisons were founded on insufficient data, Mr. Acton gave a table extending over twelve months, in which were shown the syphilitic affections of upwards of 3000 men in the foot guards quartered in London. One-fifth of the whole, or one man in five, was affected with primary syphilis during the last year, 1874; and he contended that, as there were five battalions of foot guards quartered in London, we may therefore state that *one* out of these battalions suffered from primary syphilis. Now, judging from the experience of private practice, this battalion of sick, composed of 600 men, must have been incapacitated from duty for at least six weeks or two months. It is almost equally certain that 164 of these men had relapses of secondary symptoms further incapacitating them for duty for another two months at least, during which time they must necessarily have taken mercury, leaving the constitution of the men very much debilitated, and liable to relapses during the subsequent years. Mr. Acton then went on to compare the syphilitic affections of the foot guards with those found in French soldiers quartered in Paris, and showed that a single battalion of 500 in London present more disease than the 3841 troops comprising the French garrison. The author next called attention to the severity and frequency of the disease among the women in London, as compared with those in Paris, and considered that one-half of the London prostitutes were diseased, whereas of those in the protected districts, and under the Contagious Diseases Acts, only about 8 per cent. were found affected at the periodical examinations. Mr. Acton next compared the garrison of Woolwich, which is under the Acts, and where the women are taken care of, and showed the comparative paucity of disease there. It appears that during the years 1871-2-3, 1085 cases of primary syphilis only were treated in hospital out of a garrison of 18,250 men, thus showing that only one man is affected out of seventeen soldiers in a protected district like Woolwich, instead of one man in six, as in London; and from a table given it appears probable that had the protection offered at Woolwich been afforded by the outlying districts, only one man in thirty-four would have been subject to contract syphilis, as at least one-half of the cases of syphilis were contracted out of the district—bringing it to something like the small proportions witnessed in Paris. Before concluding, the author remarked that when he read his last paper on this subject before the Society, he could only recommend the supervision of prostitutes as an experiment, backed, as it then was, only by the experience of the Continent. Now he could speak of this as an accomplished fact, and one that, as he had shown, had succeeded in a sanitary point of view beyond the expectations of its supporters.

The Chairman having moved a vote of thanks to Mr. Acton for his paper,

Dr. C. R. Drysdale said: I feel deeply indebted to Mr. Acton for the way in which he has always endeavoured to combat the spread of venereal diseases in this country. Mr. Acton's essay on a similar subject at the Medical and Chirurgical Society in the year 1859 met with little sympathy at the time it was written; but all must now admit that the author has done more for this department of hygiene than any other writer in this country. I most fully desire to express my earnest wish to see the ravages of the great modern plague, syphilis, abated, or even perchance stamped out, as the modern phrase goes. Syphilis is a new disease, and did not exist before the end of the fifteenth century; hence it may doubtless be got rid of by steadfast attempts in the direction of public hygiene. I must, however, say that the method of attempting to rid society of venereal contagion which had its origin in Paris early in this century, seems to me unlikely ever to do much towards attaining the end it has in view. My reason for saying this is, first of all, theoretical; and secondly, it is based on observation of facts. Anyone on thinking over the subject will at once see that it is most unlikely that a disease which, like syphilis, is contracted in secret, can be lessened in its ravages if anything like force or police interference is made use of in attacking those affected with it; because diseased persons in such cases would naturally conceal their disease in order to avoid imprisonment and punishment. This is the theory of the subject; and I am prepared to show that in real life the theory is found to be true wherever the Parisian laws are carried out. With regard to the large class of celibate soldiers, the great evil of modern times, there can be no doubt that what Mr. Acton said holds true to a great degree in France, Belgium, and certain other Continental States. The reason of this, however, is, in my opinion, not difficult to perceive. Soldiers are miserably poor, and hence are compelled to take to the very lowest form of sexual gratification. They are well known to be most gregarious in their habits in this respect, and some twenty of them have been known to have connexion with one woman. This, of course, is greatly due to the fact that the poor women must live by their unfortunate calling; and the spare funds of one or two soldiers would not suffice for this. Now, this being the case in France and Belgium, it is clearly by no means a difficult task to examine and regulate the comparatively small class of poor unfortunate women attached to such bodies of men. Hence the comparative infrequency of venereal diseases in foreign armies, alluded to by Mr. Acton. But the moment we leave the army and come to

civilians in large cities, at once the impossibility of carrying out the system of the French Dispensary of Salubrity becomes glaringly evident. Civilians have money, because they work at various industries, and hence are able to choose their female companions, and to exercise their own tastes. The consequence of this is, that in all cities where this system of police surveillance is carried out it is possible to get into the power of the examining officers only a very small fraction of those women who live entirely or partially by the sale of their persons. Formerly, I have been much influenced by the arguments of Mr. Acton and others; and in 1867, when Honorary Secretary to the Harveian Medical Society, I proposed to investigate the spread of venereal diseases in England and France. At that time I believed that in Paris there would probably be found to be a very great deal less disease of venereal kind than in London; and acting on this idea I visited Paris in 1867 to judge for myself. By the kindness of the authorities I was permitted to visit the dispensary examinations, and the Lourcine, Midi, St. Louis, and other general hospitals. Everywhere I found syphilis very prevalent throughout Paris, and mentioned this at the Congrès International Médical, presided over by Dr. H. Ricard, when I was corroborated by Dr. Lefort and by Dr. Auzias Turenne. No one denied it. Dr. Auzias Turenne spoke of the women as the "white slaves" of the police. Indeed, since that date other evidence as to the amount of syphilis in Paris has been tendered by M. Desprès, surgeon to the Lourcine Hospital, and by M. Lecour, of the Prefecture of Police of Paris. M. Lecour says—"All these results prove that prostitution is increasing, and that it is now more dangerous than ever to the public health." He states that "the evil is a moral and social one, and cannot be controlled by the police, who can neither restrain nor destroy it. The evil must be overcome by moral, not by legislative means." Dr. Diday, in a work published in 1874, acknowledges and deplores the total failure of the French Acts. Dr. Desprès, in a pamphlet published in 1870, says—"It is well that it should be stated that our system, with the dispensary of the Prefecture of Police and the prison of St. Lazare, achieves, by way of remedy to this evil, nothing, or almost nothing. There are in Paris about 30,000 women practising prostitution, without counting those who live in concubinage, and who change their lovers so frequently as almost to be considered as prostitutes. Of these 30,000 or 40,000 women, there are fewer than 3700 registered by the police—that is to say, subjected to obligatory medical examinations; about 1500 of these are in tolerated houses; the rest have a permission, and exercise their calling in a private domicile. These figures are frightful, and show the uselessness of the prophylactic measures. Unless all women who practise prostitution clandestinely can be superintended, how is it possible to arrest the propagation of syphilis? Those women living in their own houses who for the delinquency of having strayed into a lodging-house or public hall are arrested, are at once claimed by some influential persons—men. Again, while all the men are able, without let or hindrance, to carry about and propagate these diseases as they please, whenever they may happen to have the time, it is evident that nothing whatever has been done to check the transmission of the evil." Dr. Diday has also proved the failure of the French system; this appears from Dr. Desprès' pamphlet. M. Lecour speaks in his work entitled "La Prostitution à Paris et à Londres" (edition 1872) of a cypher of 47,500 venereal patients seen yearly in Paris, which is very far from being an example of stamping-out venereal diseases by means of the examination system. Dr. Thiry, of Brussels, too, mentions in a clinical lecture on Syphilis in the *Presse Med. Belge* (1874, Nos. 37 and 38) that there is abundance of that disease in Brussels among the civil population. "Every day you see numerous cases of syphilis in my wards; they are always severe, and often present difficulties of diagnosis." Dr. Webster has given abundant evidence to the same effect with respect to the prevalence of venereal contagion in Rome, Naples, and other continental cities. Dr. Alfred Fournier examined 873 cases of syphilis which he saw, and found that 625 of them had been infected by public prostitutes, 46 by clandestine, 52 by actresses, etc., 100 by working women, 26 by servants, and 21 by married women. Dr. Vintner gives the same kind of evidence. Then, too, as Mr. Erichsen remarked to me, there is the danger of false security; and Mr. Acton tells us of men who have travelled hundreds of miles, lured by this false security, to visit certain French houses in London, and which are periodically examined by a most distinguished surgeon, and who have immediately contracted some venereal disease. This evidence has sufficed to convince me that the French system of the police regulation and examination of so-called prostitutes (for the word is not definable) is a failure; and that it is time that the French and other nations abandoned it, instead of the English and Americans betaking themselves to such utter failures in the way of hygienic remedies as the Contagious Diseases Acts must prove. I propose the admission of venereal cases freely into our general hospitals, as a far more likely method of preventing the spread of true syphilis, the only disease of paramount consequence to society among the venereal contagions. In my time, venereal patients have always been kept out of the mass of general hospitals; and recently the wards of the Royal Free Hospital even have been nearly emptied of syphilitic cases, and given up to what is called "pure surgery"—that is, to cases of far less importance to society at large. Women, especially prostitutes, should be at once admitted into venereal words when infected, just as fever patients are taken into fever hospitals, for their own sakes, but still more for the sake of society at large. If this were done, and the patients were treated with ordinary humanity, venereal diseases would rapidly diminish in frequency, because in their case there would be no motive for concealment, such as exists at Paris under the *régime* of the prison St. Lazare, and women would usually come early and have their complaints seen to. These also should be removed, if dissolute, from the streets at once, if possible, when diseased, and advised to enter hospital, especially whenever affected with syphilis in its most contagious periods. It is little decent, says Dr. Desprès, for the medical practitioner to place himself like a sentinel between the debauchee and the prostitute. "Can any man, however experienced," says the late Mr. Holmes Coote, "undertake to pronounce after the most careful examination that a public woman is sound?" Mr. Berkeley Hill speaks to the same effect. As to celibate soldiers, theirs is a hard case; but the results of the Contagious Diseases Acts in this country are not satisfactory enough, even hygienically, to make up for the attack upon individual liberty made by them, which has recently resulted in such a dismal scandal at Aldershot. The feeling of the country must be attended to, and, on the whole, medical men would do well to remember that their business is to cure disease, not to act as policemen or procurers of clean women for careless and too often culpably thoughtless males. I offer these views with the greatest admiration of the many medical men who differ from me.

A Member asked the Chairman whether anyone who was not a member of the Society would be allowed to speak on the subject before the meeting, as Dr. Birkbeck Nevins wished to say something, and he was not a member.

The Chairman replied that he would, but that before he (Dr. Nevins) began he must remind the members that there remained but half an hour for the purpose, unless the meeting consented to sit later. It would not be possible to have it postponed, considering the other business that had to be done in the Society. He must caution the speakers to be short in their remarks.

Dr. Birkbeck Nevins: Mr. Chairman and gentlemen,—I thank you very much for your permission to speak on this occasion, and I will make my remarks very short: and since I find it impossible myself to follow a number of figures, I have taken the liberty of having a few proofs struck off to submit to you, and with the permission of the Society, I will ask you to have them distributed; and also in order to make my remarks the more intelligible, I have had a few rough proofs struck off of some diagrams corresponding with these, illustrating the disease in the protected and unprotected districts in the army, which, with your permission, I will also hand in. [The papers were then handed round.] I may say that, in entering upon the investigation of this subject, I commenced it with the full expectation of finding the sanitary results of the Contagious Diseases Acts to have been successful. On completing the perusal of the report of the Royal Commission, after having read its evidence, I found that the Commissioners reported in 1870 that there was no distinct evidence that there was a diminution of the disease among the soldiers in consequence of the periodical examinations of prostitutes, which was the characteristic feature of the Act of 1866; and accordingly I commenced to procure information from official sources (Parliamentary papers). I had also recourse to the published reports of the Army and Navy, and the reports upon the prostitutes published by the Commissioner of the Metropolitan Police. The result you

will see is shortly this: that whilst in the whole Army before the Acts gonorrhœa had diminished one-eighth in its amount, throughout the whole Army gonorrhœa is higher now than it was before the Acts were in operation. It had fallen one-eighth in five years before, and was lower than, according to the Army Reports, it is now. Gonorrhœa is higher in the protected districts than in the unprotected stations—so Dr. Balfour reported. He repeats this opinion in the Army Report in 1871, and in 1872 it is repeated more strongly. In the protected stations of the Navy at home, gonorrhœa has more than doubled since 1866. In the Mediterranean gonorrhœa has more than doubled since the Act was in force. Since gonorrhœa was one of those forms of disease for the restraint of which this Act was passed, we have no alternative but to say that in the matter of gonorrhœa the Acts have proved a failure, and that they have proved worse than a failure in gonorrhœa,—that they have rather aggravated the disease, for at any rate its amount has increased. Then we have the other form, venereal sores, which we are all aware comprise disease not leading to constitutional affection and disease leading to constitutional affection, or secondary syphilis, which you will see in the paper I have sent round, and in which I quote entirely from the Army and Navy Reports. Secondary syphilis fell between 1861 and 1866, before the Acts were in force, one-fourth of its whole amount in the home army. As soon as the Act of 1866 was introduced, secondary syphilis rose, and, on the average of the six years since the Act, it is one-sixteenth higher throughout the whole Army than it was before the Act was in operation. Now, there are 50,000 men who are under the influence of the Acts, and 20,000 who are not. It appears to me, again, that we have no alternative but to say that secondary syphilis has increased in the protected stations since the Act of 1866. With respect to the primary venereal sores, there is no doubt —I do not for a moment question it—that primary venereal sores have fallen in amount since the Act came into operation. But a very important inquiry arises in the first instance,—What had they fallen before the Act was in operation? The diagram I have sent round, from which I will read extracts—and they shall be very short,—show this. In Devonport and Plymouth the average annual fall was 10·8 in 1000 before the Acts were in operation. The average annual fall has been 5 since. It has been reduced from 10 to 5,—10 before the Act to 5 since. In Portsmouth the average fall before the Act was put in force was 15 per 1000 per annum. Since the Act has been in operation the average fall has been only 10 per 1000 per annum. So that you see the average fall has been reduced from 15 to 10 per 1000 per annum. In Chatham and Sheerness the average fall before the Act was 4 per 1000 per annum; it has risen to 5·5 since the Act. In Woolwich, to which Mr. Acton has drawn such prominent attention, the average fall before the Act was 17 per 1000 per annum; the average fall since the Act has been 4 per 1000—the average fall has been reduced from 17 to 4. In Aldershot the average fall was 7 per 1000 per annum before the Act was in force; since the Act has been in force the average fall has been 3·6. In Cork disease has never been so low since the Act has been in operation as in the year before the Act was introduced. It has been higher ever since. In the Curragh the average fall was 9·3 per 1000 before the Act; since, it has been 12·2 per 1000,—so that in the Curragh there has been a gain of one-third. In Shorncliffe the fall was 9 before the Act; it has been 6·8 since the Act. In Dover there has been a decided benefit on the part of the Act. It was 8 before the Act; it has been 10 since. We have three instances of a benefit from the Act—in Chatham from 4 to 5·5, in the Curragh from 9 to 12, in Dover from 8 to 10. In Maidstone the average fall was 60 per annum before the Act; it has been 20 per annum since the Act. In Windsor it has nearly remained stationary since the Act. The ratio of disease is nearly twice as high in Windsor as it was the year before the Act was introduced. It has never been so low as it was before the Act was introduced. In Winchester there is such an extraordinary fluctuation before and after the Act that I have found it impossible to arrive at any positive opinion. I have therefore added a note; and the same remark applies still more strongly to Canterbury. We have one station remaining at Colchester, and Colchester shows a marvellous improvement since the Acts. Colchester is the one solitary example in which there has been a decided improvement. The average fall before the Act was 0; the average fall since the Act is 30 per annum. Out of fourteen stations, in eight the rate of fall has been very materially checked. In Chatham, Dover, and the Curragh there is a small gain for the Act; in Colchester there is a great gain. In the Army, with respect to primary venereal sores, I have been able, by the kindness of the War Office, to complete this table. The Army tables do not contain the primary sores for 1860, 1861, 1862, and 1863; but Mr. Hardy has supplied me with the statistics for completing this inquiry, and I have been enabled from those to bring out this table. I trust that if there is anybody here who should have the honour of Mr. Hardy's acquaintance, and he (Mr. Hardy) should make inquiry, he would not think that I have been guilty of a breach of confidence in communicating this table to you before I communicated it to him. This is not complete; it is merely an unfinished proof; but having the opportunity of speaking to you now, I give it you as I have it, and I got these proofs ready for you. In the Navy, there is no station in the world in which there has been so little improvement in primary venereal sores as in the home station. In the Mediterranean stations since the Act was passed primary venereal sores have doubled. With respect to the Navy stations, I may remark on the rapidity with which the disease is cured. The unprotected stations occupy a more favourable position than the protected ones. If I take the constantly sick and invalided, the table I have sent round gives what I have been collecting from the Army returns. The constantly sick from the syphilitic group fell one-third of its entire amount previous to the Acts. The mode of keeping the Army returns has been changed, and therefore I cannot compare that exactly; but the constantly sick from primary syphilis have fallen from 6·5 in 1866 to 5·5 since the Act was introduced. There has been therefore a gain of 1 man per 1000 in hospital since the Act was introduced. As the soldiers under the Act are about 50,000, this amounts to 50 men less per day in hospital compared with the time before the Act was introduced. Invalided also have increased. The invalided from secondary syphilis have risen one-twelfth since the Act. Then the invalided from gonorrhœa in the Navy are threefold what they were. The invalided have increased one-third from secondary syphilis since the Act was introduced. From the Army and Navy Returns—and it is these only I have been able to avail myself of—it appears that gonorrhœa has increased since the Act was introduced. Secondary syphilis has increased especially. Primary venereal sores have fallen off as compared with secondary. We cannot judge of the severity of the disease from the Army Returns. I am not able, therefore, to give you any opportunity of judging whether the severity of the disease is greater or less in the protected or unprotected districts; but I have given you from the Navy that the home station and the Mediterranean are worse, in point of severity of the disease, than in stations where there is no protection whatever. There is another point—the amount of disease amongst registered prostitutes. Taking the Reports of the Metropolitan Police, the amount of disease among registered prostitutes has increased 17 (16·5) per cent. since 1866, when the Act came into operation, and the amount of deaths is just doubled. There has been a steady annual increase in the proportion of deaths since 1866. It is now double what it was in that year. The amount of disease, I say, is 17 per cent. I have now to thank you for the indulgence which you have given me as a stranger.

Inspector-General Lawson: Mr. Chairman and gentlemen, I have one or two remarks to make. One general feature of the address we have just heard has been comparing single years. The speaker has referred pretty constantly to the year 1866, and compared that with the year 1872. He has put before you that, at certain stations which had reduced a certain number per annum before the Acts, subsequently to the application of these Acts the reduction, he says, has been less; but he has nowhere shown us that where the Acts had not been in force any reduction had taken place. We are met constantly with the statement that, because before the introduction of the Act there was a reduction at stations which subsequently came under it, that reduction should have gone on definitely. Now, sir, if we take the course of disease from 1860 onwards, we find that it diminished in frequency—I allude to primary venereal sores—from 1860 to 1867. From that period, in all those stations not under the Act, the venereal sores increased; they went on fluctuating, but still increased in 1867. There was a slight diminution in the following year, a considerable increase in 1869, a slight

diminution again in 1870, a very marked one in 1871, and in 1872 a very marked increase. We may naturally assume that, if the disease had increased in such a large number of stations, it would have done so in the other fourteen, provided they had not had the Act applied to them. We can detect in the fourteen under the Act a very slight fluctuation only. [The speaker referred to diagrams which were hung on the wall.] Here is a diagram, for instance, which shows the disease fell from 1864 to 1866, when it rose again. This is in the stations not under the Act. A very large rise to 1869; it then fell to this mark [pointing] in 1871; and in 1872 it rose again, as you see here. Now, in many of the illustrations of Dr. Nevins, he compares the minimum of 1866 with the maximum of 1872. I need not say that that is no comparison as to the general prevalence of the disease. It does not afford sufficient data to base a conclusion upon. Another point that Dr. Nevins has referred to is the variations between different stations. Now, he may not be aware, and I dare say many here may not be aware, that the variations at the same station at the same time between regiments in contiguous barracks are sometimes really greater than he has pointed out. At one period at Aldershot I had occasion to look into the question there connected with one regiment, and to make sure of the fact as to that regiment I extended it to other regiments. Those who have been at Aldershot may recollect a row of brick buildings, comprising the then infantry blocks and the artillery barracks; there was an infantry regiment in each of these blocks, and, for reasons I need not state now, it became my business to examine the course of disease in these three sets of buildings. There was one regiment in the middle barrack. That, in the course of forty-four consecutive weeks, had an admission-rate of 42·5 per 1000 per annum. The next one to them on one side had an admission-rate of 84 per 1000, or nearly double. The next one to them on the other side had an admission-rate of 124 per 1000, or nearly three times the first one. This took place at the same station, at the same time, under the same exposure. To see whether the same thing prevailed elsewhere, I took three regiments in the North Camp. They were the only regiments there for some time. I found that in one of these, in not quite such a long period (thirty weeks—which, however, is a considerable period), the admission-rate for primary sores, the annual rate, was 23 per 1000. The next regiment was 59 per 1000, and the next regiment was 114 per 1000. All these things took place at the same time and place. And if you compare these numbers together, you find a degree of variation greater than anything Dr. Nevins has mentioned. Now, the points we have to arrive at from these facts are, that there are circumstances connected with these irregular manifestations of the disease that we are not yet fairly acquainted with; and that we must not attach much weight to the results obtained from small bodies of men, but must deal with large masses, or the observations must be extended over several years, so that deviations from the mean in one direction, among some, may be neutralised as far as possible by deviations in the opposite among others, so as to get the mean to enable us to come to a right conclusion. Many comparisons we have heard to-night have been based on two years. They have taken the year 1866 against 1872—that is, showing you a year of minimum against a year of maximum. The whole deductions drawn from that, without reference to the mean of the intervening period, are delusive. Dr. Nevins has referred to the state of secondary syphilis, and he has told you that the secondary syphilis has been greater latterly than it was formerly, before the Act was in force. Now, I am sorry to say—and I take my stand on medical returns—that I come to a different conclusion. But I may have met with points that did not occur to him. There has been a change of nomenclature, and the full significance of that he is perhaps not aware of. In former years—that is, before 1869—secondary syphilis was returned in the army under three heads—1st, secondary syphilis; 2nd, syphilitic cachexia; and 3rd, syphilitic iritis; and I rather think that in taking out the numbers the latter two have been altogether omitted. Again, it is important to deal with these for several years, so as to arrive at a mean. Now, I have taken out all the cases of secondary syphilis from the Army Returns from 1860 to 1864—the number of men was 374,000, or 75,000 a year for these years. They amount to 34 per 1000 per annum. From 1868 to 1872—the period when the Acts were fairly in operation—there were 380,000 men, or 76,000 a year; and instead of 34 per 1000 for secondary syphilis, the ratio was 25 per 1000. In these cases you perceive I have taken an average of five years, and there was a large body of men to work upon. With regard to a comparison he made, I think it was a comparison of secondary syphilis in 1866, if I recollect right, with a subsequent period. Secondary syphilis varies from year to year, the same as the primary. The years when the primary sores have been small in number have been also those when the secondaries have been small in number. For instance, in 1864 they were 35·1 per 1000; in 1865, 29·6; in 1866, 24·8; in 1867, 28·1; in 1868 they rose to 31·6; in 1869 they were 26·2 per 1000; in 1871 they were 20·3; in 1872, 21·3 per 1000; so that they fluctuate the same as the other. Now, 1866 compared with 1872 shews little change, but if compared with the previous year it would have been given a fall of 4·5; so that here, again, dealing with particular years happening to fall, one in the minimum and the other in the maximum, it has thrown us out. By the proper method of examination, you have 34 in the former period and 25 in the latter—which is a decided reduction. Then again there is the question of discharges for syphilitic disease. In the first place, I suppose nobody here present will attach much weight to the discharges for syphilitic disease. All must know that when syphilitic disease passes on to affect the constitution, it most frequently displays itself in some form of disease in the brain, in the lungs, liver, or kidneys, and not as simple syphilitic disease that is uncomplicated. With regard to dealing with invaliding for syphilitic diseases we have some difficulty, because until 1863 they were not separated from other forms of the enthetic class. But if we take from 1863 to 1867, and from 1868 to 1872, which are two periods of five years each, we get for the first period a discharge rate of 13·6 per 10,000, and the second 13·9 per 10,000: the latter period embraces 1869 and 1870, when the army was undergoing great reductions, and everybody likely to be unfit to serve was discharged, while in other years not a few of these would have been kept on. In fact, 266 out of 527 discharges in the five years occurred in 1869 and 1870. However, even with all that, the number discharged is not sensibly different from that in the previous period. Now, sir, another question which has been raised is whether there has been any decrease in the amount of men who were under treatment for syphilitic disease. Dr. Nevins here again has compared 1866 with subsequent years. In the first place, he has compared that with subsequent years, and without taking the intermediate period into the question. We find, according to a statement which is in the Report of the Commission on the Contagious Diseases Acts, the numbers that were in hospital daily for primary syphilis was, in 1866, 6·35. It rose in 1869—a period of unusual prevalence of syphilis in the places not under the Act—to 9 and a fraction in hospital. In 1870 it had diminished to 7·94. In the places that were under the Act, the numbers in hospital in 1867 daily were a fraction under 7 in 1000—6·95; in 1870 they were down to 4·33 per 1000. Similarly with gonorrhœa cases, they were reduced in number at stations under the Acts, as well as at those not under the Acts. There has been a question which Dr. Nevins referred to, and I think it is one that deserves considerable attention. We are in the habit of estimating the benefit of the Acts by the reduction in the number of the cases we see at the stations that are under them. But there is an important point we have never fairly gone into. From the commencement of April, 1868, orders were issued that medical officers in charge of troops at stations under the Act should return through the head of their department the number of cases of primary venereal affection that came under their notice that were not due to the locality. Those numbers have accumulated; and while I was in Aldershot they naturally came into my hands. I looked at them, and saw what I could make of them. I have statistics here from Aldershot showing that the average number of admissions for primary sores from 1868 to 1871 was 66·8 per 1000; but of that number those that were traced as having been derived from the districts beyond the area in which the Act was in force, was such that it reduced the number due to the place where they were examined to 48. That being the average for four years, must be nearly correct. And I find from the remarks of Mr. Acton this evening, that at Woolwich the same thing appears to be going on. To get at the exact ratio of disease at Aldershot it is necessary to add two small corrections to this. One is that the ratio is calculated upon the total strength of men, including those who happen to be on furlough; and an addition should be made at Aldershot for these men absent, in the same ratio as occurred amongst those present. I am not able to state it positively; I hope to get

the exact figures by-and-by. Another correction is that when we take credit for the cases coming to us we require to make an allowance for those that are exported—that is, for cases which have been contracted at Aldershot and go away before the disease becomes developed. That correction I reckon would be amply provided for if we allow one-twenty-sixth of the annual ratio—that is, all cases infected within a fortnight of people going away. These two corrections would then raise the rate to somewhere about 50; so that we have, instead of the rate of 66·8 per 1000, an actual rate of about 50 per 1000 prevailing; and this I apprehend will apply more or less to all the other places under the Act. Now, with regard to gonorrhœa, I find with the same period the rate of gonorrhœa at Aldershot 95·2 per 1000. The imported cases were 23·4 per 1000; that reduces the rate to somewhere about 72 per 1000; so that the number of cases due to this protected station is about 76 per 1000, allowing for the imported cases,—which is a very important reduction that we have not hitherto thought of.

Mr. Holmes: I will not occupy your time for more than a very few minutes; but, as Dr. Nevins has referred to the Report of the Royal Commission on the Contagious Diseases Acts, and as I am the only member of that Commission in the room, I thought I would not let his observations pass without saying a word upon them, for though they are not of much importance in themselves, yet, if allowed to pass without notice, they might be deemed so. He says that the Royal Commission reported that there was no evidence that the periodical examinations had diminished disease. That passage does stand in the Report of the Royal Commission; but Dr. Nevins stated properly and fairly that no evidence as to the effect of repeated periodical examinations was possible at that time. The fortnightly examination had been hardly introduced very much before that time of the sitting of the Royal Commission at many of the stations, and it was not possible that there could be sufficient evidence on the subject. I must add that although that passage was allowed to stand in the Report, it was not left without a protest from a large minority of the members of the Commission, and in that minority were most of the medical members. The two who did not sign that protest were Mr. Holmes Coote, who was attached very strongly to the system of voluntary hospitals, which I think everyone must allow has been tried and has failed; and Dr. Bridges, who, I believe, was satisfied of the medical efficacy of the system itself, but still thought it proper for other reasons to give his vote in favour of a voluntary and local as distinguished from a compulsory and universal system. Although, therefore, this sentence in the Report of the Royal Commission is constantly quoted by the opponents of the Contagious Diseases Acts, it is of no value whatever. It was merely the expression of the feeling of the majority, and that was founded, not upon evidence, but upon the want of evidence. With respect to the general question, as I have stood up I must say this: people will discuss these figures in different senses for any length of time you give them. The figures in themselves are not probative at all. Dr. Nevins doubtless, with all proper intentions, will read them in one sense. Dr. Lawson, with equal good faith, and far more knowledge of the subject, will read them in a different sense. Everyone who has seen Dr. Nevins' diagrams will see he has no ground for stating that they show any annual average at all. They show that during the few years the Act has been in operation there have been fluctuations in various places. But the ratios, as far as a very hasty examination enables me to judge, seem to follow no law whatever, and afford no support to the assertion that there is any constant average fall in the prevalence of syphilis or gonorrhœa independent of the Acts. They seem to show that in one year the ratio of prevalence goes up, and in another year goes down; but they by no means prove, as Dr. Nevins assumes, that there is any necessary continuous decrease which may be calculated on as sure to occur after a given year. What weighed, however, with the Contagious Diseases Act Commission was the unanimous opinion given us by every medical man of experience we had before us, both in the army and navy, and in hospitals also, that these Acts had been materially beneficial to the men under their charge; and although that was less distinctly stated, because the opportunities for observation were less copious, still we had the very strongest evidence possible, by men who had the treatment of the prostitutes from these towns, that the Acts had diminished disease very materially among the prostitutes, and, still further, that they had very materially ameliorated the type of disease; and those were to myself the very strongest arguments in favour of letting these Acts have a longer trial. Not but what it seemed to me the figures were as strong as could be, considering the short time the Acts had been in operation. You must remember that the Acts are introduced at stations to which men and women suffering under these diseases are admitted promiscuously, and it is hardly fair to look upon them in the same light as if the whole area were under complete protection. On those points I think we had as strong evidence as it was possible to have; and when the Report of the Royal Commission is referred to, this fact ought not to be forgotten, that that Report recommended the continuance of the Acts, and not only so, but referred to the opposition against the system, and exhorted Parliament to resist that popular prejudice in the same way as an earlier Parliament resisted the popular outcry against vaccination. I sincerely trust that the Legislature will on this vital point follow the advice of the Commission.

Mr. Brudenell Carter: In the observations of Dr. Birkbeck Nevins there were two words which might be taken as implying that Dr. Balfour was, as he once was, opposed to the operation of the Contagious Diseases Acts. He referred to the report of Dr. Balfour in a kind of personal way. On the return of the hospital troopship *Victor Emanuel* from the Ashantee expedition I went to see the invalids. On that occasion I had some conversation with Dr. Balfour, and we discussed this question among others; and Dr. Balfour expressed to me in the strongest terms his high opinion of the great utility of the Contagious Diseases Acts; and he made this remarkable statement, that having been opposed to them originally on grounds of public policy, he had become a convert to them from his experience of their useful operation. "I was not an impartial observer, but a prejudiced observer, and a hostile observer; I was an opponent of them, and now I am one of their warm advocates and supporters." If the observations which have fallen from Dr. Nevins prove anything, and this manipulation of figures in his hands proves anything, it would surely prove that the operation of the Contagious Diseases Acts was to increase venereal disease; and I should like to appeal to the Fellows of this Society whether such a thing is possible. It appears to me that the only question which is open is, whether they diminish venereal disease to some extent: and the only question for sanitary philosophers is, if they do, whether they diminish it in such a degree as to make it worth while to maintain the machinery which produces such a result. If it is the fact that venereal disease has increased since the Acts have been in operation, surely it must be due to some other disturbing cause. It cannot be due to the operation of the Contagious Diseases Acts themselves; and it leads to the conclusion that if they are not the cause they must have led to a decrease. If so, it is an unfortunate argument he has founded on his figures.

Dr. De Chaumont: I wish to call attention to the diagrams upon the walls. These graphic figures are derived from statistics furnished by Mr. Fox, Surgeon-Major of the Royal Engineers at Chatham; and members of the Society may be aware they formed the subject-matter of a discussion between Dr. Parkes and Dr. Nevins in a recent number of the *British Medical Journal*. These two red curves [the speaker gave a description on the diagram] show the admissions per 1000 for primary syphilis and gonorrhœa from 1860 to 1874 inclusive, and have already been published in the *British Medical Journal* by Dr. Nevins—omitting, however, the year 1874. The argument Dr. Nevins took from them was, that from the variation of these curves it was impossible for anyone to tell, who had not been previously instructed, when any Act came into operation that would influence the number of admissions for these diseases. Now, in the curves he has published, the year 1874 was omitted, for this reason: that in 1873 a War Office order was issued that men suffering from disease the result of their own misconduct were to be subject to increased stoppages as a penalty. The deduction was drawn—and fairly enough for Dr. Nevins' argument—that the returns of 1874 were hardly to be considered in the same category as those of the previous years. For my own part, I believe the order had not much influence, for I do not think there is much tendency on the part of soldiers to conceal disease. In reply to Dr. Nevins' objection that it was impossible to say when a new agent influencing the admissions was introduced, I would point out that a mean line drawn across that curve would be carried along at about the number 75 or 76 on the red column, the ratio of admissions; and it would be there found that in the first

period, not under the protection of the Acts, the red curve was entirely above the mean line; in the second period it was entirely below the mean line. Casting your eye over that diagram, you could at once point to the year 1868, when the number fell permanently below the mean line, as the year when a new agent came into operation. What are the facts? In the year 1866 the Contagious Diseases Act came into operation there; but it was only partially effective up to 1868. After that year it was in full operation, with the results there—namely, that the curve of admissions, which in the unprotected period was entirely above the mean line, lay entirely below the mean line during the protected period. By looking at the table adjoining it will be seen that in gonorrhœa a somewhat similar result is attained, not quite so marked, because in the earlier period the curve does pass temporarily below the mean line. Dr. Nevins omitted in his diagrams what is a most important point; that was, that there was a strong influence caused, not only by the strength, but by the character of the strength of the corps. Now about the total strength: we observe that the actual total strength of the corps each year varies a good deal. You will be able to see that during the unprotected period the line of admissions lies above the line of strength; whereas during the protected period, in both syphilis and gonorrhœa, the line is below the line of strength. If we take the number of recruits introduced into the army, which is a large cause of disease, we find one curve follows the other very remarkably, but not completely; and therefore I have thought it would be a good plan to inquire into what really was the element producing disease in the corps; and as at Chatham recruits of the Royal Engineers are kept usually more than one year there, we may draw the conclusion that the recruits of the previous year will also form a strong influence. Now, these two elements taken together I venture to designate the Epinosic element (Επίνοσος, prone to disease). In this diagram here you will see the influence. I cannot give it for 1860, as I do not know the number of recruits for 1859, but it begins in 1861. This Epinosic element consists of the recruits of the current year, with the recruits of the past year, less 10 per cent. for casualties. The curve falls in the early period, and rises to a maximum in the later; whilst on the other hand the admissions for disease—*i.e.*, primary syphilis—may be seen to follow in an inverse ratio. Up to 1868 the curve of admissions remains entirely above the line of strength, whereas after that it remains entirely below; and though the curve of strength reaches its maximum in the latter period, the curve of admissions falls in a rapidly descending ratio. One important element I wish to call attention to is, how much the one curve is influenced by the other in both periods. There is a parallelism between them; in the earlier period there is considerable fluctuation. Here they follow the curve of strength; and even in the later period, when the admission lies below the curve of strength, it still shows by its remote parallelism the influence it receives from it. [The speaker explained the diagram.] One remark with regard to the intensity of disease. Dr. Birkbeck Nevins specially referred to the intensity of disease abroad having greatly disappointed the advocates of the Act there. During the last year a surgeon from Berlin (Dr. Starkie) visited us, and he expressed himself perfectly surprised at the number and virulence of cases of syphilis that we had in the hospital at Netley. We were surprised at that, for we did not think the cases numerous or exceptionally severe. He said—"I have never seen such cases at Berlin," and that "You might go into any of the towns of Germany, and you would find nothing like it."

Dr. Bond: I beg to give you my experience in the unprotected district of London. In Westminster there is a Lock Hospital of forty beds, supported by St. George's Union. We have there 200 a year, and I can state from my experience of seven years that the cases of constitutional syphilis have reached 75 per cent.,—all wretched sorts of constitutional syphilis.

Surgeon-Major Hatton: I was very glad to hear the member of the Royal Commission say what he did. I may say that previous to the introduction of these Acts the disease was of a most virulent character. I arrived in 1860 at Plymouth. We had a very large number of cases; so bad were they, that I recommended legislation on the matter. My experience of it at Dover is that since the Acts the diminution has been not only marked, but very marked indeed. In 150 men we rarely had more than three or four cases. We scarcely ever got a case of secondary symptoms. It was so marked that I could not allow the opportunity to pass without giving you the fact and my opinion on the operation of the Act.

The Chairman: The Society will now adjourn.

MEDICAL NEWS.

Royal College of Physicians of London.—The following gentlemen were admitted Members on April 29:—

Bowles, Robert Leamon, M.D. Brussels, Folkestone.
Goodhart, James Frederic, M.D. Aberdeen, 32, Finsbury-square, E.C.
Lees, David Bridge, M.B. Cambridge, Manchester.
Turner, Francis Charlewood, M.D. Cambridge, St. Thomas's Hospital, S.W.
Warwick, William Rollinson, M.D. St. Andrews, Lambert-road, S.W.

On the same day the following gentlemen were admitted as Licentiates:—

Alford, Frederick Stephen, 25, Haverstock-hill, N.W.
Barron, Thomas Walter, Sonderland.
Boulter, Harold Baxter, St. Bartholomew's Hospital, E.C.
Bradford, Peter, University Hospital, W.C.
Brown, Walter, Tetbury, Gloucestershire.
Bull, William Henry, St. George's Hospital, S.W.
Burgess, Edward John, St. Bartholomew's Hospital, E.C.
Edwards, David, Mold.
Evans, Henry, Bramley-hill, Croydon.
Garlick, George, University Hospital, W.C.
Granger, Farington Marsden, Public Dispensary, Leeds.
Hallett, Henry Arthur, 8, Southwood-terrace, N.
Johnston, Wingate Kidd, 24, Beverley-road, S.E.
Kennedy, William Adam, Newcastle-on-Tyne.
Lattey, Arthur, Willingham, Huntingdonshire.
Morrisson, Stammers, 1, Albert-square, S.W.
Smith, Charles Edwin, Royal Infirmary, Manchester.
Watts, Fred, 25, Bartholomew-close, E.C.

Royal College of Surgeons of England.—The following gentlemen passed their primary examinations in Anatomy and Physiology at a meeting of the Court of Examiners on the 30th ult., and when eligible will be admitted to the pass examination:—

Barker, Frederick Rowland, student of St. Thomas's Hospital.
Bennett, Henry James Lee, of St. George's Hospital.
Birdwood, Roger Alan, of Guy's Hospital.
Broster, Arthur Erdswick, of University College.
Collington, Arthur G., of Guy's Hospital.
Culhane, Frederick William Slater, of University College.
Davies, Morgan, of the London Hospital.
Dismorr, Henry, of Guy's Hospital.
Goodridge, Edward William Gostwyck, of St. Thomas's Hospital.
Heald, Robert, of University College.
Hearnden, William Frank, of Guy's Hospital.
Jakins, Percy Septimus, of St. Mary's Hospital.
Lewis, Charles Blake, of King's College.
Loader, Edward James, of St. Thomas's Hospital.
Nicholson, William Romney, of University College.
Pain, Alfred, of Guy's Hospital.
Pendleton, Henry Nathaniel, of St. Mary's Hospital.
Rigby, William Bradshaw, of St. Bartholomew's Hospital.
Salter, John Reynolds, of University College
Shaw, Charles Thomas Knox, of Guy's Hospital.
Stamp, William Dunn, of Guy's Hospital.
Tritton, William Parsons, of King's College.
Young, Archibald Pringle, of St. George's Hospital.

The following gentlemen passed on the 3rd inst., viz.:—

Battams, James Scott, student of St. Mary's Hospital.
Bradley, Charles Augustus, of the Manchester School.
Burt, Alfred, of Guy's Hospital
Buxton, Alfred St. Clair, of Guy's Hospital.
Campbell, Robert Huntly, of St. Thomas's Hospital.
Chubb, William Lindsay, of Guy's Hospital.
Coffin, Thomas Walker, of King's College.
Collington, John William, of Guy's Hospital.
Crallan, George Edward, B.A. Cantab., of St. Bartholomew's Hospital.
Creagh, Stephen Henry, of St. George's Hospital.
Evans, Edward Pritchard, of the Middlesex Hospital.
Foster, Nelson Spershott, of King's College.
Gabb, James Percy Alwyne, of University College.
Hall, Robert Dunsterville Grant, of St. Thomas's Hospital.
McCrea, John Frederick, of Guy's Hospital.
Manby, Herbert Lynsey, of Guy's Hospital.
Mortimer, John, of University College.
Sayer, Tom, of University College.
Steventon, Walter Thomas, of University College.
Strover, Walter, of Guy's Hospital.
Thomas, John Raglan, of St. Bartholomew's Hospital.
Watts, Edward Corrigham, of King's College.
Webster, John, of University College.
Wright, Christopher St. John, of Guy's Hospital.
Young, Williams Henry Frome, of St. George's Hospital.

The following gentlemen passed on the 4th inst., viz.:—

Buckby, Robert Greville, student of University College.
Cooper, Peter, of University College.
Corbyn, Frederic Henry, of King's College.
Corder, Sheppard Ransome, of University College.
Cross, Horace Edward Firmin, of King's College.
Enser, Theodore Francis, of King's College.
Fabien, Lewis, of University College.

Goulder, Frank Samuel, student of University College.
Hamilton, Henry Thomas, of the Charing-cross Hospital.
Harris, Arthur Byam of King's College.
Hinton, James Thomas, of Guy's Hospital.
Hudson, James, of University College.
Lee, Roger, of Guy's Hospital.
Lynn, Edward, of Guy's Hospital.
Marsh, Frank, of King's College.
Risk, Reginald Rodd Tudor, of King's College.
Shepheard, Henry John, of Guy's Hospital.

Fifty-five candidates out of the 176 examined having failed to acquit themselves to the satisfaction of the Court of Examiners, were referred to their anatomical and physiological studies for three months. Another primary examination will take place this day (Saturday). The following visitors have been present during these examinations, viz.:—Dr. Struthers, of Aberdeen; Messrs. Harris, of Liverpool; Lund, of Manchester; Golding Bird, of Guy's Hospital; Mason, Wagstaffe, and McKellar, of St. Thomas's Hospital; Cumberbatch, Furner, and Butlin, of St. Bartholomew's Hospital; Lowne, of the Middlesex Hospital; Gant, of the Royal Free Hospital, etc.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following gentlemen passed the first half of their examination for the Letters Testimonial, at the meetings of the Court of Examiners on April 5 and following days, viz.:—

Charles Anderson, Mathias Butler, Andrew Joseph Burke, Francis V. Burton, Abraham Walker Browne, Michael Callan, Patrick J. Carmody, John Chrystal, Henry Clarke, John P. Clarke, James B. Clibborn, Thomas F. Corcoran, Michael F. Cox, Thomas Cox, Wallace B. Croskerry, James M. Cumine, Thomas F. Falkiner, John W. Flood, George C. Forsyth, Kendall M. St. John Franks, Charles G. Geoghegan, John Gray, Robert C. Gunning, Henry W. Hartford, Wm Hederman, John Hoey, John B. Jennings, Wm. W. Kenny, Wm. Lee, John M'Clung, Thomas M. M'Evoy, Daniel Mitchell, Michael Molohan, Samuel Morris, Robert Neshitt, Cornelius Nolan, John O'Connor, Goodwin S. O'Grady, Wm. F. O'Grady, Standish Thomas O'Grady, Patrick J. O'Hagan, Edward D. O'Neill, Laurence O'Neill, Andrew D. Peyton, George M. Russell, George Searanche, Richard B. Smith, William B. Smith, Thomas Stanton, Reuben Turner, George D. Twigg, Edmund A. Wall, Hugh T. Warnock, George Whitaker, Charles Woods, and Alexander T. Young.

At a meeting of the examiners held on April 14, the following gentlemen obtained certificates for proficiency in general education, viz.:—

First Class—John T. Thomas. *Second Class*—Arthur P. Harper, John Tiernan, James Barr, Charles H. Ford, and Alfred Inwood. *Unclassed, arranged alphabetically*—Horatio N. Atkinson, James Bolster, Michael Clery, Patrick F. Coghlan, Albert J. Duffey, John R. Elliott, Hugh Harris, John S. Hawkins, Benjamin W. Horsford, Martin J. Hughes, Thomas Kenry, Frederick W. Lewis, Wm. J. Mackie, Robert Manders, Malcolm H. Moore, and Patrick Smith.

The following gentlemen passed their final examination for their letters testimonial on April 19 and following days, and having made the declaration prescribed by the Charter, were admitted Licentiates of the College, viz.:—

Andrew A. Abraham, Thomas A. Alexander, Thomas Alexander, James B. Armstrong, Geoffrey J. Bourke, Abraham W. Browne, Joseph Clarke, Alexander S. Deane, Arthur Duff, Henry G. Elliott, Robert A. Elliott, George C. Forsyth, Kendall M. St. John Franks, Patrick Gorman, John S. Hayes, Thomas G. B. Hutton, Samuel Keays, William Lee, Francis J. Lynch, Hugh Mackentish, Geoffrey M'Carthy, Owen M'Farland, Charles Nevill, George F. Nicholson, Frederick O'Connor, Henry Sampson, Charles Segrave, Edmund Tully, Frederick Tuthill, Patrick B. Walsh, Hugh T. Warnock, Patrick T. Webb, Patrick J. Whitty, and Michael Yourell.

APOTHECARIES' HALL. — The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, April 29:—

Cambridge, Thomas Arthur, 40, Gower-street, W.C.
Farnell, Henry Dawson, Westgate-terrace, Kensington.
Foster, Henry George, Crane-hill, Ipswich.
Hallett, Henry Arthur, Highgate.
Harris, Stanford, Higher Ardwick, Manchester.
Smith, Rowland Dunn, York House, Chatteries.
Tomkins, Henry, Great Berkhampstead, Herts.

The following gentlemen also on the same day passed their primary professional examination:—

Broome, Stephen Bernard, Marischal College, Aberdeen.
Garbutt, John Gilliott, St. Mary's Hospital.
Mahony, Laurence, the London Hospital.
Wade, Arthur Breedon, St. Mary's Hospital.
Wickham, Henry, St. Mary's Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that place.

AVELING, EDWARD B., B.Sc., Lond.—Lecturer on Comparative Anatomy at the London Hospital Medical College.

PATTERSON, THOS., B.A., M.D. Queen's Univ.—Medical Officer to the Oldham Workhouse, *vice* Samuel Jackson, M.R.C.S., retired.

NAVAL APPOINTMENT.

ADMIRALTY.—William Robert Bennett, M.D., Staff-Surgeon, to the *Pembroke*, additional for temporary services.

BIRTHS.

FARNFIELD.—On April 30, at Fir-grove, Brixton-road, S.W., the wife of Walter Edmund Farnfield, L.R.C.P., of a son.

HOCKEN.—On April 30, at The Limes, Wood-green, N., the wife of Charles E. Hocken, M.D., of a daughter.

MILLIGAN.—On April 30, at Wirksworth, Derbyshire, the wife of Wm. Milligan, L.R.C.P., M.R.C.S., L.S.A., of a son.

SMITH.—On May 1, at 1, Notting-hill-terrace, W., the wife of Joseph Smith, M.R.C.S. Eng., of a son.

LEWIS.—On May 2, at 2, Gordon-square, W.C., the wife of W. A. Lewis, M.B., B.A., M.R.C.P., of a daughter.

MARRIAGES.

CAMPBELL—KIDSTON.—On April 27, at St. Mary's Episcopal Church, Glasgow, Neil Campbell, Captain 79th Highlanders, to Maria Palmyra, only child of the late Thomas Kidston, M.D., late R.N.

HUNTER—LOVE.—On April 29, at Christ Church, Ealing, Albert Edwin, youngest son of the late James Charles Hunter, Esq., of Queen's-road, Dalston, E., to Maria Ann, second daughter of the late George H. Love, M.D., of Finsbury.

POTTER—NORTON.—On April 29, at Whitwell, Isle of Wight, Josiah Potter, Esq., of Ventnor, to Matilda Caroline, widow of the late W. A. Norton, M.D., and daughter of the late Captain Byrne, of the Rifle Brigade.

STEELE—DAVINIERE.—On May 4, at St. Mary Abbott's, Kensington, James Dickson Steele, L.F.P.S. Glasg., L.M., Medical Officer to H.M. Female Convict Prison, Woking, Surrey, to Lavinia, only daughter of the late Lieut.-Colonel Davinière, of H.M. Indian Army.

DEATHS.

CUMMING, JOHN JAMES FULLERTON, Lieutenant Royal Artillery, youngest son of the late G. V. Cumming, M.D., Superintending Surgeon Madras Army, on April 27, aged 28.

EADE, MADELINE OCTAVIA, wife of Charles Hugh Eade, M.R.C.S., and beloved daughter of John Oakshot, Esq., J.P., at Somerset-place, Oystermouth, near Swansea, on May 2, aged 31.

GILES, FRANCIS, M.R.C.S. Eng., L.S.A., of Stourbridge, on April 17, aged 55.

HOOD, CAPTAIN F. H., second son of Peter Hood, M.D., of 23, Lower Seymour-street, Portman-square, at Julpigore, India, on April 26, aged 38.

JONES, EDITH ESTCOURT, youngest surviving daughter of the late J. D. Jones, M.D., of Dalston, E., at 6, Eastbrook-road, Blackheath, on April 30.

KAVANAUGH, M. T., L.R.C.P. Edin., L.M., L.S.A., of Bermondsey, second son of Captain Robert Kavanaugh, on April 30, in his 27th year.

MADDOCK, ELLEN, widow of Alfred B. Maddock, M.D., late of Curzon-street, Mayfair, at Brighton, on May 1.

OLDHAM, FANNY WESTON, daughter of Henry Oldham, M.D., of 4, Cavendish-place, on May 2, aged 29.

RIDSDALE, MARIA HENRIETTA, wife of George Ridsdale, M.D., and only child of the late James Alewyn, Esq., of St. John's-wood, N.W., at Gravesend, at the residence of her mother, on April 26, in her 68th year.

SINCLAIR, CECIL HAMILTON, son of Surgeon-Major Sinclair, R.A., at sea, on board the troopship *Jumna*, on April 24, aged 7½ months.

THOMAS, WALTER, M.D., fifth son of the late Benjamin Thomas, Esq., of Rushacre, Narberth, at Upper Stiewacke, Nova Scotia, on March 21.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

BRADFORD INFIRMARY AND DISPENSARY.—Physician. Candidates must be duly qualified. Applications, with testimonials, to Mr. Charles Woodcock, Secretary, 65, Market-street, Bradford, on or before June 12.

BROADMOOR CRIMINAL LUNATIC ASYLUM.—Assistant Medical Officer. Candidates must be duly qualified and registered. Applications, with testimonials, to the Medical Superintendent, Broadmoor Asylum, near Wokingham, Berks.

CENTRAL LONDON SICK ASYLUM DISTRICT.—Assistant Medical Officer and Dispenser for the Asylum in Cleveland-street. Candidates must be doubly qualified. Applications, with testimonials, to Wm. Appleton, Clerk to the Managers, Highgate Infirmary, Upper Holloway, N., before May 19.

EVELINA HOSPITAL, SOUTHWARK-BRIDGE-ROAD, S.E. — Registrar and Chloroformist. Candidates must possess a recognised qualification. Applications, with testimonials, immediately, to the Committee of Management.

HIGHGATE INFIRMARY.—Assistant Medical Officer. Candidates must be doubly qualified. Applications, with testimonials, to W. Appleton, Clerk to the Managers, at the Infirmary, Highgate, N., before May 19.

LEIGHTON BUZZARD UNION.—Medical Officer and Medical Officer of Health. Candidates must be duly qualified. Applications, with testimonials, to J. Newton, Clerk to the Guardians, on or before May 13.

ROYAL FREE HOSPITAL, GRAY'S-INN-ROAD.—Honorary Surgeon. Candidates must be F.R.C.S. Eng. Applications, with testimonials, to the Secretary, at the Hospital, on or before May 24.

ROYAL ORTHOPÆDIC HOSPITAL, 315, OXFORD-STREET, W. — Surgeon. Candidates must be F.R.C.S. Eng. Applications, with testimonials, to the Secretary, on or before May 12.

ST. GEORGE'S (HANOVER-SQUARE) DISPENSARY, 59, MOUNT-STREET, GROSVENOR-SQUARE, W.—Physician. Candidates must be F. or M.R.C.P. Applications, with testimonials, to the Secretary, Mr. G. H. Leah, jun., 73, Park-street, Grosvenor-square, W., on or before May 8.

SALOP AND MONTGOMERY COUNTIES LUNATIC ASYLUM.—Assistant Medical Officer. Applications, with testimonials, to Mr. G. De C. Peele, Clerk to the Visitors, Shire Hall, Shrewsbury, on or before May 14.

Scarborough Dispensary and Accident Hospital.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to be addressed to the Medical Staff, under cover to the House-Surgeon, on or before May 17.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Ashby-de-la-Zouch Union.—The Second District is vacant; area 5630; population 2413; salary £20 per annum. The Third District is vacant; area 7096; population 2869; salary £26 per annum.

Chertsey Union.—Mr. E. Kough has resigned the Windlesham District; area 5370; population 2311; salary 50 per annum.

APPOINTMENTS.

Chesterton Union.—Patrick J. Molony, M.D. and M.C. Dub., to the Workhouse.

Godstone Union.—Thos. F. Lloyd, M.R.C.S. Eng., L.S.A., to the Northern District.

Leominster Union.—Robert Williams, B.M. and M.C. Edin.. to the Kingsland District.

Prestwich Union.—Richard Crean, L.K.&Q.C.P.I., L.R.C.S., to the Cheetham District.

Ruthin Union.—Evan Pierce, M.D. St. Aod., F.R.C.S. Edin., L.F.P.&S., L.S.A. Lond., to the Llanrhaiade District.

Scarborough Union.—Charles Fryer, L.K.&Q.C.P.I., to the Sherburn District.

Solihull Union.—Edward S. Page, L.F.P.&S. Glasg., L.S.A. Lond., to the Solihull District.

Addenbrooke's Hospital.—The Governors of Addenbrooke's Hospital, Cambridge, at a special meeting held on Monday, passed, by a small majority, a resolution affirming the desirability of erecting new buildings for increasing the accommodation of the Hospital at a probable cost of 3000*l.*

Royal Institution of Great Britain.—At the general monthly meeting, held on Monday, May 3, George Busk, F.R.S., Vice-President, in the chair, the following Vice-Presidents for the ensuing year were announced:—The Duke of Devonshire, K.G.; W. Pole, F.R.S.; C. William Siemens, D.C.L., F.R.S.; George Busk, F.R.S., Treasurer; William Spottiswoode, L.L.D., F.R.S., Secretary.

Health of London.—In the metropolis last week 1532 deaths were registered, exceeding the average number by 80. The annual death-rate from all causes, which in the four previous weeks had declined from 28 to 24 per 1000, further declined to 23. The deaths included 35 from scarlet fever and 96 from whooping-cough, and not one from small-pox. To the seven principal diseases of the zymotic class 191 deaths were referred, against 175 and 168 in the two preceding weeks. The diseases of the respiratory organs were fatal in 375 cases, showing a considerable decrease upon the numbers of the previous week; 217 resulted from bronchitis, and 104 from pneumonia.

Composition and Quality of the Metropolitan Waters in April, 1875.—The following are the returns (by Dr. Letheby) of the Society of Medical Officers of Health:—

Names of Water Companies.	Total Solid Matter per Gallon.	Oxygen required by Organic Matter, &c.	Nitrogen.		Hardness.	
			As Nitrates &c.	As Ammonia.	Before Boiling.	After Boiling.
Thames Water Companies.	Grains.	Grains.	Grains.	Grains.	Degs.	Degs.
Grand Junction	19·67	0·043	0·157	0·001	14·3	3·8
West Middlesex	19·03	0·027	0·155	0·001	14·0	3·8
Southwark & Vauxhall	19·93	0·055	0·161	0·002	14·8	3·8
Chelsea	19·87	0·062	0·194	0·001	14·3	3·8
Lambeth	19·41	0·041	0·172	0·001	14·2	3·8
Other Companies.						
Kent	27·60	0·003	0·261	0·000	20·2	5·6
New River	16·57	0·013	0·160	0·000	13·5	3·3
East London	20·07	0·031	0·191	0·001	14·3	3·8

Note.—The amount of oxygen required to oxidise the organic matter, nitrites, etc., is determined by a standard solution of permanganate of potash acting for three hours; and in the case of the metropolitan waters the quantity of organic matter is about eight times the amount of oxygen required by it.

The water was found to be clear and nearly colourless in all cases but the following, when it was very slightly turbid—namely, in those of the Grand Junction, the Southwark and Vauxhall, the Chelsea, and the Lambeth Companies.

The average quantity of water supplied daily to the metropolis during the preceding month was, according to the returns of the Water Companies to the Society of Medical Officers of Health, 109,352,343 gallons; and the number of houses supplied was 516,514. This is at the rate of 32·2 gallons per head of the population daily. The last official return from Paris stated that the average daily supply per head of the population was 31·9 gallons; but this includes the water used for the public fountains, and for the ornamental waters in the Bois de Vincennes and the Bois de Boulogne.

Yellow Fever in Rio de Janeiro.—The Rio de Janeiro Board of Health reports that the deaths from all causes during the sixteen days ending March 31 last were 615, of whom 189 were from yellow fever. Compared with the first half of the month, the daily average had decreased, and yellow fever cases were reduced from 13 to 11·8 a day.

Belladonna in Scarlatina.—At the Baltimore Medical Society, Dr. Cathell strongly recommended the external application of fluid extract of belladonna to the throat in scarlatina. He had used it for eight years, and never had a case in which the glands were excessively swollen. It seems to keep them in a quiescent state, but has no effect on the swelling of glands already inflamed. He believes that the application would prove useful in bubo and all local inflammations of glands.—*Phil. Med. Times*, March 20.

Transfusion in a Child.—In the *Philadelphia Medical Times* for March 13 and 20, Drs. Boisnot and Morton relate a case of purpura hæmorrhagica, with excessive epistaxis, occurring in a boy seven years of age. After other remedies had been tried in vain, and the case seeming desperate, three syringefuls of defibrinated blood, amounting to about four ounces, taken from the arm of the father, were transfused. A violent chill, with serious syncope, followed, and threatening symptoms continued for a considerable time, but eventually complete recovery took place.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

Dr. J. Foster Jenkins, Yonkers.—Letter with enclosure received.

Sanitas, Salford.—The degree is a good one. The examination occupies about three days.

F. O., Shropshire.—Dr. John Haslam was for some years Apothecary to Bridewell and Bethlehem Hospitals previously to his entering his career as a physician. He died in Great Ormond-street, July 20, 1844, aged eighty years.

Gus.— "Have by some surgeon, Shylock, on your charge,
To stop his wounds, lest he do bleed to death."
—*Merchant of Venice.*

A Fellow, Royal Navy, Plymouth, and *Dr. McM., Dover.*—Your application to become a steward at the annual festival of the Fellows of the Royal College of Surgeons should be addressed at once to the Honorary Secretary, William Allingham, Esq., 10, Chandos-street, Cavendish-square.

A Young Surgeon, Clapham.—The man's name does not appear in Churchill's "Directory" for the simple reason that on his conviction for the serious crime for which he was tried his name was removed from the list of Members of the College, and subsequently from the Register by the order of the General Medical Council.

Dr. Campbell.—The annual expenditure of the General Medical Council for the past year amounted to £9090 9s. 11d., that of the Royal College of Surgeons to £12,672 14s. 5d.; but the latter sum includes £1685 19s. 10d. paid for lectures, prizes, *conversazione*, taxes, and rates. The College has a much larger staff of officers and servants. You can obtain full particulars by applying to the secretaries of each institution.

W. D.—John Callow, of 10, Crown-court, St. Anne's, Soho, was the father of our medical booksellers (1795), and the first who published a separate sale-catalogue of medical books. Callow's business increased so much that in 1818 he removed to Prince's-street, the north-west corner of Gerrard-street. In 1824 he retired, leaving as his successor Mr. John Wilson, who subsequently transferred the business to Mr. John Churchill. The propinquity of Crown-court to the renowned anatomical theatre erected by Dr. Hunter in Great Windmill-street brought a large number of pupils and medical practitioners to Callow's shop, and many medical books were offered to him for sale or in exchange by medical pupils.

An Army Surgeon.—Private White, of the 7th Hussars, was sentenced to 150 lashes for striking his sergeant. The flogging took place at Hounslow Barracks, June 15, 1846. The whole number of lashes was administered by two farriers, under the inspection of Dr. Warren, the surgeon of the regiment. At the conclusion White was able to walk to the hospital with a little assistance; but he got worse there, and expired on July 11. A regimental post-mortem examination was made, and a certificate signed that death resulted from inflammation of the pleura, and was in no way connected with the corporal punishment to which he had been subjected. The coroner, Mr. Wakley, and Mr. Erasmus Wilson, took a different view, the latter giving it as his opinion that, so far as appearances went, White might still have been alive but for the severe punishment he had endured. The coroner's jury returned a verdict to this effect, and urged upon the people the necessity of petitioning Parliament to put a stop to the cruel practice.

J. P. P.—The first stone of the north wing of University College Hospital, Gower-street, was laid by Lord Brougham, the President of the Council of the College, May 20, 1846.

A Query for the Public.

TO THE EDITOR OF THE MEDICAL TIMES AND GAZETTE.

SIR,—Will some of your readers kindly inform me where I can obtain former examination papers of the Preliminary Examination (Educational) for the Fellowship, Royal College of Surgeons, in Classics, Chemistry, etc.?

I am, &c., NAMON.

COMMUNICATIONS have been received from—

Dr. Hughlings-Jackson, London; Dr. H. C. Mayer, London; Dr. Handfield Jones, London; Dr. C. Orton, Newcastle; Our Paris Correspondent; Dr. Druitt, Madras; The President and Council of the Medical Society of London; The Registrar of the Royal College of Physicians; Mr. Brudenell Carter, London; The Registrar of the University of London; Mr. Francis Mason, London; Mr. W. Spencer Watson, London; Mr. H. Morris, London; Mr. Jonathan Hutchinson, London; Mr. J. Chatto, London; Mr. T. P. Pick, London; Dr. Yule, Fenhurst; Dr. W. B. Carpenter, London; Mr. S. H. Evans, Belper; Mr. W. Acton, London; Dr. J. D. Vinen, London; Mr. Lawson Tait, Birmingham; Mr. E. B. Aveling, London; Dr. Gavin Milroy, Richmond; Mr. J. Blackett, London; Mr. Custance, London; Namon; Dr. T. Patterson, Oldham; Dr. Burdon-Sanderson, London.

BOOKS AND PAMPHLETS RECEIVED—

Duncan on Typhoid Fever—Longmore's Manual of Instructions for the Guidance of Army Surgeons in Testing the Range and Quality of Vision of Recruits, and in Distinguishing the Causes of, Defective Vision in Soldiers—Les Conclusions du Congrès Sanitaire International de Vienne, par M. le Dr. Stanski—Tyson's Practical Examination of Urine—Ziemssen's Cyclopædia of the Practice of Medicine, vols. i. and ii.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—National Food and Fuel Reformer—Philadelphia Medical Times—Pharmaceutical Journal—Centralblatt für die Medicinischen Wissenschaften—La France Médicale—Iron—Wiener Medizinische Wochenschrift—Journal des Sages-Femmes—Leisure Hour—Sunday at Home—Irish Hospital Gazette—L'Archives Générales de Médecine—Worcestershire Chronicle—Monthly Homœopathic Review—Monthly Microscopical Journal—Chicago Medical Journal.

APPOINTMENTS FOR THE WEEK.

May 8. Saturday (this day).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

Royal Institution, 3 p.m. Rev. Mark Pattison, "A Chapter of University History."

10. Monday.

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

11. Tuesday.

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Anthropological Institute, 8 p.m. Meeting.

Royal Institution, 3 p.m. Prof. Gladstone, "On Chemical Force."

Royal Medical and Chirurgical Society, 8½ p.m. Dr. Wickham Legg, "On the Histology of Nutmeg Liver." Mr. Henry Lee, "On Excision of the Ankle-Joint." Dr. Galabin, "On a New Form of Cardiograph." Mr. Gay, "On the Treatment of Nasal Lupus by Excision."

12. Wednesday.

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

13. Thursday.

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.

Royal Institution, 3 p.m. Mr. James Dewar, "On the Progress of Physico-Chemical Inquiry."

14. Friday.

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

Clinical Society, 8½ p.m. Mr. Jonathan Hutchinson, "Rare Form of Malformation of the Head, with Proptosis." Dr. T. Henry Green, "Case of Fatty Degeneration of the Heart." Dr. Broadbent, "Absence of Pulsation in both Radial Arteries, the vessels being full of blood." Dr. Geo. H. Evans, "Dilated Heart, from Valvular Disease; right ventricle tapped by error, not only without harm, but with relief of symptoms."

Royal Institution (Weekly Evening Meeting, 8 p.m.), 9 p.m. Mr. J. Evans, "On the Coinage of the Ancient Britons and Natural Selection."

VITAL STATISTICS OF LONDON.

Week ending Saturday, May 1.

BIRTHS.

Births of Boys, 1207; Girls, 1242; Total, 2449.
Average of 10 corresponding years 1865-74, 2290·1.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	780	752	1532
Average of the ten years 1865-74	700·5	656·3	1356·8
Average corrected to increased population	...	...	1452
Deaths of people aged 80 and upwards	...	...	69

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	2	4	2	10	3	4	...	1
North	751729	...	...	12	1	17	2	4	1	6
Central ...	334369	...	1	2	...	8	...	4	...	2
East	639111	...	5	6	1	29	...	3	...	2
South	967692	...	3	11	3	32	1	5	3	4
Total	3254260	...	11	35	7	96	6	20	4	15

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·927 in.
Mean temperature	52·1°
Highest point of thermometer	71·5°
Lowest point of thermometer	27·8°
Mean dew-point temperature	41·7°
General direction of wind	W.S.W.
Whole amount of rain in the week	0·37 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, May 1, 1875, in the following large Towns:—

Borough, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1875.)	Births Registered during the week ending May 1.	Deaths Registered during the week ending May 1.	Temperature of Air (Fahr.): Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.): Weekly Mean of Mean Daily Values.	Rain Fall: In Inches.	In Centimetres.
London	3445160	45·7	2449	1534	71·5	27·8	52·1	11·17	0·37	0·94
Portsmouth ...	122632	27·3	87	57	...	...	...	...	...	...
Norwich	82842	11·1	60	49	66·5	28·5	49·5	9·72	0·00	0·00
Bristol	196186	44·1	156	101	66·0	34·1	49·1	9·50	0·0	0·00
Wolverhampton ...	71718	21·1	52	31	72·5	30·9	51·8	11·01	0·28	0·71
Birmingham ...	366325	43·6	334	196	66·0	36·0	50·5	10·28	0·00	0·00
Leicester	109830	34·3	87	59	69·5	40·2	51·8	11·01	0·29	0·74
Nottingham ...	92251	46·2	+81	+39	67·9	38·3	51·2	10·67	0·00	0·00
Liverpool	516063	99·1	389	264	59·6	43·1	50·3	10·17	0·35	0·89
Manchester ...	356626	83·1	200	210	67·0	32·0	51·5	10·84	0·26	0·66
Salford	135720	26·3	115	82	65·0	31·0	50·1	10·06	0·26	0·66
Oldham	87437	18·7	88	55	...	...	...	...	...	...
Bradford	168305	23·3	125	90	64·2	35·0	49·9	9·94	0·03	0·08
Leeds	285118	13·2	215	124	63·0	36·0	50·4	10·22	0·07	0·18
Sheffield	267881	13·6	189	134	69·0	36·0	51·6	10·90	0·45	1·14
Hull	133932	36·8	109	84	66·0	36·0	49·6	9·78	0·03	0·08
Sunderland ...	106342	32·2	99	51	74·0	41·0	52·0	11·11	0·11	0·28
Newcastle-on-Tyne	137665	25·6	119	52	66·0	35·0	50·4	10·22	0·14	0·36
Edinburgh	211626	50·5	161	89	...	...	...	...	...	...
Glasgow	534561	88·6	437	327	59·7	35·9	49·7	9·83	0·65	1·65
Dublin	314666	31·3	130	140	65·5	36·6	52·1	11·17	0·67	1·70
Total of 21 Towns in United Kingdm	7742889	37·0	5772	3766	74·0	28·5	50·8	10·45	0·22	0·56

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·93 in. The highest was 30·13 in. on Sunday morning, and the lowest 29·72 in. on Saturday afternoon.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

† These totals include an average for one sub-district.

ORIGINAL LECTURES.

NOTES ON THE INVERTEBRATA

FOR THE

USE OF STUDENTS OF ZOOLOGY.

BEING AN OUTLINE OF A COURSE OF LECTURES DELIVERED FROM THE CHAIR OF NATURAL HISTORY IN THE UNIVERSITY OF EDINBURGH.

By THOMAS H. HUXLEY, LL.D., Sec. R.S.

(*Continued from page* 496.)

The Metazoa.

1. *The Porifera or Spongida.*—It has been seen that, in the *Protozoa*, the germ undergoes no process of division analogous to the "yelk division" of the higher animals, and to the corresponding process by which the embryocell of every plant but the very lowest becomes converted into a cellular embryo. Consequently, there is no blastoderm; the body of the adult *Protozoon* is not resolvable into morphological units, or cells, more or less modified; and the alimentary cavity, when it exists, has no special lining. Moreover, the occurrence of sexual reproduction in most of the *Protozoa* is doubtful, and there is, at present, no evidence of the existence of male elements, in the form of filamentous spermatozoa, in any group but the *Infusoria*.

In all the *Metazoa*, the germ has the form of a nucleated cell. The first step in the process of development is the production of a blastoderm by the subdivision of that cell, and the cells of the blastoderm give rise to the histological elements of the adult body. With the exception of certain parasites, and the extremely modified males of a few species, all these animals possess a permanent alimentary cavity, lined by a special layer of cells. Sexual reproduction always occurs, and, very generally, the male element has the form of filiform spermatozoa.

The lowest term in the series of these *Metazoa* is undoubtedly represented by the *Porifera* or Sponges, which, after oscillating between the vegetable and the animal kingdoms, have, in recent times, been recognised as animals by all who have carefully studied their structure and the manner in which their functions are performed.

The place in the animal kingdom which is to be assigned to the sponges has been, and still is, a matter of debate. It is certain that an ordinary sponge is made up of an aggregation of corpuscles, some of which have all the characters of *Amœbæ*, while others are no less similar to *Monads*; and therefore, taking adult structure only into account, the comparison of a sponge to a sort of compound *Protozoon* is perfectly admissible, and, in the absence of other evidence, would justify the location of the sponges among the *Protozoa*.

But within the last few years the development of the sponges has been carefully studied; and, as in so many other cases, a knowledge of that process necessitates a reconsideration of the views suggested by adult structure.

The impregnated ovum undergoes regular division; a blastoderm is formed, consisting of two layers of cells—an epiblast and a hypoblast,—and the young animal has the form of a deep cup, the wall of which is composed of two layers, an *ectoderm* and an *entoderm*, which proceed respectively from the epiblast and hypoblast. The embryo sponge is, in fact, altogether similar to the corresponding stage of a hydrozoon, and is totally unlike any known condition of a protozoon.

Beyond this early stage, however, the sponge embryo takes a line of its own, and its subsequent condition differs altogether from anything known among the *Cœlenterata*, all of which, on the other hand, present close and intimate resemblances in their further development, as in their adult structure.

While admitting, therefore, that the Sponges constitute the lowest term in the series of animal forms above the *Protozoa*, and that they are most nearly allied to the lower *Cœlenterata*, I see no ground for including them in the latter group, as Leuckart has proposed to do.

Without going so far as this, Haeckel would indicate the affinities of the sponges with the *Cœlenterata* by uniting them in one large division, for which he proposes to revive the old term *Zoophyta* in a restricted sense.

But, apart from the objection which may be taken to the revival of an old name with a new connotation, it must be recollected that the embryonic characters which connect the *Porifera* with the *Cœlenterata* ally them with many other groups of *Metazoa*; while they are separated from the *Cœlenterata*, as from other *Metazoa*, by the fact that in the adult state they possess many ingestive apertures, formed by the perforation of the two layers of the blastoderm.

Up till within the last few years, the only sponge of the structure and development of which we were accurately informed was the *Spongilla fluviatilis*, or fresh-water sponge, the subject of the elaborate researches of Lieberkühn and Carter. But, recently, a flood of light has been thrown upon the morphology and physiology of the marine sponges, and especially of those sponges with calcareous skeletons which are termed *Calcispongiæ*, by Lieberkühn, Oscar Schmidt, and especially Haeckel, and it has become clear that *Spongilla* is a somewhat aberrant form, and that the fundamental type of Poriferal organisation is to be sought among the *Calcispongiæ*. In the least complicated of the calcareous sponges, the body has the form of a cup, and is attached by its closed extremity. The open extremity is the *osculum*, and leads directly into the spacious *ventriculus*, or cavity of the cup. The comparatively thin wall of the cup is composed of two layers, readily distinguishable by their structure—the outer is the *ectoderm*, the inner the *endoderm*. The ectoderm is a transparent, slightly granular, gelatinous mass in which nuclei are scattered, but which, in the unaltered state, shows no trace of the primitive distinctness of the cells which contained these nuclei, and is therefore termed by Haeckel a *syncytium*. It is elastic and contractile, and sometimes exhibits an approach to fibrillation.

The endoderm, on the contrary, is composed of a layer of very distinct cells, each of which contains a nucleus and one or more contractile vacuoles, and is produced at its free extremity into a long solitary cilium or flagellum. Around the base of this, the transparent outer portion of the protoplasm of the cell is produced into an upstanding ridge like a collar, so that each cell has a wonderful resemblance to some forms of flagellate *Infusoria*. Microscopic apertures or pores, scattered over the outer surface of the cup, lead into short passages which perforate the ectoderm and endoderm, and thus place the ventriculus in communication with the exterior. The working of the flagella of the endodermic cells causes the water contained in the gastric cavity to flow out of the osculum; to make good this outflow, minute streams set in by the pores, which have consequently been called *inhalent*, while the *osculum* has been termed the *exhalent* aperture. It is said, however, that the direction of these currents is not invariable; and it is certain that the pores are not constant, but that they may be temporarily or permanently closed, and new ones formed in other positions.

The skeleton of the calcareous sponges always consists of a multitude of separate spicula, composed of an animal substance, more or less strongly impregnated with carbonate of lime, which is deposited in concentric layers around a central axis, formed by the animal basis. This skeleton is developed exclusively in the ectoderm, and is not supported by any framework of fibrous animal matter.

The calcareous sponges are frequently, if not always, hermaphrodite. The reproductive elements are ova and spermatozoa. It seems to be pretty certain that the latter originate in metamorphosed cells of the endoderm, as they are found scattered between ordinary cells of the latter. The ova, on the other hand, are found sometimes between the cells of the endoderm, sometimes embedded in the syncytium itself; and their origin is still doubtful. The spermatozoa are very delicate, and have minute rod-like heads, with long flagella. The ova present the normal germinal vesicle and spot, but exhibit active amœboid movements.

Impregnation occurs and the first stages of development take place, while the ova are still embedded in the body of the sponge. The protoplasmic mass which represents the vitellus undergoes complete division, and is converted into a mulberry-like body, composed of division-masses or *blastomeres*, which are soon converted into cells (*Morula* of Haeckel). The superficial cells of the *Morula* next become elongated perpendicularly to the surface, and give rise to the ectoderm, which encloses the remainder of the polygonal cells which have resulted from the process of division, and, though as yet unaltered, represent the future endoderm. But the ectodermic cells of the embryo rapidly take on the structure which characterises the endodermic cells of the adult, each giving rise, at its free end, to a flagellum surrounded by a basal collar. In this state, the embryo is in the condition of that stage of development of a hydrozoon called *Planula* by Sir J. G. Dalyell.

It contains a central cavity, which opens at one extremity, and the *Planula* is thus converted into a *Gastrula* (Haeckel), which is a pouch-like body, having the general form of the adult, but differing in the circumstances that its walls are not perforated by pores, and that its ectoderm has still the structure of the endoderm of the adult, while the cells of the endoderm, or lining membrane of the gastric cavity, are devoid of cilia. The embryo quits the parent in the Planula state, propelled by the flagelliform cilia which cover the outer surface of the ectoderm. After a time, it fixes itself by the end which remains closed; the flagella of the cells of the ectoderm are retracted, the cells themselves become flattened and coalesce so completely that their boundaries cease to be distinguishable, and the ectoderm passes into the condition of a syncytium. At the same time, the cells of the endoderm multiply, elongate, and take on the form which characterises them in the adult. In this state the young sponge is termed an *Ascula*. The transition to the final form is effected by the development of the spicula in the syncytium; and the formation of the inhalent pores, by the separation of some of the constituent cells of the syncytium.

According to the process thus described by Haeckel, the embryo, at first a solid aggregation of division masses, or *blastomeres* (*Morula*), becomes a double-walled closed sac (*Planula*), and this opening at one end becomes the cup-shaped *Gastrula*, the aperture of which is the final exhalent orifice.

It is a very interesting fact, however, that Metschnikoff(a) has recently described a different mode of development in *Sycon ciliatum*. The ovum, after impregnation, becomes a *Morula*, with a central cleavage cavity or *blastocœle*. But the blastomeres of the two halves of the *Morula* take on different characters—those of the one half elongating and acquiring flagelliform cilia, while those of the opposite half remain globular and develope no cilia. The latter now coalesce into a syncytium, and develope spicula, while the layer of ciliated cells becomes invaginated within the syncytium. Thus, though a cup-shaped *Gastrula* with an endoderm and ectoderm is formed, it is developed in a different manner from the gastrula of the other *Calcispongiæ* at present known. Moreover, in *Sycon ciliatum* the primitive opening of invagination closes, and the young sponge is for a time a short double-walled sac.

Assuming that both Haeckel's and Metschnikoff's observations are accurate, the *Calcispongiæ* will present both the methods in which the primitive digestive cavity is formed in other *Metazoa*.

In the simplest *Calcispongiæ*, forming the family to which Haeckel applies the name of *Asconcs*, the wall of the ventriculus is thin, and the pores open directly into the ventricular cavity; but in another family, the *Leuconcs*, the syncytium becomes greatly thickened, and the pores are consequently prolonged into canals (which may be ramified and anastomosing), connecting the ventriculus with the exterior. The endodermic cells, which at first form a continuous layer, in these, as in the *Ascones*, are eventually restricted to the canals, or even to local dilatations of these canals—the so-called "ciliated chambers."

The same relative disproportion of the ectoderm, with the consequent development of passages which traverse the mass of the sponge, and are provided at intervals with ciliated chambers, is found in the silicious sponges, in which the *spicula*, if they possess any, are hardened by a deposit of silex; and in which, as a rule, the sponge corpuscles are supported by a more or less complete skeleton of a tough animal substance—"*keratose*."

Halisarca, however, is devoid both of skeleton and spicula, and the minute structure of the curious boring sponges—the *Clionæ*—has yet to be elucidated.

The fresh-water sponge (*Spongilla*) has been studied with extreme care by Lieberkühn, and the following account, based upon the investigations of that author, is given for the use of the student to whom *Spongilla fluviatilis* is likely to be the most readily accessible of the sponges.

The fresh-water sponge grows on the banks of docks, canals, rivers, and on floating timber, in the form of thick incrusting masses, which usually have a green colour, and require a constant supply of fresh water for their healthy maintenance. The surface presents irregular conical eminences perforated at their summit like small volcanic craters, and from their exhalent funnels, which answer to the *oscula* of the *Calcispongiæ*, currents of water are continually flowing. Careful examination of the surface of the *Spongilla* between the exhalent craters, shows that it is formed by a delicate membranous expansion, separating which from the deeper substance of the *Spongilla* are a number of irregular cavities. In some cases these run into one great water-chamber. The superficial chambers, or chamber, communicate with the exterior by pores, which perforate the membranous expansion, are similar to those in the outer surface of the ventricular wall of a simple calcareous sponge, and subserve the same inhalent function. On their inner face, or floor, the superficial chambers exhibit the apertures of innumerable canals, which traverse the deep substance of the *Spongilla* in all directions, and, sooner or later, unite into passages which lead directly into the cavities of the exhalent craters. Dilatations of the canals occur at intervals, and are lined by the characteristic monadiform endodermic cells, which are restricted to the walls of these ciliated chambers. It is by the working of the cilia of these cells that currents of water are made continually to enter by the inhalent pores and leave by the exhalent craters. The whole fabric is supported and strengthened by a skeleton, which consists, in the first place, of bands and filaments of keratose, and, secondly, of silicious spicula, the majority of which resemble needles pointed at each end, and contain a fine central canal filled with an unsilicified substance. The individuality of these animals is so little marked that two *Spongillæ*, when brought into contact, before long fuse into one; while they may divide spontaneously, or be separated artificially into different portions, each of which will maintain its independent existence.

A process analogous to the formation of cysts, which is so common among the Protozoa, takes place in the deeper substance of the body, especially in the autumn. A number of adjacent sponge corpuscles, losing their granular appearance, become filled with clear strongly refracting granules, the nucleus ceasing to be visible. The sponge corpuscles which surround these become closely applied together, and each secretes a coat of keratose, which fuses with that of the adjacent corpuscles. In the interior of each of these corpuscles a singular silicious spiculum is formed, consisting of two toothed discs, like cogged wheels, united by an axis. As this "*amphidiscus*" enlarges, the protoplasm of the corpuscle disappears, and at length nothing is left but the envelope of keratose, with the embedded amphidises, disposed perpendicularly to its surface. At one point of this spheroidal envelope, a small opening is left, and the so-called "seed" of the *Spongilla* is complete. It remains throughout the winter unchanged; but, with the return of warmth, the sponge corpuscles enclosed within the coat of the "seed," or more properly *gemmule*, slowly escape through the pore, become perforated by inhalent and exhalent apertures and canals, and develope the characteristic spicula of a young *Spongilla*.

This propagation by gemmules, which may be regarded as a kind of budding, akin to propagation by bulbs among plants, has not been observed among marine sponges.

Sexual propagation takes place in the same way as in the *Calcispongiæ*, and the embryo passes through *Morula* and *Planula* stages. But the ciliated cells which form the outer wall of the latter, and constitute its locomotive apparatus, seem to vanish when the embryo fixes itself, and the body of the young *Fibrospongia* appears to be developed out of the inner cells, which, in the meanwhile, have become spiculigerous. But the details of the mode of development of the *Fibrospongiæ* require further elucidation.

In both the marine and the fresh-water sponges the ingestion of solid matters—such as carmine and indigo—by the monadiform endodermic cells has been seen by several observers. According to Haeckel, the solid particles which usually are taken in between the flagellum and the collar may also be ingested at other parts of the surface of the endodermic cell. In the course of such experiments, also, granules of the pigment may be found in the ectoderm, but whether they enter it directly, or secondarily from the endoderm is unknown. Sponges absorb oxygen, and give off carbonic acid with great rapidity; and the manner in which they render the water in which they live impure, and injurious to other organisms, suggests the elimination of much nitrogenous waste matter.

The syncytium may contract as a whole, and is liable to local contractions, as when the oscula or the pores shut or open. The contours of the cells of which it is composed are invisible in the fresh state, and hence it appears as a mere "sarcode" or

(a) "Zur Entwickelungs-geschichte der Kalkschwämme,"—*Zeitschrift für Wissenschaftliche Zoologie*, Bd. xxiv.

transparent gelatinous contractile substance, in which nuclei and granules are embedded here and there. But Lieberkühn has shown that, when the water in which *Spongilla* lives is heated to the point at which thermic coagulation of the protoplasm of the cells occurs, their boundaries at once become defined, and the cells commonly detach themselves from one another. The syncytium is therefore formed by the close union, and not by the actual fusion, of the cells of the body, and each cell has its nucleus and contractile vacuole or vacuoles.

It is a very interesting fact that thread-cells, similar to those which are so abundant in the *Cœlenterata*, occur in some sponges. Eimer(b) finds these structures in species of the *Renierinæ*. The thread-cells are scattered through both endoderm and ectoderm, and abound on the free surface of the former, where it bounds the canals of the sponge, but are not found on the outer surface of the ectoderm. The same observer states that he found partly digested remains of small crustaceans in the ventricular cavities and passages of both silicious and calcareous sponges.

The *Porifera* are divisible into three principal groups—the *Myxospongiæ*, the *Calcispongiæ*, and the *Fibrospongiæ*,—the *Myxospongiæ* being altogether devoid of skeleton; the *Calcispongiæ* possessing calcareous spicula, but no fibrous keratose skeleton; and the *Fibrospongiæ* having a fibrous skeleton; and (usually) spicula of a silicious nature. To these it is probable that the *Clionidæ* must be added, as a fourth group, devoid of a fibrous skeleton, but possessing silicious spicula of a very peculiar kind, by the help of which they are able to burrow parasitically in the shells of molluscs.

The division of the *Myxospongiæ* contains only the gelatinous *Halisarca*. The *Calcispongiæ*, in addition to the two families of *Ascones* and *Leucones*, already referred to, contain a third—the *Sycones*, which are essentially composite *Ascones*. The *Fibrospongiæ* present a great diversity of form and structure. They may have the form of flattened or globular masses, arborescent tree-like growths, flagellate expansions, or wide or deep cups. The sponge of commerce derives its value from the fact that its richly developed fibrous skeleton is devoid of spicula. On the other hand, in such sponges as *Hyalonema* and *Euplectella*, the silicious spicula attain a marvellous development and complexity of arrangement. In some genera, the six-rayed spicula enclose regular polygonal meshes, and appear to be the representatives of the *Ventriculites*, which were so common in the seas of the Cretaceous epoch.

Sponges abound in the waters of all seas, but *Spongilla* is the sole fresh-water form. *Clionidæ* existed in the Silurian epoch, but the most plentiful remains of sponges have been yielded by the chalk.

LECTURES ON INJURIES TO THE HEAD.

By JONATHAN HUTCHINSON, F.R.C.S.,

Senior Surgeon to the London Hospital; Surgeon to Moorfields Ophthalmic Hospital and the Hospital for Skin Diseases.

LECTURE IV.

DIRECT TRAUMATIC ARACHNITIS.

Meningitis—Its Different Forms—What is Arachnitis?—Its Clinical Reality—Inflammation of the Sub-arachnoid Space a Distinct Form.—Changes met with in Diffuse Arachnitis—Hemiplegia the most Prominent and Reliable Symptom—Supposed Cause of Hemiplegia—Illustrative Cases of Direct Traumatic Arachnitis—Table of Six Cases—Remarks on the Table.

GENTLEMEN,—In our last lecture we traced the course of symptoms in the numerous cases which end fatally from blood poisoning consequent on inflammation of the damaged bone. We now have to direct our attention to cases of meningitis. In this lecture we shall indeed find that we have quite enough to do if we investigate only one form of meningitis, more especially as I shall have to make some assertions which, being novel, will require detailed proof. Several different forms of inflammation of the membranous coverings of the brain are met with in practice, and they are very distinct from each other, both in symptoms and course. In the first place we may have inflammation of the dura mater leading to effusion between it and the bone without implication of the under surface of the membrane. This is, I believe, very rare in connexion with injuries to the head. I shall quote one instance of it when we come to speak of compression of the brain, but it occurred from diseased bone, not from injury. In speaking of Mr. Pott's opinions, I have already stated that in practice, when the dura mater inflames after injury to the bone, the inflammation almost always involves its arachnoid lining as well as its outer surface, and thus we have arachnitis in addition. This occurrence has been illustrated by many of the cases which I adduced in our last lecture.

By the term arachnitis I understand inflammation of the smooth, glistening under-surface of the dura mater and of the delicate serous membrane, which, covering over the convolutions of the brain, is in contact everywhere with it. We will not stop to discuss the moot question as to whether there is or is not an "arachnoid sac," or whether it is correct to speak of the epithelial lining of the dura mater as the "parietal arachnoid." It is sufficient for our purpose as practical surgeons to know that there are here two layers of membrane of like structure, both of them covered by epithelial cells, presenting together a very extensive and uninterrupted surface, which is liable, like the other great serous cavities, to take on inflammation on slight cause, and to permit the very rapid spreading of inflammatory changes over its whole extent. It is very common, indeed, to find inflammation limited to this arachnoid sac, and not involving either the subjacent folds of pia mater or the structure of the hemispheres. When the inflammation is limited in extent we may speak of it as local arachnitis; when otherwise, as diffuse or extensive. The diffuse form is the more common; indeed, whenever you find arachnitis restricted to a small patch you may suspect that it was of very recent occurrence, and that the patient died before it had had time to spread.

It is chiefly with diffuse arachnitis that we now have to do; but before proceeding to its consideration I must just premise that there is another form of meningitis in which inflammatory effusion takes place, not into the arachnoid cavity, but beneath the visceral layer into the "sub-arachnoid spaces." The two forms are very distinct, occur in connexion with different causes, and rarely complicate each other. Inflammation of the pia mater generally begins at the base of the skull, arachnitis on the surface; and the former is generally consequent on a laceration of a nerve, whilst arachnitis is usually from lesion of the bone and dura mater. I will narrate some cases of inflammation occurring in the sub-arachnoid spaces in our next lecture; for the present we will leave it aside.

In examining the membranes after death from diffuse arachnitis, you will usually find the whole of the surface of one hemisphere covered with a soft but coherent layer of yellowish lymph. Some of this can be scraped off, but much adheres so firmly or even infiltrates the tissue that it cannot be removed. For an obvious reason, it is thickest at the furrows between the convolutions, but it does not dip into the sulci, and the fringes of pia mater may be drawn out of the latter and seen to be free from lymph. On the inner aspect of the dura mater another continuous layer of adherent lymph may be found, of like extent to that on the visceral membrane. Usually, a certain quantity of thin fluid (sero-pus) will have escaped during the removal of the calvaria.

The effusion in arachnitis often involves the whole of one hemisphere, both of its under and upper surfaces, and sometimes it dips under the free margin of the falx and extends to the opposite side. It rarely produces any firm adhesion of the adjacent layers, but I have in several instances seen large patches marked out by adhesions, which latter had been sufficiently firm to limit the serous fluid beneath, which, being thus encysted, had caused local pressure on the convolutions.

I have often seen a considerable quantity of serum from the arachnoid sac drain away during the removal of the skull-cap in cases of arachnitis, but I have never thought that there was enough to account for compression of the brain. In this I may be mistaken, but my belief is borne out by the fact that the convolutions are never found flattened and depressed as we see them in cases of true compression from blood. I will admit, however, that arachnitis effusion, in whatever quantity, must have some effect in compressing the brain, and that it is possible that it may now and then be present in sufficient quantity to produce symptoms, or even to cause death.

I have often, in the post-mortem room, demonstrated to you this form of arachnitis, and we have now before us some good preparations and drawings, though none of them nearly equal to a fresh specimen. It is, however, a common disease, and I shall probably often have opportunities of illustrating it in the future.

(b) "Nesselzellen und Saamen bei See-Schwämmen," *Archiv für Mikr. Anatomie*, viii., 1872.

So much, then, for the pathology of diffuse arachnitis. We will next speak of its causes. As surgeons we are familiar with two common causes, and a third less frequent—injuries to the dura mater attended by actual perforation and admission of air to the serous membrane; injuries to the bone, followed by osteitis and inflammation of the dura mater as a secondary result; and, lastly, inflammations consequent on erysipelas of the face and scalp. The last mentioned I will dismiss in a few words, for I have nothing certain to tell you about it. When it occurs, in all probability osteitis is one of its stages. I have seen several cases in which patients suffering from acute phlegmonous inflammation of the face and scalp became hemiplegic of the opposite side. One of the best marked of these was that of a master butcher whom I attended some years ago at Tottenham with Dr. Hooper May. This patient had carbuncular inflammation of the right side of his face, of a most acute form, and closely analogous to the true malignant pustule. Erysipelatous inflammation extended over the right side of his scalp, and for two days before his death he was hemiplegic in the whole of his left side (face and limbs). For reasons presently to be explained, I have little doubt that this hemiplegia was due to arachnitis.

The two other common forms of surgical arachnitis we may distinguish as *direct* and *secondary*. The latter is the more common, but from the former we shall get our best cases for detailed study, since they are often not complicated.

Amongst a group of minor symptoms there is, I believe, invariably present one of the utmost importance and interest, which far outweighs all the others in value for diagnosis. I allude to hemiplegia. Whenever extensive arachnitis occurs, one hemisphere being covered with lymph, the motor and sensory functions of the opposite half of the body (limbs and face) become impaired, and if the inflammation be very extensive, and the patient lives long enough, they almost wholly cease. Physiologists assure me that such a result could not come from such a cause, and other observers tell me that they have met with facts quite contrary to my experience. You must, therefore, permit me to be precise in defining my position. I will not accept any exceptional case unless it fulfils two conditions—first, that the motor power of the limbs was really carefully examined up to within a few hours of death; and, second, that the arachnitis was *bonâ fide* and widely diffused, covering, at any rate, the whole of the middle of the hemisphere and the sphenoidal lobe with lymph. Nothing is easier than to assert after the death of a patient that he had no paralysis, when all that is meant, or that ought to be meant, is that it was not observed. You must make the patient lift his limbs and move the muscles of his face, or I will hear nothing about the absence of paralysis. In the late stages of these cases, when the patient is heavy and stupid, and moves but little, paralysis is often overlooked. Then, again, as to the arachnitis, it is not the name of the disease that can be received, a few flakes of lymph here and there or even a few patches, but a severe and well-diffused form of the malady.

Further, I have to make an assertion as to the way in which diffuse arachnitis produces hemiplegia, and it is this—*the paralysis does not result from compression by inflammatory products, but from some influence which the inflammation of the enveloping membrane exerts upon the cortical layers of the hemispheres.* At our post-mortems we always find in these cases that the cortical substance is changed in colour; instead of its normal pink tint, it is of a grey leaden hue. This change in colour is, no doubt, partly post-mortem from the influence of the adjacent decomposing pus, but I have often seen it when the autopsy was made early, and I have no doubt that it implies a change which exists during life.

Having thus made my assertions, I must now come to proof. The proof that hemiplegia follows diffuse arachnitis comes directly from the fact that I have witnessed it in a considerable number of cases, a few of them quite uncomplicated; whilst the proof that it is not from compression depends partly upon inference, and partly upon the direct evidence of certain cases in which a free opening through the dura mater existed, and consequently no fluids could accumulate to cause compression.

The best case which I can quote in reference to this latter point is that of a young man who died after a slight punctured wound of his dura mater in a surgical operation. There had been no material injury to his brain, and, of course, no concussion, whilst also the aperture in the dura mater permitted of the direct escape of effusion, and prevented the occurrence of pressure. His case, therefore, may stand almost as a physiological experiment made for the purpose of ascertaining what would follow in a healthy man from a wound of the dura mater.

A healthy young man, aged twenty-one, was the subject of ivory exostosis growing from the ethmoid bone and bulging into both frontal sinuses. I had trephined the left side and removed the growth without ill consequences, at a time when there was no visible enlargement on the right. A year later he came to me, very desirous that the operation should be repeated on the right side, as the growth was rapidly increasing. To this I consented. On October 19 we put him under chloroform, and I then removed with trephine and saw the front wall of the right frontal sinus, and found a large nodular exostosis in its cavity. The posterior wall of the sinus was absorbed, and the growth was in contact with the dura mater. It was very firmly fixed, and some force was necessary to break through its peduncle. In doing this, as the autopsy proved, a small laceration or puncture of the dura mater unfortunately occurred, and to this the man's death was undoubtedly due. On the day following the operation our patient was free from headache, perfectly conscious, and quite comfortable with the exception of occasional sickness. His skin was hot and moist; his pulse rapid, sharp, and large, but compressible.

On the morning of the third day (October 21) I found him somewhat confused, but after a minute or two he became quite himself. I learned from the nurse that he had had a restless night and had wandered a good deal, though not with any violent delirium. He had also passed his urine and fæces involuntarily. The nurse was not aware that he had had any rigor. His pulse was, as the day before, rapid, sharp, large, and compressible; correspounding to his hot but moist skin. His tongue was covered over its whole surface with a thin fur, and was slightly dry in the middle. There was no remarkable flushing of his face, nor was his countenance anxious. I asked if he had had any headache. "Not the least." Had he shivered? "Yes; just a little when they changed my shirt." At no other time? "No; I have been quite warm." Do you feel comfortable now? "Yes, quite." Can you move all your limbs? "Yes." Lift your arms. For a while he did not lift either. He then tremulously raised the right quite up, but the left remained on the bed. I had already noticed that he moved his right arm pretty freely, but never his left. You cannot move your left arm? "Yes, I can." Then try! He tried his utmost, and reached over the other to lift it up, but he could not without assistance move it in the least. "It feels heavy, like lead; I can't lift it." The same course was gone through as regards his legs. He was astonished to find that he could not move the left lower extremity much. At first he could not move it at all, but after a while he managed to draw it up a little.

During this examination he was cheerful, and it might easily have been supposed (as he indeed himself believed) that he ailed nothing. His memory was good; he told us who had called on him the previous afternoon, and gave us the address of his brother.

I ordered calomel (one-grain doses) to be given every two hours, and a large blister to be applied to the nape of the neck.

22nd, 4 p.m.—Pulse 144; skin hot and moist; mouth drawn much to the right. He is lying with his head on the left side. Respirations 28 in the minute. He complains of pain in the stomach. The left portio dura is evidently almost paralysed, but he can still move the upper eyelid. Right pupil of medium size; the left is more contracted, but also acts. His tongue is cleaning, brown in the middle, and dry. Lips and teeth covered with clammy mucus. He complains of pain at the pit of the stomach, also at the back of his head; none in his forehead or at the top of his head. He says he has had a good night and is better. He complains that his food "tastes nasty." This remark was made in a cheerful, jocular manner. He never moves his left arm. He is reported to have had a very quiet night, but to have been very restless during the day, though not wandering; and had always answered questions rationally. When the sole was tickled the right leg was quickly drawn away; the left very slowly. His left upper extremity was hotter than the other, very perceptibly. His right eyelids were of course covered with bandages, and his left ones were somewhat stiffened by swelling, etc., so that one could not judge very accurately as to the state of his facial nerve. The mouth looked a little drawn to the right, but only very slightly so. His left eyelids

were a little open, and he could not shut them when told to do so, but often did so at other times.

He has had during the day four attacks of spasmodic twitchings; the first was about seven this morning; one occurred whilst we were with him. The right angle of his mouth twitched rapidly for about one minute, and his left arm also twitched a little. It was reported that in the previous attack exactly the same parts had been affected. He can feel tickling in his left foot and moves his toes a little, but does not move his left leg. He has been very thirsty and has never vomited. He seems to have great difficulty in swallowing, and the nurse reports that when he gets anything on the left side of his mouth it will run out.

In the course of the evening the spasms became general and very violent.

For some hours they were almost continuous.

He sank exhausted by them, and died about two o'clock on the morning of the 23rd.

At the post-mortem we found a small wound of the dura mater in front of the right anterior lobe. The laceration was a quarter of an inch in length, and just beneath it the convolution showed a contused patch, the size of a fourpenny-piece, which was a little swollen and ecchymosed. The arachnoid membrane, both visceral and parietal layers, was covered with a thin layer of soft lymph over the anterior two-thirds of the hemisphere. There was, of course, no material accumulation of fluid in the sac of the arachnoid, for it could have drained away through the hole in the dura mater, which communicated directly with the open frontal sinus. The substance of the hemisphere appeared quite healthy, excepting close to the little bruised patch which I have mentioned. It was not perceptibly softened. There was no other disease within the skull. The specimen is preserved in our museum.

This case seems to give us an excellent example of uncomplicated traumatic arachnitis, and of the symptoms which it causes. You will remember that hemiplegia of the opposite limbs, face, etc., was amongst the most definite, and that it came on very quickly. My impression at the time was that the case afforded almost conclusive proof that diffuse arachnitis, without compression, could produce hemiplegia, but, in a similar case, a fallacy was suggested to me by my friend and colleague Dr. Sutton. It is this: that, possibly, although the substance of the hemisphere itself showed no signs of morbid change, yet it may have been the seat of commencing inflammation, and that the paralysis was rather due to true encephalitis. This is a source of fallacy which underlies most of my cases; for it is very rare, indeed, to have laceration of the dura mater without some slight injury to the brain substance, and I much regret that I have not made more liberal use of the microscope in order to determine the question. Dr. Sutton believes that in such cases the presence of inflammatory corpuscles in the white substance may usually be demonstrated, and that, although to the naked eye the changes may be very slight, yet that a certain degree of softening is generally present. My own hypothesis was that the paralysis was due chiefly to the close proximity of a membrane in a state of acute inflammation to the grey substance in the surface of the convolutions. This grey substance is, in cases of arachnitis, always discoloured. It becomes too pink at first, and afterwards, if the patient lives and the arachnitis is severe, it becomes of a greenish tint. As the grey substance is the source of the impressions (volitional and other) which the white conducts, I see nothing improbable in the belief that changes in it may cause paralysis. My view of the matter is also, I think, supported by the fact that hemiplegia, with arachnitis, occurs just as certainly in those cases in which the arachnitis is due to osteitis from contusion, and without wound, as in others. In these there can, of course, be no wound of the brain and no evident cause for inflammation of the white substance.

Whether, however, we ultimately conclude that the grey or the white substance is the seat of the inflammatory changes which induce hemiplegia in arachnitis, the importance and value of this symptom remains the same. Our dispute is only concerning one link in the chain.

The main point, as regards practice, is to recognise that the paralysis is due to inflammation, and not to compression, and that it is, therefore, irremediable by operation.

Another case very similar to the above occurred under the care of a colleague at the Ophthalmic Hospital quite recently, and although we could not obtain a post-mortem, yet it is of sufficient interest to be detailed.

Observation of Symptoms produced in a Case in which probably the Dura Mater was Perforated and Traumatic Arachnitis ensued.—A young woman was the subject of malignant disease in the left orbit. A large mass which filled the orbit and had probably destroyed its walls at some parts was removed. The gouge was employed in the operation and passed very deeply. There was free hæmorrhage, and it was necessary to plug the orbit. The girl never well recovered from the chloroform, but remained unconscious through the rest of the day and the next night. On Saturday morning, twenty-four hours afterwards, I saw her with the house-surgeon. She was just beginning to be conscious, would put out her tongue, but could not speak. She was a little flushed and her skin was warm, and pulse quick. No rigor had been observed; she had had no convulsions and no delirium, nor had there been any stertor. There was no apparent paralysis of the face. On trying her limbs we found that she could lift the left ones, and could not move the right. This was most positive, and guided by it I gave the opinion that she had general arachnitis on the left side, and would die. Her paralysed limbs were rather hotter than the others. Mercurial inunction was ordered.

During Sunday she was much the same; no delirium; sufficiently conscious to make signs for a slate to write. I saw her again on Monday. The hemiplegia was more decided, and it now implicated the face also. She did not appear to feel when the cornea was touched, and she rarely shut the eye. She could, however, close it feebly at times. Tongue quite dry. She was sufficiently conscious to put out her tongue readily; urine had been passed unconsciously. In spite of castor oil and turpentine enemata, the bowels had not acted. On the whole of the left half of the upper and lower lips as far as the middle line, and no further, there was a plentiful crop of small herpes vesicles. Her mouth was a little drawn to the left side.

On Tuesday she died. No convulsions had occurred. There was no autopsy.

You will notice that no rigors occurred, nor was there any wild delirium or complaint of pain. The girl was, till within twenty-four hours of her death, sufficiently conscious to do as she was told to try and express herself. She even tried to write on a slate, but could not do so, as she had use only of her left hand. The entire loss of language, or at any rate of the faculty of expression, is very interesting, for it was the left orbit which had been damaged, near to the roof of which the convolutions rest which M. Broca and Dr. Hughlings-Jackson suppose to be the seat of that faculty. It is very possible that, although the girl wished to write, she could not find words, and that her failure was not merely because she could not use her right hand.

In a paper by the late Mr. Arnott in the *Transactions of the Medical and Chirurgical Society* I find the following important item of evidence in support of my view. A young lady, who was suffering from inflammation of the frontal bone, was about the middle of the second week "attacked with numbness of the right hand and foot, which in two or three days terminated in complete paralysis of the side of the body, with difficulty in swallowing and impediment in the articulation, but with perfect consciousness remaining, as evinced by signs." She died about a week later. At the autopsy "the surface of the arachnoid membrane enveloping the left hemisphere of the brain was found to be covered with a layer of lymph and purulent matter, the membrane itself being thickened and opaque."

You will observe that it is in this case very improbable that the brain substance was inflamed. The inflammation had extended inwards from without, and there had been no puncture or other injury likely to implicate the hemisphere, protected as it is by its arachnoid investment from the risk of extension. The case is, indeed, parallel to many others which I have observed of secondary arachnitis, and in all the symptoms of hemiplegia were present.

(To be continued.)

At a public meeting at the Shire Hall, Hertford, for the further consideration of the proposed formation of a Seaside Convalescent Home, Mr. T. F. Halsey, M.P., in the chair (in the absence of Earl Cowper from an attack of gout), it was resolved—"That an independent Seaside Convalescent Home be formed for the poor of the County of Hertford, and that contributions to the endowment fund and annual subscriptions be solicited from those who have not already subscribed."

ORIGINAL COMMUNICATIONS.

CASE OF

ANEURISM OF THE POPLITEAL ARTERY.

PRESSURE FOR FIVE HOURS—CURE.

By E. L. HUSSEY,

Senior Surgeon to the Radcliffe Infirmary, Oxford.

A MAN of middle size, with pale complexion and light hair, thirty-one years of age, porter at a railway station, was admitted into the Radcliffe Infirmary, Oxford, under my care, on July 30, 1873, with an aneurismal swelling of the popliteal artery of the right leg, about the size of a common billiard ball. The pulsation can be controlled by making firm pressure upon the femoral artery in the upper part of the thigh; but it is more readily controlled by making pressure in the groin, upon the external iliac artery, as it passes over the ramus of the pubes. It is not controlled by bending the limb at the knee. The swelling cannot be emptied by direct pressure.

History.—The man has formerly had an attack of rheumatic fever; but has generally enjoyed good health. In the last winter he found that his right foot was often numb and cold, and he would sit at the fire in the station-house to warm it. About three weeks before admission he suffered from pains about the knee, which he thought rheumatic. After some few days he found the swelling at the back of the joint. On July 28 he gave up work, and applied to Mr. Drinkwater, of Bicester. Mr. Drinkwater detected the nature of his case, and recommended the man to apply without delay for admission into the Infirmary.

Treatment.—The patient was ordered to rest in bed, with the limb in an easy position, partly flexed at the knee, and supported on its outer side upon a pillow. He was taught how to stop the pulsation by making pressure in the groin; but his hand became tired, and he could not continue the pressure for any great length of time. Pressure by weights and by different tourniquets was tried, but the skin became too tender to allow the continued application. A relay of assistants having been provided for the purpose of making pressure with the fingers, the treatment was begun on Thursday, August 14. A little after twelve o'clock the fingers were placed upon the femoral artery above the upper edge of the sartorius muscle. The circulation in the limb was effectually controlled, and the pressure was continued without intermission. Soon after five o'clock the patient complained suddenly of heat in the tumour, then of cold, and in a few minutes of intense pain in the calf of the leg. He became restless, and could scarcely be kept quiet in bed. It appeared that all pulsation in the limb had ceased; the pressure was therefore omitted. Some morphia in solution was injected under the skin of the thigh, and at night a draught of liq. ammon. acet. with morphia, antimony, and sp. ætheris nitr. was given, and repeated the four or five following nights.

No pulsation could be felt in the tumour or in the trunk of the femoral artery for about forty-eight hours. After that period a feeble pulsation could be felt in the line of the artery. This increased, and by the following Tuesday the circulation through the popliteal artery was completely re-established, and the aneurismal swelling was beating as fully as at the time of admission. Though the pulsation could be checked by making pressure on the femoral artery in the thigh, it could not be fully controlled except by pressure on the artery as it passes over the pubes.

On Thursday, the 21st, pressure was again made. A narrow bag of canvas, loaded with shot, having the pointed end filled with sand—the whole weighing eight pounds,—was suspended over a pulley, fastened to the iron rod which supported the curtains above the head of the bed. A piece of wash-leather was laid loosely over the groin, and the patient was entrusted to make the pressure himself, without the help of any assistant. At twelve o'clock the weight was placed upon the external iliac artery, where it passes over the ramus of the pubes, and the patient himself kept it steady with his finger and thumb. At five o'clock he complained of severe burning pain in the back of the leg, similar to what he had felt under the former pressure. Upon examination it was found that all pulsation had ceased.

No swelling of the leg followed, or other inconvenience except that the knee remained stiff, and the patient was not able to straighten the limb completely, so as to put the foot flat to the ground. He left the Infirmary on September 10, walking with the help of crutches.

On October 22 he came to the Infirmary. The limb was then all but straight; he had nearly recovered his power over it. The posterior tibial artery could be felt behind the inner malleolus, but not the anterior. He complained that there was pain at times in the calf of the leg, and numbness in the foot. Soon afterwards he returned to his work.

On April 18, 1874, I saw him again. He could straighten the limb fully; he had complete power over it; he was well able to walk and to do his work. The calf of the leg is not so full and muscular as the other. A soft swelling can be felt, about the size of a small marble, upon the popliteal artery. The posterior tibial artery can be felt behind the inner malleolus. A feeble pulsation can be felt between the metatarsal bones of the first and second toes, but not on the dorsum of the foot.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

LONDON HOSPITAL.

ON AUTOMATIC ACTIONS DURING COMA FROM CEREBRAL HÆMORRHAGE.

(By Dr. HUGHLINGS-JACKSON.)

THE following is a fuller account of the case alluded to in the second paragraph of the report in our last number (page 498):—

A man, forty-seven years of age, was admitted for coma following convulsion, and depending, as the autopsy showed, on a large clot of blood in the left cerebral hemisphere. The coma was deep; there was stertor, and the man passed fæces and urine under him. He died thirty-six hours after the attack.

The noteworthy point in the case is that the man, when deeply comatose, would frequently raise his left arm, and with the left hand curl or twist his moustache. He did this with "such grace and regularity," that it attracted great notice. It was done often, and was witnessed both by Dr. Sutton and by Mr. Lewis Mackenzie.

Dr. Hughlings-Jackson believed that such an action, persisting under such conditions, must have been one highly organised and so deeply automatic as, even in health, to have been unconscious—or, speaking simply, a habit. He therefore begged Mr. Lewis Mackenzie to see the deceased's fellow-workmen. Mr. Mackenzie simply asked if the deceased had any peculiarities of manner; upon which one of the men struck an attitude, and imitated the moustache twirling, which Mr. Mackenzie saw performed by the patient when comatose. The deceased had been a militia sergeant. Such a case is a good illustration of Laycock's doctrines on Reflex Cerebral Action.

ST. BARTHOLOMEW'S HOSPITAL.

OPERATIONS ON WEDNESDAY, APRIL 21.

Removal of Portion of Inferior Dental Nerve.

MR. SAVORY performed this operation on a male patient between fifty and sixty years of age for extreme neuralgia affecting the inferior dental nerve, and reflected along the course of the auriculo-temporal. For the last seven years the patient had suffered from the disease, and remained quite without benefit from the treatment adopted. It was explained to him that an operation was his only chance of relief, but that whether relief would be afforded was very problematical. In spite of the alternative, however, he consented to its performance.

Mr. Savory commenced the operation by making a V-shaped incision a little in front of the angle of the jaw, the lines being parallel with the margins of the ramus and body of that bone. The incisions were carried completely through the integument and masseter muscle to the bone, and the flap raised so as to expose it. A trephine was then applied, and the bone sawn through half its thickness. On removing the loosened piece it was seen to be grooved on its under surface, showing that the dental canal had been opened. The piece of nerve (in length about two or three lines) corresponding to the opening made

in the canal was then removed, the wound plugged with lint, and a wire passed through from the apex of the flap to the adjacent integument. The wire was allowed to remain loose for subsequent adjustment.

Staphyloraphy.

This was an operation performed by Mr. Marsh upon a young man aged twenty-one. The mode of procedure, as is usual at St. Bartholomew's Hospital, was that introduced by Mr. T. Smith; the instruments used were also of his contriving. The cleft involved both the hard and soft palate, the fissure in the former being the larger, but closed to a considerable extent by the soft structures.

Chloroform having been administered, and the patient placed in a reclining position, Mr. Smith's gag was adjusted to the mouth. This is an instrument which must be known well to our readers, and is admirably depicted in Druitt's "Surgeon's Vade Mecum." It permits a good view to be obtained of the parts involved in the operation, and in this respect surpasses all other gags in common use. The instrument being fixed, Mr. Marsh proceeded to pare the edges of the cleft, remarking that it was important to obtain a raw surface of considerable size, and that consequently it was better to remove too much than too little. Horse-hair sutures, previously tested, were used to the uvula and posterior part of the cleft, where it is usual to commence the adjustment of the sides of the cleft—the tension, when the edges are approximated, being there considerably less than at the anterior part. Indeed, in this instance the tension more anteriorly became so great as to necessitate the use of wire instead of horse-hair. To relieve the tension, incisions were made on each side of the cleft, as seemed necessary; but no attempt was made to divide special muscles. The first suture passed was placed at some little distance from the end of the uvula, and instead of being cut off short its ends were allowed to remain, and served to draw the palate forward during the adjustment of the other sutures. One was placed behind this, and several more in front of it. In tying these sutures the reef knot was used, but two turns instead of one were made in the first part of it. The wire sutures required at the anterior part of the cleft were three in number. The needle used for passing them was tubular.

To fasten these wire sutures, a small instrument shaped something like an italic letter *f*, cleft at the ends, was used. This was fixed at the end of a long handle, and seemed well adapted for the purpose intended.

OPERATIONS ON APRIL 28.

Removal of Necrosed Bone from Stump.

The patient operated upon was a man apparently between forty-five and fifty years of age. Mr. Holden explained that two years previously he had performed Syme's operation for disease of the tarsal bones, the result being a sound and useful stump, with which he walked well for six months. But as he grew careless about the shoe, inflammation was set up by its chafing, and periostitis and necrosis followed. A large sinus existed, at the bottom of which dead bone could be distinctly felt with the finger. By slightly enlarging the opening, sufficient room was obtained for the insertion of a gouge, by means of which the dead bone was scooped out. In doing this, it was somewhat difficult to tell when the whole of the diseased bone had been removed, as it was still connected with the rest; but any left in would be ultimately discharged through the large opening left. No ligatures were necessary, and the wound was plugged with lint soaked in carbolised oil.

Amputation of the Forearm for Disease of Wrist-Joint

This operation was performed by Mr. Savory upon a woman fifty-five years of age. Some time back she had run a needle into the palm of the hand, and being in bad health the wound so produced was followed by inflammation, involving in its course all the soft structures of the lower third of the forearm, the hand, and the bones of the carpus. Neither her age nor condition were favourable to an operation, but without one there was little probability of her escaping with life.

On examination the carpus was found so far involved as to preclude the possibility of recovery.

A flap amputation was performed by making incisions from without inwards; the flaps were then retracted, and the bones cleared by circular sweep of the knife. The parts involved in the operation were much indurated, the result of the inflammation.

ST. GEORGE'S HOSPITAL.

OPERATIONS ON THURSDAY, APRIL 29.

Removal of Fatty Tumours.

Mr. Pollock removed two fatty tumours, one from the posterior part of the right lumbar region of a woman aged thirty-three, the other from the back of the neck of a young man aged twenty-eight. They well illustrated the varying importance of these growths in different parts.

The one removed from the woman was about as large as a small melon, but slightly connected to the surrounding structures, and easily turned out when an incision was made. Two ligatures were sufficient to control the little bleeding which followed the operation. The one removed from the man's neck was small, and he had been advised not to have it meddled with; but the pressure of his collar caused him annoyance, and as he wished it, the operation was performed. The irritation and pressure of the collar had given rise to considerable adhesions and some flattening. A good deal of hæmorrhage for so slight an operation took place, necessitating the use of about a dozen ligatures, and even then Mr. Pollock thought more might be required later on. In both these cases silk ligatures were used, cut off short, and left in the wounds.

Mr. Pollock also operated on a man aged fifty-eight for a stricture of the meatus of the urethra. The contraction of a cicatrix had rendered this opening so small as only to allow of the passage of a stream very little larger than a pin. A curved director was passed a short distance into the urethra, and a cut made with a sharp-pointed bistoury downwards through the glands and prepuce. The cut edges of the glans and prepuce were then brought together by a few stitches on each side. This procedure tended to prevent the narrowing of the meatus by the subsequent contraction of the cicatrix; but it will be advisable for the patient occasionally to pass an instrument for the rest of his life.

A man of about fifty had some hæmorrhoids removed by Mr. Pick. The clamp and cautery were employed for the purpose.

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Medical Times and Gazette.

SATURDAY, MAY 15, 1875.

THE HOSPITAL SUNDAY FUND.

The meeting which was held in the Egyptian Hall of the Mansion House on the 7th inst., in connexion with the future operations of the Metropolitan Hospital Sunday Fund, may,

perhaps, be characterised as the most important that has been held since the movement was first instituted, for had resolutions adverse to the Council been adopted, there can be no doubt that at least the majority of the members thereof would have felt it their duty to send in their resignations, and this great charitable organisation must have come to an end. In order to understand the full significance of the meeting it will be well to review briefly the proceedings in connexion with the Fund since the award of last year's Distribution Committee was made public. That award, although for the most part a very just and equitable distribution of the Fund, created not a little dissatisfaction among the friends of those institutions that received only very small amounts, or whose claims to participate in the Fund were disallowed—these, in most cases, being special hospitals; whilst it was pretty generally admitted that provident dispensaries had been less liberally dealt with than their merits as medical charities demanded.

In order to prevent, if possible, such dissatisfaction in the future, the Council appointed a special committee to consider the principles which should guide the distribution of the Fund. The report of this committee was presented at a public meeting held in the Egyptian Hall on January 4 last, but, although adopted, it was not held to be a wholly satisfactory settlement of the question, and another committee was appointed to examine and report on the claims of "special" hospitals in particular, and generally on the basis on which the grant of the Hospital Sunday Fund ought to be made. Dr. Morell-Mackenzie, who was on this committee, was invited, as representing special hospitals, to present a system of distribution by way of amendment to the report adopted at the meeting of January 4. His scheme consisted of fourteen propositions, which gave rise to warm discussion in committee, and ultimately four were withdrawn, six were not accepted, three were accepted as modifications of the system adopted by the meeting of January 4, and one relating to the constitution of the Committee of Distribution was passed with slight amendment. The report of this committee was presented at a public meeting held in the Egyptian Hall on March 8, which was attended by Dr. Morell-Mackenzie and a large body of those who supported his opinions. It has been publicly stated that the meeting was "packed," and that means were resorted to in order to make a demonstration in opposition to the committee; but on this point we do not now propose to enter. Suffice it to say that those who supported Dr. Mackenzie conducted themselves in the most disorderly manner, and would not give a fair hearing either to the Lord Mayor, the Prelates of the Church, or anyone who wished to speak in support of the committee. The result was that the report of the committee was rejected, and a series of amendments proposed by Dr. Mackenzie adopted—the effect of which would have been to entirely alter the method and principles of distribution.

A meeting of the Council was held on March 16, to consider the situation, when it was resolved not to accept the amendments referred to, as to do so would alienate the support of a large number of ministers and other contributors, and the existence of the Hospital Sunday Fund would be seriously imperilled. The Council also recorded their opinion that the meeting of March 8 "could not in any sense be regarded as representative of the great interests concerned," and decided, in order to prevent a repetition of the unseemly proceedings which characterised that gathering, to limit the attendance at future meetings to the minister and two lay members of each contributing congregation.

With a view of coming to a definite conclusion on the whole subject, the Council convened the meeting of the 7th inst., limiting the attendance as above. There can be no question as to the wisdom of the course pursued by the Council. By admitting only ministers and a limited number of members of each contributing congregation, the constituency of the Fund may be said to have been fairly represented, calm and dispassionate discussion was secured, and the confidence of the general public gained.

In speaking of the first resolution proposed, which expressed approval of the course taken by the Council in appealing from the decision arrived at by the public meeting of March 8, the Bishop of London observed that, apart from the consideration whether the amendments then adopted were good or otherwise, that meeting had really done excellent service to the Fund in showing that it had hitherto wanted a constitution altogether. He was glad, therefore, that the present conference had been convened to meet that want. The last meeting seemed to have been formed, not of those who contributed to the Fund, but of those who received it, and it was quite obvious that without some definite basis and constitution neither that Fund nor any charitable movement could prosper. Cardinal Manning agreed with the Bishop of London in thinking that, to avoid misunderstanding and anything which would damage the Fund, it was most desirable to define some constituency who would have the right to legislate for the future. The Fund could not be constituted unless the ministers of religion were associated for the purpose; and it was also quite clear that, as the Fund could not be collected by these ministers without the aid of their flocks, each congregation should also be represented. The resolution was then adopted all but unanimously, Mr. McIntyre, Q.C., who opposed it, being in a glorious minority of one.

The other resolutions adopted—some exciting no opposition at all, and the rest very little—were as follows:—

"That such congregations as have forwarded contributions to the Fund during either of the two preceding years be entitled to a voice in the management of the Fund; and that the minister and two laymen representing every such contributing congregation be summoned to meet the Council in the month of December in each year, to receive the annual report of the Council for the year, and to elect the Council for the succeeding year. That the Council consist of not more than fifty clerical and fifty lay members, with whom shall rest the power to arrange for the collection, to appoint the Committee of Distribution, to receive its report, and to frame such rules as may be needful for the proper administration of the Fund. That the Committee of Distribution, consisting of nine members, and the Lord Mayor as President *ex officio*, be elected at an early meeting of the Council after its appointment. That awards to hospitals, etc., be primarily based on the total expenditure of each institution after deducting therefrom—(1) the income derived from endowments and realised property; (2) the amount received in legacies exceeding £100 each; (3) the amount of expenses of management. But that in every case the merits and pecuniary needs of the institution concerned be fully inquired into and considered by the Distribution Committee; and that the award made be determined in accordance with the judgment of the Distribution Committee upon such merits and needs, provided that in no case shall the grant be so reduced or withheld until a conference shall have been sought with the managing committee of the said hospital, etc. That payments made by or on behalf of patients be left to the discretion of the Distribution Committee to be dealt with, in each case, as they may see fit. That no institution, to the benefits of which admission can only be gained by election from the general body of subscribers, be eligible for grants from the Fund. That hospitals, etc., receiving grants from this Fund be required to place at the disposal of the Council the same number of letters of recommendation for patients to which an individual contributor would be entitled for an annual subscription equal to the amount of the grant. That in the event of a congregational collection, made on Hospital Sunday, being given to a particular hospital, dispensary, or institution, instead of being sent to the general Fund, the amount so sent shall be deducted from the grant made to that hospital, etc. That, in making their awards, it be an instruction to the Committee of Distribution to take into their favourable consideration the amount of congregational collections received by the several hospitals, etc., during the three years preceding the institution of the Hospital Sunday Fund. That the Committee of Distribution

shall present their report to the Council before the Fund is finally distributed."

The unanimity of feeling shown at the meeting was highly satisfactory, and the resolutions adopted will, we believe, be found acceptable to the public generally who are contributors to the Fund, as well as to those who are interested in the institutions claiming to participate in its distribution. With such a code of rules, provided that gentlemen of such high position and integrity continue to form the Committee of Distribution as have hitherto consented to serve on it, it is difficult to conceive that injustice can be done to any well-conducted medical charity; and we confidently hope that the Metropolitan Hospital Sunday Fund is now placed on a firm and lasting foundation.

THE GOVERNMENT SANITARY MEASURES.

Since we last noted the progress of the Government Sanitary Measures the Sale of Food and Drugs Bill has twice been in Committee of the House of Commons. On May 6 the Committee resumed the consideration of the Bill at Clause 6, which provides for the sale of compounded articles of food and compounded drugs, and the clause was agreed to with only some verbal amendments. Clauses 7 and 8, which provide protection from offences by the giving of a descriptive label, and prohibit the abstraction of any part of an article of food so as to affect it injuriously before sale, and selling it, without notice, were passed without any amendment and with little discussion. The consideration of Clause 9, however, which provides for the appointment of analysts, occupied a long time, several amendments being proposed and discussed. The character of the proposed amendments will be seen on reference to our Parliamentary report; they were generally intended to prevent the appointment of incompetent analysts, and to meet the difficulty of finding a sufficient number of competent analysts. Sir H. Peek, who may be said to represent the wholesale traders, said that under the present system great injustice is frequently done, and declared that, in his opinion, all analyses would be much more efficiently conducted at the Laboratory at Somerset House than by persons selected at haphazard, and for whose skill there is no sufficient security. Dr. Lyon Playfair admitted that, no doubt, many incompetent men have been appointed analysts, and that the Bill contained no proper security that analysts shall be competent. But he insisted that, nevertheless, under the present imperfect system, the work as a whole had been performed to the satisfaction and for the benefit of the public; and he observed that before the Adulteration Act was passed, Dr. Hassall made 2000 analyses of articles, and found that 76 per cent. of them were adulterated; while since it was passed he had made 17,000 analyses, and only 26 per cent. of the articles were adulterated. Mr. C. P. Villiers enlarged on the great amount of adulteration that still exists, and on the grave evils arising therefrom, on the weakness of the Bill in some points, and on the necessity of making it less of a permissive Bill. Mr. Sclater-Booth pointed out the difficulty of insisting on the appointment of analysts, when it is said that a sufficient number of competent persons cannot be found, and, unfortunately, there is no school of analytical chemistry in this country; but, he said, it would be proposed in a subsequent clause to refer the analyses in certain cases to the Board of Inland Revenue, "the effect of which might be that in a few years plenty of competent analysts would be found." Dr. Lyon Playfair desired the insertion of words to prevent the appointment as analysts of men engaged in the trade of buying or selling any article of food or drugs; but Mr. Sclater-Booth said that though, as a general rule, the Local Government Board deprecated the appointment of men engaged in trade, yet in point of fact some of the most competent local analysts are persons so engaged; and in the end the clause was agreed to as it stood in the Bill, Mr. Sclater-Booth promising that he would introduce some words to prevent articles being referred for analysis to a man who sold them within the district for which he was appointed analyst. Clause 10 and all the clauses down to Clause 20 were also agreed to. On May 12, when the Committee on the Bill was resumed, on Clause 21, which gives power to justices, on the request of either of the parties interested, to have articles of food and drugs analysed, an attempt was made to empower the justices to "cause any article of food or drug to be examined and analysed by the Inland Revenue Department, at Somerset House, whose certificate should be final." Mr. Sclater-Booth objected to this, because, he said, the final decision must rest with the courts of law; but he accepted an amendment, moved by Mr. Pell, providing that the justices may order analyses to be made by the chemical officers in the employment of the Inland Revenue, who shall thereupon make the analyses, and give a certificate to such justices of the results." And this was adopted—making the Laboratory at Somerset House, in fact, the analytical court of appeal, for the decisions of the justices must of course be guided by the report from Somerset House. We much doubt, however, if the majority of the present analysts will consider this at all satisfactory. They and the public may very fairly wish, with Dr. Lyon Playfair, "to know what security the Government have that the assistants at Somerset House are properly qualified for the discharge of such important duties as are to be thrown upon them, because it is evident that the salaries they receive are not such as the first chemists in the country would be entitled to." The gentlemen employed by the Inland Revenue may, indeed, be accomplished analysts of foods and drugs, but it must be allowed that they have yet to prove that they are. We still think that it would be a wiser and much more satisfactory solution to have instituted a new Board of Analysis, presided over by the most eminent English chemist Government can obtain; the appointment being considered a high distinction, as was the Mastership of the Mint in the days of Brande and Graham. It must be supposed, moreover, that the chemical officers of the Inland Revenue are already fully employed.

The Artisans' Dwellings Bill has been read a second time in the House of Lords, and will probably meet with very little, if any, opposition or alteration as it passes through that House.

Vivisection Bills have been introduced into the House of Commons by Lord Henniker and Dr. Lyon Playfair; and on these Bills and the Chimney-Sweepers Bill, introduced into the Upper House by Lord Shaftesbury, we may have a few words to say next week.

JABORANDI.

We have already reported in these columns some experiments made by M. Robin in Professor Gubler's wards, in Paris, on the remarkable diaphoretic and sialogogue properties of a new drug imported from Brazil, which is called by the natives Jaborandi. We also quoted, several months ago (January 23, page 92), a very interesting account of a regular "proving" of the drug by Mr. Martindale, of New Cavendish-street; and several other English physiologists and therapeutists have lately published the results which they have obtained from its use. More recently, Jaborandi has been tried in Germany, especially by Riegel, Lehrisch, and Penzoldt, and we are now in possession of a considerable amount of information on its characters and on its action in health and disease.

Specimens of the drug have recently been introduced into this country by Mr. Martindale, of New Cavendish-street, and Messrs. Hearon, Squire, and Francis; and through the kindness of the former gentleman we have had an oppor-

tunity of examining some of the leaflets. They are from three and a half to four inches long, and about an inch and a half wide at the broadest part. The lamina is much reticulated, and the veinlets are raised and show very distinctly on both sides of the leaf. When held up to the light the leaflet is seen to be studded with numerous semi-transparent glands, which are arranged very regularly about half a line apart, so that it has the same appearance as buchu leaves or the leaves of the St. John's wort. Mr. Martindale compares the odour to that of a mixture of Indian hemp, matico, and cubebs. The taste, when the leaves are chewed, excites a sensation of warmth on the tongue like that caused by pellitory root. A careful chemical examination of the leaves is at present being made by Dr. Attfield. Rabuteau has already examined a small sample, and finds that the leaves do not contain any alkaloid, but that their physiological properties depend on a bitter principle which is insoluble in water, but soluble in alcohol. There has been much debate as to the natural order to which the shrub producing the drug belongs. Professor Oliver of Kew, and Professor Baillon of Paris, both believe that it is a member of the order *Rutaceæ*, and that its botanical name is *Pilocarpus Pennatifolius*. The earlier samples of Jaborandi brought to Europe only contained broken leaflets, but now that they have been procured in a perfect state it has been found that there is a very close resemblance between herbarium specimens of *P. Pennatifolius* and those of the new drug; but as the correspondence is not complete in all points, and as the medical Jaborandi comes from a latitude much nearer the equator than the specimen in the Kew Museum, it seems most probable that it is, if not the true *P. Pennatifolius*, a nearly allied, and perhaps hitherto undescribed species. We should mention that the whole leaf, which is said to be impari-pinnate, does not appear in the Jaborandi of commerce. Lohrisch says that a decoction of the bark is very much more energetic than the leaves, so that about 1·5 to 2·0 parts of the bark are equal to about 4·0 parts of the leaves. The wood and the pith, he adds, have no therapeutic action; as for the root and other parts, there is no record of their effect.

Turning now to the consideration of the physiological properties of Jaborandi, we may state in a word that two results have been satisfactorily reached—first, that Jaborandi is a very powerful drug; and accoudly, that its properties are so well marked that there is nearly perfect agreement between the accounts given of them by a number of different observers. If an infusion of it be made by adding from thirty to sixty grains of the leaves to a teacupful of boiling water, and, after standing a quarter of an hour, swallowed dregs and all, in a few minutes a sensation of increased warmth is felt, and in about a quarter of an hour the patient, who should be in bed, begins to perspire freely. At the same time there is profuse salivation, so that it becomes painful for the patient to speak. The perspiration is so profuse as to soak the night-shirt through and through; and Mr. Martindale, from personal experience, states that a Turkish bath is nothing to it. The sweating and salivation continue generally for four or five hours, and it may be necessary to change the patient's linen several times. Riegel, Lohrisch, and Penzoldt separately confirm this account of the diaphoretic and sialogogue action of Jaborandi, in the fullest possible manner. In some cases the amount of saliva secreted was enormous; in a very few cases it appeared to be small or even negative—perhaps from having been swallowed. Lohrisch found that the secretion of saliva would sometimes suddenly change from the normal alkaline reaction to the acid, and return again to alkaline; and he discovered that the three salivary glands contributed equally to the flow. Penzoldt states that the salivation and diaphoresis were almost always found to occur together; in one case, however, the salivation preceded the diaphoresis; while Lohrisch believes that the sweating begins later and ceases earlier than the salivation. According to Penzoldt, Jaborandi induces salivation with equal readiness when administered by the rectum. The bodily temperature seems to be but very slightly affected by Jaborandi. Slight variations in the axillary temperature during perspiration are recorded by Riegel and Lohrisch; but, under the circumstances, this result is not remarkable. Lohrisch adds that the temperature of the skin is not raised, as determined either by the hand or by thermo-electrical apparatus. The pulse, according to Riegel, who took careful sphygmographic tracings, is considerably affected by Jaborandi. The alterations essentially point to relaxation of the arterial wall and increased cardiac force. The urine has not been found by any observer to be notably affected by the drug, although a few results have been obtained which indicate some action of Jaborandi on the kidneys and other portions of the urinary tract. The bronchial secretion has been increased by the drug in some cases. The other effects of Jaborandi may be enumerated under the head of complications arising after its administration, as they are one and all more or less undesirable in its therapeutic application. They are—first and most frequently, sickness and vomiting; singultus, faintness, and dimness of sight, with pain in various parts of the body. It is probable that an increased acquaintance with Jaborandi and its dose may enable us to avoid some of these unpleasant results with tolerable certainty.

On this occasion we will not describe the more profound investigations that have been made upon the physiological action of Jaborandi. Neither will we do more than refer to the applications that have been made of it in practical medicine. Beaumetz has used Jaborandi at the Hôpital de la Pitié at Paris in several diseases. In a case of acute rheumatism it gave temporary relief to the patient, but the duration of the complaint was not appreciably affected. In a case of pleuritic effusion, in which puncture was resorted to, it appeared to prevent a reaccumulation of fluid. In two cases of albuminuria, just as in M. Robin's cases, the quantity of albumen diminished on the day when the drug was administered, but exceeded the former average on the day after. On the other hand, Jaborandi did not diminish the amount of dropsy in cases under the observation of Lohrisch. Mr. Martindale has shown us specimens of a tincture and an extract of the Jaborandi leaves which he has prepared. When their strength is exactly known these will probably be more convenient forms of administering the drug than the aqueous infusion.

THE WEEK.

TOPICS OF THE DAY.

It is of essential importance that the poor should be able at all times to obtain prompt medical assistance in cases of emergency. As a rule, we believe that this is the case, as "night orders" are issued by the overseers or others interested whenever they are applied for. The following case is not without interest as bearing upon the point. Dr. Diplock held an inquest at Notting-hill on Monday last on the body of a man who had died rather suddenly. It appeared that he had been ailing for some time, and on Tuesday last, being taken suddenly worse, a woman, one of his fellow-lodgers, went to the Stone-yard, Kensington, in which there is a dispensary. The messenger saw a porter there, and said, "Please let a doctor come at once and see a poor man who is dying." The porter replied, "All the doctors have gone, and as the committee are sitting now, you can't have an order for a doctor for two hours." The messenger said, "Oh! but he may die," to which the answer was, "Well, if he does it won't hurt you!" She then returned home, and sent for a doctor, but the poor man died in a few hours. It was proved in evidence that the deceased had suffered much for some time past, and that he died of aneurism of the heart. His life could not have been saved if a medical man had attended from the workhouse when the

application was first made. The Coroner said it was not known at that time from what the deceased was suffering, and it might have been some complaint which would have yielded to active treatment. The porter at the workhouse had no right to keep the information back for two hours. In some cases the porters had been authorised to give emergency orders for the doctor to attend, but since the Local Government Board have framed their new regulations there was little or no chance of such orders being obtained. A verdict was returned in accordance with the evidence; and the Coroner was requested, as he had offered, to write to the Local Government Board on the subject.

One of the reasons why the Coroner's Court has fallen into disrespect is the practice of holding inquests at public-houses. This has been long felt to be a grievance. Mr. Bedford, the Coroner for Westminster, has, however, long discontinued the practice, and holds his inquests at the vestry-room of the parish. At an inquest held on Monday last in the parish of St. Pancras, Mr. Salter, a guardian of No. 1 Ward, said that on behalf of himself and his brother guardians he had to offer the coroner the use of their offices at the workhouse to hold inquests in. He thought that these inquiries could be better held in a place like that than in a public-house. The Coroner said that this change would be approved by jurymen and persons having to attend inquests. He was of opinion that a coroner's court should not be held in a public-house. Persons in attendance were tempted to drink, and there was often a great noise whilst the inquiry was proceeding. He had much pleasure in accepting the guardians' kind offer.

At Portland last week a protracted coroner's inquiry was brought to a close. The inquest was on the body of John Larnmouth, under sentence of twenty years' penal servitude, he having told several persons, hospital nurses and convicts, that he had not been able to obtain treatment from the assistant-surgeon, Dr. Bernard. He stated his grievances to Roupell, the convict nurse, and said that he had also spoken to the surgeon, Dr. Askham, and to the chaplain, with the view of his statements being forwarded to the proper quarters, adding, "I know it can do no good now, as it is too late; but it is a duty which I owe to my fellow-prisoners." After being locked up for six hours, the foreman disagreeing with the other eleven, a verdict was returned, "That the deceased died of consumption, accelerated by the unkind treatment of Dr. Bernard." Several recommendations were drawn up to the coroner, amongst which was "a request that he would bring the facts of the case before the notice of the Home Secretary, so that an official inquiry should be made; that the Directors of Convict Prisons should suspend Dr. Bernard from duty whilst such inquiry was pending; and that a general investigation should be made as to the treatment of the sick in the establishment."

In spite of recent legislation, baby-farming is still carried on. Last week Dr. Hardwicke held an inquest at Islington on the body of an infant named Lucy Wheeler, who had been placed out by its mother under the charge of a woman named Gorman, at 9, Canal-terrace. The child was taken ill, and a medical gentleman was called in to see it. It then seemed in a convulsive state, and suffering from narcotics. The doctor prescribed for the infant, but it died the next evening. On post-mortem examination the coats of the stomach appeared to have been dissolved by some irritant matter. The appearances were those of an "ardent spirit acting on the delicate tissues of a child." It appeared in the evidence that Mrs. Gorman was in the habit of giving the deceased gin "both day and night." A verdict was returned that the child died of "gastric inanition, producing convulsions, through improper administration of gin"; and here the matter ended. Mrs. Gorman acknowledges that she has another "nurse child," and one she calls an "adopted child." Surely this is a case for further inquiry. The coroner's inquest is not altogether satisfactory, and should be followed up by other proceedings.

The dispute between the Coroner for Central Middlesex and the Middlesex Magistrates seems likely to assume a somewhat curious aspect. Dr. Hardwicke has announced his desire to be at peace with the Clerkenwell Bench, and has, on more than one occasion, advised the jury to be satisfied with the medical evidence without a post-mortem examination. To this the jury have assented. If the coroner and jury were, however, satisfied that they could arrive at a just verdict without an after-death examination, no one has a right to complain. But a case of a different character has occurred within the last day or two, at an inquest held by Dr. Hardwicke on the body of Mrs. C. Fennell, aged forty-one, the wife of a cricket-bat maker, 37, Ordnance-road, St. John's-wood. The deceased died suddenly. Dr. Brittain, the family medical attendant, notwithstanding that she was in perfect health on the previous day, attributed death to stoppage of the heart's action, accelerated by hæmorrhage after a miscarriage. No post-mortem examination had been made. At the request of the jury the coroner ordered that to be done, and adjourned the inquiry for that purpose. On the reassembling of the Court in the evening, Dr. Brittain stated that he had made a post-mortem examination, and found that the liver was diseased, the kidneys and stomach were natural. The cause of death was the plugging of the pulmonary artery by a fibrous clot. A verdict to this effect was returned. Though in this case it might not have been absolutely necessary that the post-mortem examination should have been made, the jury (who are omnipotent in these cases) acted, at all events, on the right side and with due caution. Mr. Mouflett, one of the jury, expressed his opinion that the case was one in which no jury would be justified in giving a verdict in the absence of an examination. It is possible that in many cases of this kind the jury—if enlightened, educated men—will insist upon the post-mortem examinations. Under these circumstances, how will the Magistrates act with regard to the Coroner's accounts? Will they accuse the rate-paying jurors of extravagance in spending their own money in a way they may think conducive to the public interest? As the question may have to be answered by them, we await the result.

The following case—Brelsford *v.* Rigby—came before the Court of Queen's Bench last week, on a rule to set aside a verdict of 150*l.*, and for a new trial, on the ground that the verdict was against the weight of evidence:—It appeared the defendant is a surgeon, practising at Chorley, in Lancashire, and the action in which the verdict was obtained was for negligence in setting and attending to the injured arm of a child of eleven years of age. The child, while playing at school, had broken the left forearm, above the middle third, by falling on an iron fender. Three days after, gangrene set in, mortification followed, and on the sixth day the arm was removed by a professional bone-setter. The defendant had attended the child on Tuesday, April 28—the day of the accident—the Wednesday, both in the morning and in the evening, and had left directions that he was to be sent for if there were any urgent symptoms, and promising to call the next day. He did not call by half-past twelve, and another practitioner, who happened to be the defendant's brother, but who lived nearer the house of the child, was sent for, and came and dressed the arm. At about four that afternoon the defendant came, but, finding that his brother had been called in, did not attend again. The arm became worse, and on Friday the child was taken by her father a railway journey of some miles to a bone-setter, who suggested that the arm ought to be taken off, and who removed it on the following Monday, assisted by a duly qualified surgeon. The negligence imputed

to the defendant was that he had bandaged the child's arm too tightly, or had encircled it with plaster in such a manner as to stop the circulation, and so caused the gangrene. The defendant's case was that the gangrene followed some internal injury to the radial artery, and that on the Wednesday, when he last attended, there were no dangerous symptoms; and also that the railway journeys on Friday and the subsequent days had increased the gravity of the symptoms. It was urged, in moving to discharge the rule, that the jury had found adversely to the defendant on a simple question of fact, and that the verdict ought not to be disturbed. The judges thought that, in the absence of any subsequent examination of the amputated limb, or any report on that point, the gross negligence necessary to establish the case had not been established, and without calling on the defendant's counsel, made the rule absolute for a new trial. In this case, it is manifest that, in the absence of examination of the affected limb, no just opinion could be formed as to the cause of the gangrene. What evidence was adduced as to the state of the parts when the bone-setter advised and practised amputation? There was none we can gather that can be relied upon. We trust that at the new trial the subject will be thoroughly investigated, and that the "duly qualified" man who assisted the bone-setter should be put into the witness-box, not only for examination, but cross-examination also.

The course of six lectures on State Medicine by Surgeon-Major F. de Chaumont, M.D., at the Hall of the Apothecaries' Society, will be commenced on Saturday, May 15, at 3 p.m., with a lecture on the History of Sanitation, particularly in this country within the last thirty years, since the publication of the Report of the Health of Towns Commission. The course will be continued at the same hour on each succeeding Saturday.

Dr. W. H. Corfield's lectures on Hygiene and Public Health, at University College, will commence with a public introductory lecture on Tuesday, May 25, at 4 p.m.

THE ARMY MEDICAL DEPARTMENT.

The friends of the Army Medical Department in the House of Commons are determined that Mr. Hardy shall not forget the existence of certain grievances supposed to press hardly upon Medical Officers of the Army; and they jog the memory of the Secretary of State for War, so to speak, by propounding various questions to him on the subject. First, Mr. O'Leary interrogates the War Minister on the question of refusing exchanges to Medical Officers of the Army; and anon Mr. Gibson raises the anomaly of a staff medical officer attached to a regiment being called upon to pay contributions to the mess and band funds. Mr. Hardy's replies are, ostensibly, satisfactory enough; but then what practical good ever did result from asking questions in Parliament? Ministers must know very little of their trade if they are unable to frame a soothing reply to any amount of questions, of which (of course) due notice has to be given. Exchanges, we have every reason to believe, are only discountenanced when the medical officer with a long purse endeavours to purchase for himself an undue share of home service; the authorities, in fact, stand between the needy man and the temptation to risk his life,—and herein we think they are right. The Army Medical Service is now administered on a very fair footing, and so far, we are of opinion, there is little cause for complaint. There is, however, much anxiety to see what good will result from Mr. Hardy's consideration of the grievances which the Department has suffered at the hands of his predecessor; and when the press of business which is inseparable from the cares of a session has passed away, we must trust that an amended Warrant or an Order in Council will restore those privileges of pay and position which have been lost, and raise the Service once more to that level in the eyes of the profession from which it has been most unwisely deposed.

THE CHELSEA WATERWORKS COMPANY AND THEIR NEW BILL.

The Chelsea Waterworks Company have this week sent a deputation to the Duke of Richmond, with a view of obtaining, if possible, the Government support to the second reading of the Bill which they now have before Parliament. In the interests of those metropolitan districts drawing their water-supply from this Company, it is much to be hoped that the Government will see fit to accede to the request. Major Bolton has frequently noted the Company for furnishing water not up to the proper standard of clearness and purity; and as the present scheme proposes the removal of the existing in-take from below the River Mole (the source of a great deal of this Company's trouble) to a site in the Thames at West Moulsey, about five miles higher up the river, there is every reason to suppose that great improvements would result from this change, if the necessary sanction were given. The works have all been submitted to, and approved by, the Local Government Board. The proposed reservoir would have a storage capacity three times as large as that of the West Middlesex Company; and in carrying out the project which they are now contemplating, the Chelsea Company will have to incur a very large outlay, without reaping any direct pecuniary advantage; so that, for once, the Bill now sought to be carried would certainly be principally advantageous to the consumers. The Duke of Richmond promised to consider the matter, and place it before his colleagues; and, seeing that the Chelsea Company are seeking to benefit the public more than itself, we trust that the Government will decide to support their Bill.

EVADING THE VACCINATION ACTS.

It will scarcely be credited that in the present day the guardians of any parish in England could exhibit such a want of common sense as to endeavour to check the working of the Vaccination Act; yet at Keighley and Skipton, in the North of England, it would actually appear that this Act has been openly set at defiance. At the latter of the above places it was recently decided at a meeting of the Board of Guardians, by a majority of nine to six, to institute no proceedings against a man who had refused to have his child, thirteen months old, vaccinated; and a medical man, writing from the same neighbourhood, states that there are upwards of 100 unvaccinated children in the vicinity, whilst small-pox is spreading in the town, and many of the cases are clearly traceable to infection imported from Keighley. In answer to a question put to him in the House, Mr. Sclater-Booth explained that in the last report of the Skipton guardians they had stated their intention of proceeding against all defaulters; but at Keighley the guardians had distinctly refused to instruct their officers to enforce the provisions of the Vaccination Act, and the Local Government Board had therefore given directions that measures should be taken for an application to the Court of Queen's Bench to enforce the provisions of the law. There should be no delay in dealing with recalcitrant authorities of this description, who would appear, by all accounts, to be much more fitted for the post of guardians to the "peculiar people" than for administrative positions in town councils of the country.

THE SOCIETY OF PUBLIC ANALYSTS.

At the second ordinary meeting of the Society of Public Analysts, at the Cannon-street Hotel, on May 5, a report was read from the Council of the Society, calling special attention to the fact that many blemishes had been removed from the Sale of Food and Drugs Bill, in consequence of the objections made by the representatives of the Society to Mr. Sclater-Booth. The definition of food laid down by the Society had

been adopted; the legalisation of the "usages of trade" had been expunged; some of the "knowingly's" had also been omitted; and provision had been made for the punishment of fraudulent wholesale dealers. The President and Vice-President had urged upon the President of the Local Government Board the objections against the proposed reference of disputed cases of analysis to Somerset House, which the analysts consider objectionable in the highest degree. The report was carried unanimously after considerable discussion. Three papers were read on "The Melting Point of Fats," the contents of which, and the discussion which followed, showed that no trustworthy method for detecting foreign fats in butter has yet been discovered. After a paper by Mr. Wigner on "Practical Suggestions to Public Analysts as to Receiving and Dividing Samples," Mr. J. A. Wanklyn read a paper "On Milk Ash," in which he showed that the quantity of phosphoric acid existing in milk in the form of phosphates is tolerably constant, and indeed so constant that a determination of the phosphoric acid in milk may be used to ascertain whether the milk has been watered or not. This method is of special value in the examination of old samples of milk in which the organic matter is more or less decayed, and only the inorganic remains intact. The recent coffee and acorn case was afterwards discussed, and a letter was read from the analyst explaining that the mistake arose from his apparatus being defective. The explanation was not considered to be satisfactory, and a resolution was passed authorising the Council to make further inquiries, and to take steps with a view to prevent the occurrence of irregularities which are detrimental to the interests of the Society. Dr. Angus Smith, F.R.S., was admitted as an honorary member, and among other members elected were Professor A. H. Church, M.A., and Dr. B. H. Paul, editor of the *Pharmaceutical Journal*.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.

THE annual meeting of the Society was held on Friday, April 30, by the kind permission of the Royal Medical and Chirurgical Society, in their rooms, 53, Berners-street. The chair was taken punctually at half-past eight o'clock, by the President, Sir George Burrows, Bart. From a summary read by the Secretary, it was shown that the total receipts available for payments for the year 1874 amounted to £3065 15s., and the total grants and expenses for the same period to £3174 14s., exhibiting an excess of expenditure over receipts of £108 19s. 1d. The ordinary grants for the year were £2601 10s.—an increase of £71 10s. on those of 1873. The grants had been augmented at Christmas to the amount of £329, caused by a donation of £5 to each widow, £2 to each child, and £5 to each of the recipients from the Copeland Fund, making in all £2930 10s. granted during the year. The expenses had been £244 4s. The funded property had been increased by the purchase of £500 (Stock) of the Metropolitan Consolidated Three-and-a-Half per Cent. Fund. Nine members had died (four leaving their widows to the charge of the Society), four had resigned or ceased to be members, and twelve new members had been elected, leaving the list of members at 396—one less than in 1873. Among the deaths were mentioned those of B. Bond Cabbell, Esq., Honorary Member and Arbitrator, and of John Miles, Esq., Vice-President, and one of the oldest members of the Society, elected in 1818. During the year four widows had died, each in receipt of £50 per annum; six widows were added to the list of recipients of grants; seven children had become ineligible, leaving only seventeen chargeable to the Fund. At the annual general meeting of 1874, alterations in the by-laws had been proposed by the Acting Treasurer. The alterations were to facilitate the election of members, and to provide for cases where members, through ill-health, were unable to continue their subscriptions. The following gentlemen were chosen in place of the six senior directors, who retired by rotation, viz:—Dr. Peregrine, Dr. Halford, Nathaniel Stevenson, Esq., Dr. Peacock, Dr. Sieveking, and John Couper, Esq. Votes of thanks were passed to the President and Court of Directors for their kind attention to the business of the Society, and to the editors of the medical journals for their great kindness in forwarding in every possible way the interests of the Society. The proceedings terminated by a unanimous vote of thanks to the President for his kindness in presiding at the meeting.

ZIEMSSEN'S "CYCLOPÆDIA OF THE PRACTICE OF MEDICINE."

WE have received from Messrs. Sampson Low and Co. the two first volumes of their English translation of Professor Ziemssen's great work. This Cyclopædia is to embrace the entire range of special pathology and therapeutics, and it is expected that it will be completed in fifteen volumes, seven of which are already published, and four more are actually in the press. The translations are to be done partly in America and partly in England, and it is intended to issue one volume every three months, so that the work may be completed in three years from the present time, two being already published, and a third nearly ready. The first and second volumes are on the Acute Infectious Diseases. Vol. I. contains Abdominal Typhus, by Professor Liebermeister; Exanthematous and Recurrent Typhus, Cholera, by Professor Lebert; the Plague, by Professor Liebermeister; Yellow Fever, by Dr. Haenisch; Dysentery, by Professor Heubner; Diphtheria, by Dr. Oertel. Vol. II. contains—Varicella, Measles, and Scarlatina, by Dr. Thomas; Variola and Varioloid, by Dr. Curschmann; Erysipelas, Miliary Fever, by Dr. Zuelzer; Malarial Infection, by Professor Hertz; Epidemic Cerebro-Spinal Meningitis, by Professor von Ziemssen. The work will no doubt be a very valuable one, as presenting very fully the state of medicine in Germany at the present time, and will be of great service as a work of reference. But the Anglo-American edition appears to us to be rather an *édition de luxe*. The two volumes we have received are large, heavy, we had almost said massive octavoes, of about 700 pages each, and are superbly got up as to paper, printing, etc.; and the price is a guinea a volume, while the German edition costs on an average about sixteen shillings per volume unbound. Those who desire to subscribe, to look at the work, or to obtain more information about it, may address Dr. J. W. Palmer, 23, Dorset-street, Portman-square.

ATMOSPHERIC PRESSURE ON THE JOINTS.

THE current opinion has hitherto been that the influence of atmospheric pressure in retaining the two surfaces of a joint in contact is, with the exception of the hip-joint, only exerted on the joints as long as the soft parts, especially the capsule, remain intact, and that a simple opening into the latter is sufficient to destroy it entirely. Professor Ch. Aeby, of Berne, however, in a preliminary communication to the *Centralblatt*, March 27, 1875, page 228, announces the startling fact that, according to experiments which he has lately instituted, in the greater number and the most important of the joints in the human body the atmospheric pressure is fully adequate to retain the surfaces of their constituent bones in contact, even after the division of all the soft parts, including the capsule. This statement is true of the shoulder-, elbow-, and wrist- as well as of the hip-, knee-, and ankle-joints, and the experiment succeeds in nearly every natural position of the joint, so that the extremity below any particular articulation can be made to swing within its normal limits of flexion, supported by the pressure of the air alone. Thus, as Professor Aeby expresses it, "when it is found that the arm will hang completely disarticulated in the shoulder-joint, the forearm in the elbow-joint, or the hand and fingers in their respective joints, no further proof is required that the ordinary teaching with

regard to the relation of air-pressure to the joints is completely erroneous." Professor Aeby will shortly publish his experiments and the deductions made from them *in extenso*. We may here add that Dr. Fr. Schmid (*Deutsche Zeitschrift für Chirurgie*, v., 1874), has lately found by experiment that the atmospheric pressure which retains the surfaces of the hip-joint in contact is not only sufficient to support the lower extremity unaided by muscles or ligaments, but even to carry an additional burden equal to a third part of the weight of the leg.

THE HAMPSTEAD HOSPITAL.

We gave last week the result of the deliberations of the Committee of the whole Board, which had been appointed to report on the subject of the proposed site for a Hospital for Contagious Diseases at Hampstead; and on Saturday last, at a large meeting of the managers of the Metropolitan District Asylums, which took place at Spring-gardens, the report was brought up and presented. A notice of an amendment had been given by Mr. Marshall, J.P., the member for Hampstead; but as this amendment simply reopened the whole question, which has been already so fully discussed, it is not necessary to give it in detail. Eventually, the chairman, Dr. Brewer, having taken the sense of the meeting upon the report as presented, announced its adoption by a majority of thirty-eight to five. The whole Board has, therefore, endorsed the views of the Committee, which, it will be remembered, condemned the alternative sites in Mill-lane offered for the erection of a hospital; recommended the refusal of the offer of purchase made by Mr. Harvey; and urged that, with the object of putting an end to the agitation which had been aroused, the Board should henceforth decline the consideration of any fresh sites, should such at any time be offered to them.

SMALL-POX IN LIVERPOOL.

Much dissatisfaction has been felt by many of the inhabitants of West Derby, Liverpool, owing to the Board of Guardians having occupied a large private house, known as Starfield House, situated in a populous part of the town, as a small-pox hospital during the enlargement of their own fever hospital. Immediately on the intention of the guardians being communicated to Dr. Carter, the Medical Officer of Health for West Derby, he lodged a protest with the Master of the Workhouse against the proposed occupation, on the ground of unfitness of site and structure, but without avail, as during the same evening eleven patients in various stages of variola were moved in. The Local Board of Health, the sanitary authority of the district, convened a meeting, when it was resolved to memorialise the Local Government Board, and pray that an inspector be sent down to make inquiries into the matter. Unhappily there seems to be good ground for apprehending the outbreak in Liverpool of another epidemic of small-pox, numerous cases being attended from the dispensaries and by private practitioners.

LONDON ANTHROPOLOGICAL SOCIETY.

On the 23rd ult., the first of a course of special meetings was held at No. 1, Adam-street, Adelphi, the Vice-President, H. B. Churchill, Esq., in the chair. There was a numerous attendance. The list of new Fellows elected, books, etc., received since the 9th having been read, Mr. John Ekless described a subterranean furnace recently discovered in Cambridgeshire, and apparently used for burning human bodies, at or about the period of the Roman occupation. Mr. Carmichael, M.A., F.R.S.L., described some Gallo-Helvetic sepulchres containing bronze and iron weapons, etc., recently discovered near Zurich, and also some very interesting results of cave-hunting in Southern Italy. Mr. Lewis read a paper entitled "Anthropological Notes on Assyrian Inscriptions," in which, after a preliminary glance at the general history of Nineveh and Babylon from an anthropological standpoint, he drew attention to some apparent coincidences in mythological and other beliefs and practices of the Assyrians, the ancient Celts of Western Europe, and the present representatives of the latter.

RUMSEY TESTIMONIAL FUND.

In addition to the amount previously acknowledged (£457 13s.), the following subscriptions have been received:—

	£	s.	d.
Right Hon. Earl Derby	10	10	0
R. Quain, M.D., F.R.S.	10	10	0
George Graham, Esq.	5	5	0
Sir T. D. Lloyd, Bart.	5	5	0
Hy. Parsons, M.D.	1	1	0
E. Westall, F.R.C.S.	3	3	0
C. A. Lockhart Robertson, M.D.	5	5	0
F. J. Mouat, M.D., F.R.C.S.	2	0	0
Sir A. D. Home, K.C.B. (V.C.), M.D.	5	5	0
W. H. Brace, M.D.	1	1	0
W. P. Bain, M.D.	1	1	0
T. Sopwith, M.A., F.R.S.	1	1	0
F. H. Smith, Esq.	3	3	0
Geo. Ross, M.D.	2	2	0
J. D. T. Niblett, Esq.	10	0	0
G. Ward Norman, Esq.	5	0	0
G. H. Pinkard, Esq.	5	5	0
T. Stevenson, M.D., F.C.S.	1	1	0
Robt. Elliot, M.D.	0	10	6
Charles Steele, Esq.	1	1	0
F. J. Williams, Esq.	1	1	0
Shrewsbury—			
S. Wood, F.R.C.S., J.P.	1	1	0
Derby—			
W. Ogle, M.D.	1	0	0
Leeds—			
C.G.Wheelhouse, F.R.C.S.	10	10	0
J. D. Heaton, M.D.	1	1	0
C.Chadwick, M.D., D.C.L.	10	10	0
Manchester—			
Alfred Aspland, F.R.C.S.	5	0	0
Dr. Hopwood	1	1	0
Nottingham—			
W.H.Ransom,M.D.,F.R.S.	5	0	0

W. H. Corfield, M.A., M.D., 10, Bolton-row, W., is the secretary to the committee in London.

THE POLICE AND CORONERS.

It is proposed that the duties of coroners' officers should be brought under the jurisdiction of the police. The Commissioners of Police have, in consequence, been making inquiries in various districts to ascertain the probable number of police that might be required to perform the duties of coroners' officers, and a return has been ordered of the number of inquests held annually in the metropolis and in the counties of England, and the average costs allowed to coroners' officers in the discharge of their duties by the county magistrates.

SUCCESSFUL VACCINATION IN INDIA.

The Sanitary Commissioner of the Punjaub, in his report for the week ending February 27 last, states, in reference to the efforts of the Ludhiana Municipal Committee to extend vaccination, that they have been most successful. In the present season no less than 1700 children have been vaccinated under the immediate superintendence of the Civil Surgeon and Assistant-Surgeon Gokul Chand. All the children born within the year, except a few in very early infancy, have been made safe from small-pox. There can be no doubt that the limited extension of the disease at the present moment is mainly due to the Committee's successful efforts in having the children vaccinated.

MR. PRESCOTT HEWETT.

We have heard with a regret which will be shared by many Fellows of the College of Surgeons that this distinguished gentleman, who was elected a member of the Council in 1867, with Messrs. Spencer Smith and Birkett, declines offering himself for re-election into the Council. Mr. Hewett, who is a Vice-President of the College, is Surgeon-Extraordinary to her Majesty the Queen, Surgeon to St. George's Hospital, and late Professor of Anatomy and Surgery to the College, which can ill afford to lose the services of such a man.

LONDON HOSPITAL MEDICAL COLLEGE.—ENTRANCE SCHOLARSHIPS IN NATURAL SCIENCE.

Two scholarships of the value of £60 and £40 respectively will be offered for competition at the end of September, 1875. The subjects will be the same as for the Preliminary Scientific Examination at the London University. Further particulars may be obtained on application to the Vice-Dean at the College, Turner-street, Mile-end, E.

A MEDICAL DEFENCE ASSOCIATION.

We understand that active steps are being taken to establish a society, the chief object of which will be the suppression of

those who are practising medicine without a qualification. A meeting of gentlemen interested in the movement will be held for the purpose of electing officers, framing rules, etc., next week. Mr. George Brown, of 12, Colebrook-row, N., will be happy to send cards of admission to any qualified medical practitioner who may communicate with him.

PARLIAMENTARY.—SALE OF FOOD AND DRUGS—ALLEGED ADULTERATION—THE ARMY MEDICAL SERVICE—RIVER POLLUTION COMMISSIONERS—AGRICULTURAL CHILDREN ACT—SURGEONS IN THE NAVY—ARTISANS' DWELLINGS—MEDICAL DIPLOMAS.

In the House of Commons, on Thursday, May 6,

The consideration of the Adulteration Bill was resumed in Committee at Clause 6, in which some verbal amendments were agreed to.

On Clause 7 Mr. Brown's suggestion to relieve vendors from the obligation to mark the paper in which any mixed article is wrapped with the word "mixed," provided they clearly so mark the receptacle from which the article is supplied, was negatived, as also Mr. Sandford's proposal "to state the nature of the mixture."

Clauses 7 and 8 were then agreed to without alteration.

Considerable discussion ensued upon Clause 9, with reference to the appointment of analysts. Some members were in favour of all analyses being conducted at a central establishment, such as Somerset House, more especially because in many small towns "the local authorities," with a view to economise, had appointed incompetent analysts at insufficient salaries.

Mr. Sandford said that in many small boroughs analysts were appointed on the express understanding that they would not carry out the Act, and some members of the Town Councils were the chief offenders. It would conduce both to economy and efficiency if analysts were appointed by the county, and he therefore proposed that, "in England, the magistrates for each county shall, as soon as possible after the passing of this Act, appoint for each county one or more persons possessing competent knowledge, skill, and experience, as analysts of all articles of food or drugs sold within such county."

Dr. Playfair said there could be no doubt that many incompetent men had been appointed analysts. Parliament, in laying down the system of analysis, provided no safeguards that the analysts should be competent. Much as we might lament the ignorance on the part of analysts suddenly called upon, as a whole the work had been performed to the satisfaction and for the benefit of the public. He could not support the amendment of the hon. gentleman, because he thought London and large boroughs were quite able to find efficient analysts.

Mr. C. P. Villiers thought there was a great deal to be said in justification of the amendment, because it had in view the interests of the community independently of the trader. It appeared that only twenty-four boroughs out of 171 had appointed analysts, whereas the county magistrates had appointed analysts in thirty cases out of fifty-four. Now, there must be some reasons why the towns and boroughs did not appoint analysts, and if the Committee were really in earnest in preventing the enormous evils of adulteration of food, they should take care that their legislation should be effective, compulsory, and general. At present nothing could be more capricious than the operation of the existing law. The House ought to remember that wherever analysts had been appointed great public advantage had accrued. Nothing could be more ridiculous than the statements sometimes made in the House that there was now no adulteration of food. The present Bill was in his mind no improvement on the Act of 1872, because it would diminish the protection of the consumer, and offer facilities to the traders who practised adulteration. He hoped that the Committee would receive an assurance that the Bill would not be merely permissive, but that the word "may" in regard to the appointment of an analyst should be changed to "shall appoint an analyst."

Mr. Sclater-Booth explained that the Bill extended the facilities for the joint appointment of analysts by boroughs and counties. There was, unfortunately, no school of analytical chemistry in this country, but in a subsequent clause it would be proposed to refer the analyses in certain cases to the Board of Inland Revenue, the effect of which might be that plenty of competent analysts would be found in a few years. When it was stated that county magistrates might be relied upon to carry out the Act, he would remind the Committee that the magistrates of two midland counties had appointed an analyst who was thoroughly incompetent.

Dr. Playfair moved to insert the words—"Provided that such analysts be not engaged in the trade of buying or selling any article of food or drugs." It was undesirable that men should be appointed to analyse in a public capacity the goods of others with whom they might be competing in trade.

After some conversation, the amendment was withdrawn, Mr. Sclater-Booth undertaking to introduce some words in the report to meet the views of Dr. Playfair.

Clauses 10 to 20 were then agreed to, and the House reported progress.

Mr. Grantham asked the President of the Local Government Board whether his attention had been called to the case of a grocer at Daventry, convicted for selling coffee adulterated with acorns to the extent of 50 per cent. upon the certificate of the analyst of an adjoining county, and whether, after notice of an appeal given, the magistrates had received an admission from the analyst that there was no adulteration whatever; also to a similar case at Thrapston, in which the police withdrew from the prosecution, it being proved that, notwithstanding a certificate of the same analyst to the same effect, there was no percentage of adulteration at all; and whether the costs of appeal in the first case, and £20 8s., the amount ordered to be paid to the defendant in the second case, must be defrayed out of the county rate.

Mr. Sclater-Booth replied that in both cases the costs would fall on the county rate, the facts being as stated correct.

Mr. Hardy, replying to Mr. Gibson, said that officers of the Army Medical Service, when attached to regiments for five years, became, in fact, *bonâ fide* officers of the regiment, and paid just as the other officers did to the mess and band funds. Under the present system the five years of service extended to officers of all ranks. He did not think the fact of the army medical officers having to contribute to these funds was a hardship calling for interference by the War Office.

Mr. Sclater-Booth, replying to Dr. Playfair, stated that the replies of eminent chemists to questions put by the River Pollution Commissioners, as to whether it was desirable that a definition of standards of polluting liquids should be fixed by Parliament, and whether the standards recommended by the Commissioners were fair and reasonable, would be found in the fourth part of the Fourth Report, including those of Baron von Liebig and M. Dumas. He hoped the reports in continuation would soon be in the hands of hon. members.

Lord Sandon, replying to Mr. Kay-Shuttleworth, said that while the Agricultural Children Act in some parts of the country had been inoperative, in others it had been really effectual. The weak point of the Act is the absence of an enforcing authority. As it has only been fully in operation for about four months, it is the decided opinion of her Majesty's Government that a wise solution of the difficult question is much more likely to be obtained after a year's experience of the working of the new law than by hasty and premature amendment of it.

On Monday, May 10,

Mr. Hunt, replying to Mr. O'Leary, said the number of surgeons in the navy who had resigned during the last five years was twenty-five. It was not true that any candidates had been received into the Naval Medical Service who had been rejected by the Army and Indian Medical Examining Boards.

The Public Health (Scotland) Provisional Order Confirmation (No. 2) Bill went through Committee of the House of Lords.

In the House of Lords, on Tuesday, May 11,

Lord Beauchamp moved the second reading of the Artisans' Dwellings Bill. He entered minutely into the construction of the most important clauses of the Bill, which were fully explained to our readers when the Bill was passing through the House of Commons. On receiving a report of the unhealthiness of a district, the local authority would be enabled to take steps for remedying the evil by causing the demolition of buildings in crowded spots, and the erection of new and more suitable dwellings. He thought money would certainly be forthcoming to carry on the improvements contemplated by the Bill, and he quoted statistics to show the imperative necessity for grappling with the evil arising from the bad condition of the dwellings which the measure dealt with. The local authorities were not to complete the scheme by erecting dwellings; that was to be left to commercial or other enterprise.

Lord Shaftesbury recommended the improvement and rearrangement of old buildings instead of the construction of new, and he thought building capitalists would not be ready

to come forward with their money to erect houses under the provisions of this Bill. He feared a large proportion of the working classes would be displaced without any guarantee for the reconstruction of their houses at equally low rents.

Lord Aberdare and Lord Napier and Ettrick supported the second reading, not only from a sanitary point of view, but because they believed it would contribute largely to the diminution of crime and immorality among the lower classes.

The Bill was then read a second time.

In the House of Commons,

Lord Sandon, replying to Mr. Waddy, said that there was no official information from the Medical Council on the subject of the formation of Divisional Conjoint Examining Boards; but he had reason to believe that attempts were still being made to form Conjoint Boards for giving diplomas that shall constitute a complete qualification in all branches of medical art. He would point to the Society of Apothecaries' Act of last session, and to the Bill respecting the College of Surgeons now before the House, as proofs that the matter is not being left alone by the medical bodies. He was not prepared at present to state the views of her Majesty's Government respecting further legislation.

The Committee on the Sale of Food and Drugs Bill was resumed.

At Clause 21, Mr. Muntz moved an amendment to the effect that the justices before whom any complaint might be made under the Act might, upon the request of either party, cause any article of food or drug to be examined and analysed by the Inland Revenue Department at Somerset House, whose certificate should be final.

This was withdrawn in favour of an amendment by Mr. Pell, as follows:—"Clause 21, page 7, leave out line 6, and to end of clause, and insert 'by persons to be appointed by the Commissioners of Inland Revenue, who shall thereupon make the analysis, and give a certificate to such justices of the result of the analysis; and the expense of such analysis shall be paid by the complainant or the defendant as the justices may by order direct.'"

This, Mr. Sclater-Booth, to the surprise of several members, accepted, saying, in reply to Dr. Playfair, that her Majesty's Government were quite aware of the responsibility they were taking upon themselves by so doing.

Dr. Cameron remarked that the scarcity of analysts now complained of was owing to the sudden demand for their services, which was the consequence of this sort of legislation. The *personnel* at the Laboratory at Somerset House consisted of a principal, a deputy principal, eight permanent assistants, and eight temporary assistants, and it was impossible that such a staff could get through the enormous amount of work that was about to be thrown upon it under this Bill, and it could not be increased without great cost to the country.

Dr. Playfair said that he should wish to know what security the Government had that the assistants at Somerset House were properly qualified for the discharge of such important duties as were about to be thrown upon them by this Bill, because it was evident that the salaries they received were not such as the first chemists in the country would be entitled to.

UNIVERSITY OF LONDON.

Alterations in the Regulations.

Regulations in Arts.—In and after the year 1877 the subject of Animal Physiology will be removed from the Second B.A. Pass and Honours Examinations, and Papers in French and German will be substituted. Various other changes will come into operation in the same year, the most important of which will be the introduction of passages from books not previously named into the Classical Papers at the First and Second B.A. Pass Examinations, and the substitution of a different series of classical authors to be prepared by candidates for Honours. In and after 1876 it will be necessary for candidates at the First Scriptural Examination to bring up either the Greek or the Hebrew Text prescribed. The value of the Prize at the further Scriptural Examination is increased to ten pounds.

Regulations in Medicine.—The restriction on candidature for Honours at the First M.B., Second M.B., and B.S. Examinations to candidates who have been placed in the First Division at the several pass examinations has been abolished.

Regulations for the Women's General Examination.—In and after the year 1877 the programme of this Examination will be completely assimilated to that of the Matriculation Examination. In the year 1876 candidates will be at liberty to present themselves for examination in accordance either with the programme so assimilated or with the existing programme.

At the meeting of the Senate of the University, held on Wednesday week, the following were elected examiners for 1875-76:—Chemistry: Professor Roscoe, Ph.D., B.A., F.R.S., and W. J. Russell, Ph.D., F.R.S. Botany and Vegetable Physiology: Rev. M. J. Berkeley, M.A., and Maxwell T. Masters, M.D., F.R.S. Geology and Palæontology: Professor Edward Hull, M.A., F.R.S., and Professor T. Rupert Jones, F.R.S. Practice of Medicine: Professor Wilson Fox, M.D., B.A., F.R.S., and Charles Murchison, M.D., LL.D., F.R.S. Surgery: Professor John Marshall, F.R.S., and W. S. Savory, M.B., F.R.S. Anatomy: George W. Callender, F.R.S., and Professor George Viner Ellis, F.R.C.S. Physiology, Comparative Anatomy, and Zoology: George J. Allman, M.D., LL.D., F.R.S., and Professor William Rutherford., M.D., F.R.S.E. Obstetric Medicine: J. Hall Davis, M.D., and Professor W. S. Playfair, M.D. Materia Medica and Pharmaceutical Chemistry: T. Lauder Brunton, M.D., D.Sc., C.M., F.R.S., and Professor Sydney Ringer, M.D. Forensic Medicine: Professor Arthur Gamgee, M.D., F.R.S., and Professor Henry Maudsley, M.D.

THE ELASTIC LIGATURE FOR THE CURE OF WEBBED FINGERS.

One of the comparatively few instances in which the elastic ligature of Professor Dittel becomes a real addition to our surgical appliances is illustrated by a case which forms the subject of an original communication to the *Centralblatt für Chirurgie* (March 20) by Dr. Martin Vogel, of Eisleben. He had under his charge in November of last year a puny child, one of twins, three months of age, who was suffering from what the Germans dignify by the name of "*Syndaktylie*," or what we more simply call webbed fingers. The deformity was symmetrical on the two sides, and consisted in a complete union between the third and fourth digits, which were exactly equal in length. On the dorsal aspect the skin passed from one to the other without showing the trace of an intervening furrow, while the joints looked as if they were common to the two fingers. The nails were much curved on the outer sides, but at the contiguous parts they were smoothed off one against the other so that the interval between them would admit, at most, a stout sheet of paper. On the palmar aspect the fingers had only one tip without any appearance of a division, and the folds opposite the joints were common to the two; but a shallow pink line passed from the base of the last phalanges to the natural position of the commissure, indicating the place where separation ought to have occurred. The joints were freely movable, and there was in addition a slight lateral mobility in the neighbourhood of the middle articulations, but the terminal phalanges were united together by a broad piece of bone, which passed from base to base. The hands were altogether diminutive, and between the two there was only this difference—that in the right the nails were less closely pressed together, and the common terminal phalanx was somewhat broader than in the left.

It is evident, as the author remarks, that this was a difficult case to deal with, not only because of the bony union between the last phlanges, which it would have been a matter of difficulty to divide, but also because, from the thickness of the web, an operation with the knife would have necessarily left a very wide raw surface. He accordingly determined to make an attempt with the elastic ligature, of the efficiency of which he had already convinced himself. The first indiarubber thread was entered just above the last phalanx, and was tied over the tip of the united fingers, care being taken that it occupied an exactly intermediate position between them. At first no inflammatory disturbance resulted, but after a few days slight suppuration set in, accompanied by a little feverishness; and after eight days the phalanges, bones and all, were completely separated from one another, the resulting wound

being only half the width of that which would have followed a cutting operation. During the process the ligature required tightening by placing a small roll of plaster under it over the tips of the fingers. The remainder of the web was divided by one ligature, which, however, required frequent tightening. It was complete in five days, but during this period there was considerable inflammation of the parts, with a good deal of fever, and a small abscess formed on the fourth finger, which required opening. Afterwards the two fingers were separated, and fixed with plaster on a pasteboard splint, and cicatrisation went on rapidly, while to prevent the reformation of the web at the junction of the fingers an elastic thread was attached to a band placed round the wrist and gently stretched between them. After a few weeks the fingers, though still somewhat deformed, had so far regained their natural appearance that the minute scars on the contiguous sides required a careful search for their discovery; but though the cleft was in its normal position on the palmar aspect, on the dorsal surface it was placed rather too far forwards.

The operation on the right hand was almost an exact repetition of that described, but here no inflammation of importance was set up, which may be attributed partly to the fact that each pair of phalanges were divided separately in consecutive operations, and also that salicylic instead of carbolic acid was used as a dressing. By March of this year the fingers of this hand also might be described as completely normal, both in appearance and as regards their usefulness.

If we take into consideration the difficulty that often exists in rectifying this deformity, however it may have arisen, and the various complicated methods suggested for its cure—including the ingenious mode of transplanting skin to fill the deficiency, proposed by Mr. Barwell,—it must be allowed that a good deal may be said for the advantages claimed for this operation by Dr. Vogel. 1. Although easy of performance it is quite free from danger. 2. An operation need not be avoided because the web is thick and the skin insufficient to form a covering. 3. It affords the easiest opportunity of successfully preventing the much-dreaded re-establishment of the web.

FROM ABROAD.

The French Medical Association.

At the recent annual meeting of this body it was announced that it is in a prosperous and progressive condition, 450 new members having joined it last year, the central and branch societies consisting now of between 6000 and 7000 members. The property amassed by the Association amounts to very nearly 1,000,000 francs; and last year it expended 33,251 francs in succouring forty-one members of the Association—fifty-three widows and fourteen children of members, and forty-four practitioners who were not members. To this sum has to be added that of 4600 francs, to represent a capital of 91,720 francs paid to life-pensioners—a sum that is to be increased during the present year.

M. Brouardel, the Assistant General Secretary, in a minutely detailed report, after describing the satisfactory material condition of the Association, points out that it has also been able to exert a good deal of moral power, having succeeded in several instances in arranging disputed points between practitioners or between these and their patients, and having sometimes acted as arbitrator at the request of magistrates. But after expressing his conviction that both in its material and moral aspects the Association will continue to flourish, M. Brouardel turns to a less cheerful aspect of affairs. When the inroads of quackery are deplored in this country, and a more active agency of the Legislature is invoked by the sufferers, it is not uncommon to find the advocates of such a policy referring to the rigorous laws which prevail in France for the suppression of charlatanism, and the effectual manner in which they are put into operation. Alas! the persons most intimately concerned in the matter tell a very different tale, and the successive reports of this Association too plainly show that the extent to which charlatanism prevails throughout the provincial districts of France has become, and is annually still more becoming, a crying grievance. Testimony is furnished by branch after branch that unqualified and illiterate persons of every kind practise the most barefaced quackery with impunity and with great profit, encouraged as they are, not only by the poor and illiterate, but by persons whose position in society and education would seem to secure them against such pretenders. The pharmaciens, again, in rural districts are often formidable competitors of the practitioner; for although the French law most absolutely separates the functions of doctors and druggists, these latter often set its provisions at defiance, and sometimes do not hesitate to attend patients at their own houses. This practice is, however, attended with some risk, as the law is very clear, and the means of proof is often obtainable; but giving advice in their own shops, or, as we term it, counter-practice, is a comparatively safe procedure, owing to the difficulty that so often exists in bringing the offence home to the deliuquent. Then, again, French practitioners are subjected to a form of competition of which we know nothing in this country—that caused by the religious sisterhoods, who, by their numbers, become formidable opponents, practising medicine almost openly as they do, and finding plenty of persons ready to make excuses for them on the plea of their good intentions. It will be said that all this is illegal, and so it is; but not only are the trifling penalties inflicted quite futile as deterrents, but the magistracy, in whose hands their infliction lies, is often the encourager of quackery, and evades rather than enforces the law. In some departments in which a better tone prevails among those who have to enforce the law, quacks and pretenders have been more vigorously pursued, and trifling fines and imprisonments have been converted into serious punishments by the admission of the cumulation of penalties, each infraction being regarded as a separate offence.

Several of the branches have represented to the Central Association that in the departments to which they belong, the above-mentioned state of things, joined to the dearness of living, has brought about a great diminution in the number of practitioners in these localities. This diminution has varied from 29 to 33 per cent. during the last twenty years; and M. Paul Bert stated in the National Assembly that the total number of practitioners had diminished from 17,192 in 1866 to 15,429 in 1872. The Legislature thought that it would sufficiently supply the deficiency by increasing the number of Faculties and the supply of students. But that these will not settle down to a thankless career in districts labouring under such disadvantages, and against the advice of those suffering from them, needs not to be demonstrated. Many persons have been struck by this progressive diminution of doctors, and believe that it has in great part arisen from the difficulties that now exist in establishing and maintaining a position, owing to prices and payments having so augmented, while the pecuniary relations between doctor and patients have not undergone a corresponding alteration. Some branches, therefore, have suggested to the Central Association that a minimum tariff of fees should be adopted; but the Association, while greatly desiring that an equilibrium should be re-established, cannot recommend the adoption of a tariff. It can have no doubt that fees should be raised; but the extent to which this can be done depends upon many circumstances which vary in different localities. The intervention of the Association may, however, be justly claimed for the purpose of obtaining better payment for public vaccination. Last year it obtained an increase in Savoy from 7½d. to 1s. 3d. per case; but it is now stated that in the Landes the incredible sum of eight francs was paid for 120 vaccinations—*i.e.*, about a sou per case! The Préfet has not announced his intention too soon of endeavouring to get the Conseil-Général to augment this wretched payment.

Another question that has been debated a good deal in the branches is that of replying to queries concerning life assurances, and the following are the recommendations made by a committee appointed to consider the subject, which were unanimously approved of:—1. To refuse always and absolutely to deliver any certificate or attestation whatever concerning the health of their habitual patients, even when they are solicited by the latter, and of however satisfactory a character such certificate might be. 2. To refuse also, when medical officers of companies, if they are requested by such companies, to examine their own patients, and to cause such examinations to be made by other practitioners. 3. To use all their influence with any of the companies to which they may be attached in order to obtain a revision and simplication of the list of questions that have to be replied to. But this list once adopted, every care should be taken to reply to them in the most clear manner, so as to aid the company in determining whether to accept or refuse the assurance.

Another question has been discussed by several branches—

viz., the feasibility of creating *conseils de discipline*, resembling those employed in regulating their mutual relations by advocates. Much difference of opinion has prevailed with respect both to the utility and the possibility of such a creation. The objections to these *conseils* M. Brouardel regards as conclusive. The analogy between doctors and lawyers is, in fact, somewhat forced, the difference arising from the impossibility of appreciating the transgression and applying the penalty. Advocates are grouped before a tribunal, exercising their profession before the members of this tribunal and their colleagues, who form their natural and competent judges, capable of appreciating the delicacy or indelicacy of their professional conduct. The medical practitioner is not placed under the same conditions, as he does not exercise his profession in the presence of witnesses able to assume the qualifications of judges, and—save some obvious scandal—his practice, whether good or bad, is appreciated with difficulty. A *conseil de discipline* strikes the advocates by interdictiug them from professional acts within their field of action. How could a practitioner be interdicted? How can a patient be prevented from going to consult him, or how can he be prevented visiting his patient at his home?

Babies' Sore Eyes.

Dr. Derby, writing in the *Boston Journal* of February 18, concerning an interesting paper bearing the above title, published by Dr. Williams (*Medical Times and Gazette*, April 10), calls into question the propriety of his prohibition of the use of the nitrate of silver in the treatment of infantile ophthalmia. He says that notwithstanding Dr. Williams's eminence in this department of medicine, he stands almost alone in discarding the use of the nitrate, most oculists regarding it as their sheet-anchor. In proof of this he cites passages from recent authors recommending its employment. Having thoroughly cleansed and separated the lids by means of a piece of soft sponge dipped in tepid water, the elevator should then be used for the careful inspection of the cornea. The upper and lower lids are to be everted, so as to expose as much of the conjunctival surface as possible; and, after they have been freed from the secretion, a large camel's-hair brush, dipped in a solution of the nitrate (ten grains to one ounce), is passed over them, next dipped in cold water, and applied several times again before the lids are reclosed. The pain, which is acute, soon subsides, and for the remainder of the day strict attention to cleanliness is all that is required. It is only exceptionally necessary to apply the caustic again in the evening—*i.e.*, when the slight pellicle formed after the morning's treatment has been thrown off. If, however, the disease continue to advance, and the cornea becomes more involved, we should brush over the everted lids a stick of Graefe's *lapis mitigatus* (the nitrate of silver fused with twice its bulk of nitrate of potash), and then wash them by free applications of water. If the nitrate of silver treatment be carefully followed, its good effects are soon and sometimes immediately manifested; and no other measures than strict cleanliness are required.

In the number of the *Journal* for March 11 Dr. Williams publishes a rejoinder, showing that he had not advocated the milder treatment of the disease without having become persuaded, from long experience, of its superior efficacy, and of the danger and great suffering consequent on the employment of the nitrate. He shows that the very authors whom Dr. Derby had quoted had so fenced in their recommendations by limitations and precautions that they could seldom be of much avail; while numerous classical authorities which he refers to himself greatly prefer mild astringents, and especially alum. He has witnessed the employment of the nitrate in the hands of its most eminent advocates, but still adheres to his own more simple measures. Did it shorten the course of the disease, some risk might be run; but while in severe cases it does not shorten their duration, it often aggravates the condition of the milder ones; and, owing to the great torture caused, the infant offers every resistance to opening the eyes. This, indeed, can only be effected by the employment of an elevator, which is a very painful and dangerous mode of inspection.

M. Jeannel on the Contagious Diseases Acts.

If the proceedings of the ladies who have so hotly and so indiscreetly taken up the repeal of the Contagious Diseases Acts as one of their pet questions have caused regret and astonishment on the part of the bulk of their own countrymen and countrywomen, they seem to have produced downright amazement in France. Any hostile verdict which they may receive from that country has been provoked by their own action; for, not content with inundating England with their sensational addresses and pamphlets, they have caused a circular from the "Association Nationale des Dames Anglaises pour la Revocation des Lois sur les Maladies Contagieuses," signed by Mrs. Josephine Butler, to be translated into French and circulated in that country, together with two penny tracts by the Rev. C. S. Collingwood. M. Jeannel, the distinguished writer on the laws relating to prostitution, has transferred these singular documents to the pages of the *Annales d'Hygiène*, accompanying them with some stringent criticisms which he is so competent to deliver. An admirer himself of the Contagious Diseases Acts, and a historian of their successful application, he seems lost in wonder at the opposition which they have excited, and especially at the fact of this having been organised and conducted chiefly by women. He evidently regards it as one of the traits of that singular eccentricity for which John Bull has been so long famous on the Continent.

After stating the objects of the Contagious Diseases Acts, and which he maintains have in great part been fulfilled, M. Jeannel goes on to say:—

"That there should exist an association—an association of ladies,—aided by clergymen and gentlemen, for the purpose of demanding the repeal of laws tending to produce such results as these, truly I would refuse to believe if I had not under my eyes the printed documents to which Mrs. Butler, Mr. Collingwood, and some other personages have affixed their names in full. . . . . The most imposing authorities in England as well as on the Continent are in accord in regarding syphilis as a scourge analogous to the plague, and a hundred times more pernicious in its effects, attacking the human race first in its virility and then in its reproduction. The problem sought to be solved by the sanitary inspection imposed upon public prostitutes, and by the sequestration and treatment in closed hospitals of such of them as prove to be infected, is not the affording security to debauchery as Mrs. Butler affects to believe, but is really the application, to the extent that is possible, of a quarantine system to the prophylaxis of an eminently contagious disease, the pernicious effects of which are not temporary like those of most other contagious diseases, but are often prolonged during the entire life of those who are the subjects of them, and may be propagated to the lives of their descendants. I almost fear seeming to want respect for these fair disputants, whose modesty constitutes their brightest ornament, but since they think proper to intervene in questions hitherto reserved for administrators and medical practitioners, I will venture to inform them that all intoxications are blind, and the generative intoxication blinder than any other, and that the fear of contracting syphilis has never yet restrained debauchery. I may add that their intervention in such a matter has produced in France indescribable astonishment, and that their endeavours at propagandism among French ladies is doomed to the failure of a colossal eccentricity."

It seems that M. Jeannel has especially incurred the indignation of the Ladies' Association by his work, "L'Etat Actuel de la Prostitution dans les Grandes Villes au XIX. Siècle," and they have forwarded him a criticism of this, which has been widely circulated. In this they declare that his propositions violate all laws, divine or human, and that he can be only looked upon as an agent of the infernal regions, because he recommends an extension of the Contagious Diseases Acts and congratulates England upon having resolutely entered upon the repression of the scandals of prostitution and taken effectual measures against syphilitic contagion. A long criticism of his work by Mr. Collingwood is translated and inserted by M. Jeannel in the *Annales*, thereby attaching much more importance to the *ad captandum* arguments and fallacies of the writer than they deserve. However, as M. Jeannel observes, all this rhodomontade is of little avail in face of the practical facts which have now been published and are accessible to all. Of these he cites the following that must be regarded as very decisive—viz., 1. That during the years 1868-72 the English garrisons in which the prostitutes were submitted to no visitation had continually 9·16 per 1000 men in hospital on account of syphilis. 2. That during the same period, in the English garrisons in which prostitutes were submitted to sanitary visitation, the proportion was 4·49 per 1000; and 3. That in six regiments, taken by chance, which on December 31, 1874, were in the Paris garrison, where prostitutes are submitted to careful examination, only 2·74 per 1000 were in hospital for syphilis.

PROVINCIAL CORRESPONDENCE.

LIVERPOOL.

Action against a Surgeon—Deputy Medical Officers of Health—Cure of Dipsomaniacs.

A case was tried in the Liverpool Court of Passage on the 15th ult., which illustrates the risks incurred by medical men of vexatious proceedings from ignorant patients and their friends. Now that puerperal peritonitis seems to have assumed the character of an epidemic, it will be rather strange if we do not hear of many such cases; and medical men should be more than ordinarily careful to guard themselves against the risks of being put to needless anxiety and expense by being made the object of harassing litigation. The action in question was brought to recover damages for alleged want of reasonable care, skill, and attention on the part of a surgeon to his patient. The surgeon, Mr. E. M. Sheldon, had been engaged to attend the wife of a Mr. Harvey in her confinement. She was delivered by forceps on January 16, and appears to have gone on well until the 20th, when severe pain was complained of. The medical attendance during all this time seems to have been most close and careful. The patient was visited by Mr. Sheldon on the following Friday evening, but as the pain continued he was again sent for at one o'clock on the next morning. As he was not in at the time, the messenger informed his assistant that the services of another medical man would be procured. Another medical man did visit the patient at half-past two, and it is reported that the words used by him "conveyed to the mind of the plaintiff that there had been very considerable negligence." But this is not all. In cross-examination of the plaintiff, Mr. Harvey, it transpired that a third medical man had "volunteered to visit Mrs. Harvey as a friend, without making an appointment to meet Mr. Sheldon"; and this medical man is reported to have reflected on the management of the case. The patient died on the Sunday morning; and it should be ample vindication of Mr. Sheldon's character and skill, that the Assessor, immediately after hearing the evidence of the plaintiff, remarked that he did not think there was any evidence against that gentleman; and that although, by the wish of the plaintiff's counsel, he allowed other witnesses to be called, he remarked that the action had the appearance of being vexatious, and one for which there was not a shadow of pretence, and that he did not think the case a proper one in which to grant the desired leave to move for a new trial. It is to be hoped that this clear and decided expression of opinion, on the part of a discriminating judge, will do more to prevent the recurrence of such actions than the conduct of those medical men who are ready to volunteer to visit their brethren's patients in their absence, and to express adverse opinions, will to encourage it.

At the meeting of the Health Committee of this town, the announcement was made that Mr. Torr, M.P., one of the borough members, had consulted the Home Secretary on the subject of giving to local authorities power to appoint deputy medical officers of health in case of inability, through failure of health or otherwise, on the part of the regularly appointed officer to fulfil his duties, and that Mr. Cross had promised to introduce a clause for the purpose into the Artisans' Dwellings Bill. The necessity for such a clause has lately been rendered very evident here by the illness of Dr. Trench. The Town Council, while granting him leave of absence for six months, had no power to appoint a deputy, the whole burden of which appointment, as the law at present stands, rests upon the public officer when, under the pressure of illness, he is likely to be least able to bear it.

A case of some interest, and certainly of great novelty, came before the West Derby Guardians recently. It was that of an application by a husband to have his wife, a confirmed drunkard, admitted to the Workhouse in consideration of a weekly payment of seven shillings. It was wisely decided, though some doubt was expressed as to the legality of the decision, to admit the woman on the terms proposed.

The annual meeting and dinner of the Birmingham Medical Benevolent Society will be held at the Hen and Chickens Hotel on Friday, May 28, under the presidency of Mr. J. V. Solomon, at three o'clock.

GENERAL CORRESPONDENCE.

CELLS IN OVARIAN FLUIDS.

Letter from Mr. Lawson Tait.

[To the Editor of the Medical Times and Gazette.]

Sir,—Dr. Thornton really takes so much for granted that it is impossible for me to do more than indicate some of his premises to which I take exception. To discuss them would take a fair-sized volume—such, indeed, as I have in preparation on this very subject, the result of many years' work. He takes it for granted that there are some cells, or "groups of cells," which, escaping from an ovarian sac, may become disseminated (by multiplication, I presume) over the general peritoneal surface; and he figures such cells or groups of cells. The conclusions are, that he has discovered a typical malignant cell or group of cells, and that these cells have the power of malignancy in them invested. That, of course, means at once a sweeping assertion of the doctrine of the local origin of malignancy, and the certainty of its arrest by early operation. Both of these conclusions I dispute, and I need scarcely say that something more than Dr. Thornton's assertion of them is necessary for their acceptance.

The versation of my case which Dr. Thornton makes is very unfortunate for him, for in that particular instance there were very abundant opportunities for cell infection of the peritoneal surface, for the cysts were very thin and the fluid escaped in large quantities into the peritoneum.

I am loath to say anything which may seem offensive to Dr. Thornton, but if he had been as well acquainted with Klein's method and preparations as he fancies, I doubt if he would have mentioned his own methods of preparation and mounting without including the silver process, by which only could the true relations of such cells be made out. He did not even mention the method in which he used the hæmatoxylin stain, and therein I think he failed to substantiate his conclusions. I treated his woodcut with respect; but, in fact, when I look at it again, it seems to me that it may mean almost anything or nothing. Follicular growths are practically serous cavities, and from any serous cavity, especially in disease, Dr. Thornton may get such appearances as he has figured. At least, so far that is my experience; and the more experienced I become in cell-appearances, the less enthusiastic I get about being able to prophesy about the clinical relations of their sources of origin. I have no doubt that Dr. Thornton's enthusiasm will also go through a like change. I am, &c.,

Lawson Tait.

P.S.—If Dr. Thornton will kindly look at the coming number of Humphrey and Turner's Journal, he will see that I am at least not speaking without experience of cell-appearances and their methods of preparation.

TYPHOID FEVER AND PUERPERAL SUSCEPTIBILITY.

Letter from Mr. Charles Orton.

[To the Editor of the Medical Times and Gazette.]

Sir,—I send the following remarks as likely to be interesting to non-believers in the contagion of typhoid fever, and also to those who do not consider that there is any peculiar susceptibility to infection in the puerperal state.

In a low part of the town, about two hundred yards from the Lyme Brook, which is nothing but an open sewer, at the same distance from the canal, which is frequently very offensive, and about thirty yards from a field which is occasionally richly irrigated, a case of typhoid declared itself in a girl aged eight years on March 18. The case terminated fatally on March 29. There was no other death from typhoid registered in the same month, neither could I hear of any other case under treatment at the time or since.

On March 22, Mr. Wynne saw the case for me, and found that the mother of the girl had been put to bed by a midwife on the previous day in the same room. The child was immediately removed to another room. The mother made a good recovery and remains quite well.

I am quite aware that such a case does not prove that typhoid does arise spontaneously, or that it is non-contagious, but I should very much fear that if a woman were put to bed in a room where there was a case of scarlet or typhus fever, she would not have fared so well.

The isolated cases of typhoid which I myself have seen, force upon me the belief in its spontaneous origin, and the occurrence above alluded to must make one doubt either the contagiousness of typhoid or the peculiar susceptibility to infection during the puerperal state.

Newcastle, May 2. I am, &c., CHARLES ORTON.

REPORTS OF SOCIETIES.

HARVEIAN SOCIETY OF LONDON.

THURSDAY, APRIL 15.

Dr. W. H. BROADBENT, President, in the Chair.

FACIAL NEURALGIA.

MR. SEWILL related three cases of facial neuralgia, which, after resisting treatment for long periods, were cured at last by the extraction of carious teeth, the nerves of which were exposed and inflamed, although unsuspected by the patient.

The PRESIDENT narrated several cases of the same kind. He agreed with Mr. Sewill that there were no symptoms which positively distinguished the varieties of neuralgia due to different causes, and that the patient was often unconscious of the existence of the exciting cause when this happened to be a carious tooth.

TINNITUS AURIUM.

Mr. GEORGE FIELD read a paper on the above subject. The author first gave its various causes and the treatment that had been recommended, etc. He then related fifteen successful cases of severe noises in the ear treated by him by galvanism at St. Mary's Hospital, all of which had failed to get relief from other modes of treatment. He used Dr. Stöhrer's double-celled induction apparatus, applying the galvanism directly to the membrana tympani by means of a probe passed through an ear speculum made for the purpose by Messrs. Krohne and Sesemanu. A piece of platinum wire was fixed to the speculum, and by this the current was carried to the tympanic membrane. Most of these patients had great concavity of the membrana tympani, with more or less deafness and obstruction of the Eustachian tubes. Some of them had suffered from noises in the ears for many years, and the sounds described by them were various—the "tinnitus" in some cases being almost unbearable before this mode of treatment was adopted. Mr. Field maintains that galvanism, no doubt, stimulates the intrinsic muscles of the ear, and therefore enables them to perform their function. He said he had reason to believe that the stapes often remains fixed within the foramen ovale in these cases of singing in the ears. Such a condition doubtless does, from the continued contact of the stapes with the internal ear, induce a constant formation of false sounds. The partial withdrawal of the stapes effected by contraction of the stapedius muscle would be followed by a reduction in, or a temporary removal of, such false sound. And he would therefore suggest that if this stimulation is carried on perseveringly the muscle may regain its tone and exert its proper influence in the auditory function.

In the discussion which followed, the President and the following members took part:—Drs. Farquharson and Griffiths, and Messrs. Edmund Owen, Thomas, and Sewill.

THE PATHOLOGICAL SOCIETY.

TUESDAY, MAY 4.

GEORGE POLLOCK, F.R.C.S., President, in the Chair.

THE adjourned discussion on Dr. Bastian's paper on the Germ Theory of Disease was resumed.

Dr. MURCHISON said that, having but little personal knowledge of bacteria, he had not intended to speak in this debate; but he would now do so from his experience of the diseases in which they were believed to play an important part. He would first refer to Mr. Hutchinson's speech, where a distinction was drawn between virulent and contagious inflammations and the acute specific fevers—the latter being upheld as truly specific, and to be explained by the germ theory, while the former might spread without germs, their products being sufficient for infection. Admitting a certain amount of difference between the two classes, Dr. Murchison said that his own experience was opposed to that radical difference which Mr. Hutchinson insisted upon. His own opinion was that there did not exist the agreement amongst fevers themselves which was generally believed, and that, from an etiological point of view, they might be divided into groups. Thus, relapsing fever was an acute specific fever, which under certain circumstances was contagious, and yet one attack caused no immunity from another. The same was the case with diphtheria, cholera, etc. There were also great differences in regard to their degrees of contagiousness and the mode of their propagation. Then, as to the argument that the severity of the disease differed according to the nature of the poison, this was a character also to be observed in the acute specific fevers. Undoubtedly the constitution played a more important part in the fevers than in the inflammations, because the former were more general diseases. But in typhoid fever, *e.g.*, the type, symptoms, and complications differed according to the source of the poison; and in scarlet fever, epidemics differed greatly in several respects. He would lastly join issue with Mr. Hutchinson when he said that no acute specific disease was producible except by germs derived from a person already affected with the same disease. The evidence that diphtheria and dysentery might be produced *de novo* was so strong that he could not believe that it would not be accepted by an unprejudiced mind. Altogether, Dr. Murchison could not agree with Mr. Hutchinson that there was so great a difference between the acute specific fevers and the acute specific inflammations. If the germ theory were accepted or rejected for the one class, it must be so respectively for the other. Coming now to discuss the germ theory of disease, Dr. Murchison observed that Dr. Sanderson had said that not much good could come from discussing theories, and had insisted on the fact that in the course of the infective process there was a great development of bacteria. He had, however, refused to say whether the bacteria were the cause or the effect. This was all very well for a man of Dr. Sanderson's scientific caution, but the fact was that these observations of Dr. Sanderson's had been used as the grounds of practical conclusions by others. An example of this was Professor Tyndall's letter to the *Times* upon typhoid fever. He was sure that Dr. Sanderson would be the first to repudiate any such construction of Dr. Klein's observations on the presence of germs in typhoid fever as Professor Tyndall had put upon them. Respecting bacteria, Dr. Murchison believed that the following facts had been established:—1. Bacteria may be injected in large numbers into the blood of lower animals, and they suffer nothing. 2. Bacteria may be found in certain healthy tissues. 3. They multiply after death. 4. They are developed in large numbers in a vesicle caused by a chemical irritant. 5. In certain contagious fluids the more abundant the bacteria the less virulent is the fluid. 6. Bacteria may not occur in certain fluids eminently contagious. These facts went a long way to throw a doubt upon the causal relation between bacteria and the infective diseases. On the other hand, it was argued that it does not follow that some bacteria may not be very injurious; but Mr. Lister had shown that bacteria may produce very different results according to their circumstances. In the second place, it had been said that bacteria in erysipelas chiefly occur in the spreading zone; but this did not prove that they might not be the results. Thirdly, it was stated that in certain diseases there were peculiar forms; but these might be accounted for by the peculiar soil, for the most various forms were found according to the soil. This agreed with what is known of spirilla of relapsing fever, for these come into view at the primary paroxysm, disappear at the crisis, reappear at the relapse, and again disappear at the second crisis. These phenomena would appear to be best accounted for by the varying soil in which the organisms occur, by the presence or not of the fever process in the blood. On the whole, Dr. Murchison did not think that the discovery of bacteria in diseased persons served to corroborate the germ theory of disease. Yet there were many arguments in its favour; though many of them were founded on analogy. The facts of pyrexia could be as well explained without germs. Dr. Maclagan's great argument—that the local complications and eruptions were best explained by the germ theory, because the germs there found the second element necessary for their growth—was of little weight, for arsenic presented a similar choice, and it was to this very predilection of drugs for special parts of the body that we looked as therapeutists. There was another argument on which too much stress had been laid; it had been said that the germs show that they are vital by the length of time for which

they can retain their power after exposure to chemical and other influences. Dr. Murchison said that he knew of no facts to show that the germs of scarlatina and small-pox will retain their vitality if exposed freely to the air—a circumstance which would appear to have been overlooked as an argument against the omnipresence of such germs. But it was certain that the poison multiplied at an enormous rate; and therein there was an analogy to life and not to chemical change. Yet it did not follow that a similar process may not be discovered in chemistry. Dr. Lyon Playfair had informed Dr. Murchison that oxamide is decomposed, when boiled with acids or with alkalies, into oxalate of ammonia; and that if oxalic acid were chosen an infinite amount of oxamide is decomposed. It would seem, therefore, not to be correct to speak of the poison "multiplying itself." One should say that "it is multiplied." Dr. Murchison said, in conclusion, that to him there were two great arguments against the germ theory—(1.) That most persons attacked with infectious diseases recover. It was said that the germs had in these cases exhausted all their material. But in relapsing fever the facts were opposed to this view: if the germs exhausted all the material in the first attack, whence came the necessary material in the relapse? (2.) That many of the infectious diseases arise independently of an infecting case. The upholders of the germ theory practically denied this possibility; but anyone carefully weighing the facts regarding cholera, dysentery, typhoid fever, etc., could not deny the possibility of such an origin.

Mr. Wagstaffe thought that the subject might be advanced by any record of facts pointing to the circumstances under which organisms had been seen in the body. During the last two years he had examined the blood and secretions of many patients, and he would record the results as negative and positive. (1.) The Negative Results.—Of these the most important fact was that no organisms were usually to be seen in the blood in health. Yet, under certain circumstances, such were visible and not explicable. Thus, one patient—in an erysipelas ward, but unaffected by that disease—had many organisms in his blood at all times, when well and when ill; small micrococci, moving granules, dumb-bells, and beads. Another negative result was that in cases of subacute and chronic inflammatory disease no organisms were found. Again, on examining the patients on one side of a large ward, with very various diseases—with or without wounds, some with a temperature of 102°—no organisms were found. (2.) The Positive Results.—The first of these was that pus from an open wound always contained microzymes. The second was that the blood of patients with suppurative fever always showed microzymes. Thirdly, a class of patients in whom organisms were nearly always found were strumous patients, especially if suffering from disease of bone. Fourthly, in erysipelas and cellulitis similar results were obtained, the number of organisms in the blood apparently varying with the intensity of the disease. Again, in pyæmia the blood contained such bodies in all cases, generally in the form of dumb-bells and chains. This observation especially differed from Dr. Bastian's; but Mr. Wagstaffe had recently compared the microzymes present in the pus and in the blood of a pyæmic patient, and found them evidently identical. Sixthly, in cases of acute syphilis, organisms were nearly always found, and another remarkable appearance—large plates of plastic matter in the blood. Again, in cases of general fever, and especially of acute pneumonia, such particles were present. In cases of large wound—say of amputation—he had followed the condition of the blood from day to day. Thus, five hours after one amputation (temperature 102°), there were twelve to twenty microzymes in the field of blood; on the second day (temperature 102°) there were twenty to thirty; on the third day (temperature 101·6°) three to four; on the fourth day (temperature 101·6°) one to two; they diminished until the third week, increased with the appearance of an abscess in the thigh, and finally disappeared. These observations, said Mr. Wagstaffe, showed some relation between the presence of bacteria and the inflammatory process, and he did not wish to draw any conclusion, but simply to submit them to the Society.

Dr. Goodhart said that during the last two years Dr. Moxon and he had been making observations in all cases of fevers—surgical and otherwise—including especially erysipelas, typhus, measles, scarlatina, and variola. Their conclusions were—first, that it did not seem to matter much whether the case were one of a specific fever, pyæmia, surgical fever, or what not. In these cases the blood, as contrasted with healthy blood, contained much granular matter; in no single instance was there any moving particle; there were many refracting granules tending to aggregation, and in some cases beaded chains. In no cases were there rods. They were hardly disposed to call these particles bacteria at all. These observations differed from Dr. Bastian's of 1869 only in there being no red-like particles found—perhaps because the blood was examined perfectly fresh. In the next place, Dr. Sanderson had said that bacteria might be present potentially if not actually; to test this they had taken blood and kept it in capillary tubes for a certain time, and bacteria really seemed to develope more readily thus in disease than in health. Similar results were obtained with pus similarly treated. The next series of experiments had been intended to test whether any relation existed between the spreading tendency of erysipelas and bacteria. In juices removed from the spreading edge neither rods nor moving particles were found. Lastly, they had examined pus from closed abscesses, discharges from sores, etc. In all open cases moving bacteria had been found in abundance, and in five or six cases of closed abscesses the same.

Dr. Payne said that he wished to call attention to some facts of morbid anatomy both in reference to bacteria in the body and to the diseases under discussion. But he would first dwell on the importance of trying to draw a distinction between putrefactive bacteria and those found in disease. Dr. Murchison and others seemed to think this of comparatively little importance; but it must be considered in relation to the appearance and the effect of the organisms. As for their appearance, it was very difficult for one who was not accustomed to distinguish them from each other. Authority must be invoked, and Cohn had distinctly admitted that the micrococci of disease were different from those of putrefaction. Whether they were convertible was less important, for their effects in different stages of life might be very different. Granting, then, that the ordinary putrefactive bacteria could be recognised, it was to be asked when they are to be met with in the body—before or after death? It seemed that they occur but rarely in the interior of the body during life; and when Dr. Bastian insisted on the discovery of bacteria in the mucous membranes, skin, etc., it remained a fact that these parts were really outside the body; and, considering the necessity of their frequent occurrence there, the mucosa of the intestine must have a great power of resisting their entrance into the blood. Putrefactive bacteria were rarely inside the body in this sense during life; but post-mortem they were nearly always present, and sometimes very soon—as in "post-mortem emphysema," where the viscera even became pervaded with cavities containing gas, and that even in frosty weather. These cavities were developed from pale softening spots, and were possessed by the common bacteria of putrefaction. Now, in nearly all such cases a part of the body had been in a state of death or near it—gangrenous, bruised, or with urine extravasated into it. Positive proof was impossible, but it was suggested that bacteria appeared in these injured spots, and that they passed thence into the blood. Why, then, might not similar changes be produced by them ante-mortem? It might be said because a particular soil was necessary. Dr. Payne supposed that such putrefactive bacteria could not and did not live in the living body, but that if a part became gangrenous they might circulate through the body, lying in wait till death supplied the necessary soil. If this was true, it would be confirmed by Dr. Bastian's observation that the bacteria of putrefaction might be injected into the body without any result. The next question was whether the organisms found in the body resembled the putrefactive ones. Dr. Payne considered it certain that, although in many cases of pyæmia no special bacteria were found in the body, they might still be found post-mortem in the primary and secondary seats of the disease. These organisms were sphereidal granules, distinguishable from albuminous granules by tests. Now, if these particles were the same as the putrefactive ones, they should produce putrefaction after death. But rapid putrefaction after death was not observed in pyæmia: this, then, was a physiological proof. It seemed therefore that a connexion could be traced between particular forms and particular diseases, and these different from the putrefactive ones. As to whether these forms were effect or cause, there was no sufficient evidence. In conclusion, Dr. Payne said that this argument of his was not so much in favour of the germ theory as opposed to certain objections to it, and that it was powerful because it showed that the facts of putrefaction could not be applied to disease, and that the many questions must be again argued, and on independent grounds.

Mr. Jabez Hogg said that one fact had not been mentioned in the discussion—that with regard to the action of pus upon sweet wort, sugar preparations, etc. Mr. Bell and he had performed experiments on this subject, and obtained very active fermentation. In all cases the pus-cells were broken up, the common yeast-fungus appeared, and alcohol was formed to the amount of 7, 9, or 12 per cent.

Dr. Bastian replied. He said he would first refer to questions touched on at the present meeting. Dr. Murchison's speech demanded no comment, as the remarks made in it almost entirely accorded with his own. Mr. Wagstaffe had examined the blood in various diseases; in 1869-70 he had himself done the same, and in no case, whether of typhus, typhoid fever, erysipelas, or pneumonia, had he ever seen a single bacterion. He had often seen granules, but he would not call them organisms. He had never seen bacteria in the blood of a living person in pyæmia. There had been many observations recorded of micrococci in the blood. He objected to the use of the terms "micrococci" and "microzymes," which mean mere granules. In acute syphilis he could never trace anything like bacteria in the blood. These observations of his accorded with those of Billroth, Stricker, and Moxon and Goodhart. Dr. Payne had said that there was no significance of bacteria in the alimentary canal, but really septic bacteria were found in the ducts of the skin, in epithelium, and post-mortem in all parts, especially if the temperature were high and gangrene present before death. Dr. Bastian said that he would now refer to previous speeches. Dr. Sanderson had commenced by reiterating certain facts that had not been denied, and rather repudiated the germ theory as a theory. Yet the germ theory was really Dr. Sanderson's; for years he spoke of the phenomena of multiplication of contagion as of a kind explicable only on the theory of organic reproduction. And if so, then it must come either from the diseased body or from bacteria. Dr. Sanderson had dismissed the idea of the former source, and therefore bacteria alone remained for him. Dr. Bastian then proceeded to quote certain passages from recent Blue-books published by the Medical Officer of the Privy Council, to show that the tenor of all Dr. Sanderson's writings from 1870 onwards had been to promulgate such an opinion. This would serve also as a reply to Dr. Maclagan, who had said that he (Dr. Bastian) had created for the germ theorists the opinion of a causal connexion between bacteria and disease. It was remarkable, then, that Dr. Sanderson wished to waive all the questions that might throw some light upon this connexion; and still more remarkable that he considered such a question beside the pathological mark. He (Dr. Bastian) considered it a question of immense importance, and had tried to show that bacteria are the result, not the cause of disease. Mr. Hutchinson's objections to coupling virulent inflammation with specific fevers had been answered by Dr. Murchison. As for himself, he rejected the germ theory for both, and had attempted to dispose of them both at the same time. And Mr. Hutchinson must confess that many, both in this country and abroad, applied the germ theory to the contagious inflammations also—as, for example, Mr. Simon and Professor Lister. Still there might be many who would follow Mr. Hutchinson here; and he wished to say that the whole question came to depend on the view which one might hold of the specific or common nature of the organisms. He (Dr. Bastian) did not believe in distinct species of bacteria. Even Professor Lister admitted that a morphological classification of bacteria is untrustworthy. There was abundant evidence that every gradation existed between the torula and the typical bacterion; and both torulæ and bacteria might behave, or grow, differently, according to circumstances. Various forms of these might be produced at will, according as an acid was added to an infusion, and according to its quantity. If, therefore, on account of mere peculiarity of form, he were asked to believe the spirilla of relapsing fever to be the cause of the disease, he should decline to do so. He would rather agree with Dr. Murchison. Dr. Crisp had stated his belief that splenic fever also might arise *de novo;* and just as typhus was engendered by over-crowding, so might relapsing fever and splenic fever be caused by certain other conditions. In typhus no organisms were engendered; in the two other diseases they were. There was further evidence in the same direction. Muscaridine, one of the most fatal diseases of the silkworm, could be generated *de novo* by shutting up the worms and over-feeding them. The blood soon swarmed with fungi, which spread through the tissues; then one animal might infect thousands. Again, in sheep-pox the contagion was supposed to be disseminated by means of the blood, yet inoculation with the blood was unsuccessful. With such facts as these before us, we were asked, Dr. Bastian said, to believe in the germ theory of disease. But the facts in favour of it could be equally well explained otherwise. Mr. Maclagan's theory could not be correct, for febrile heat could not depend on the development of organisms, which ought to correspond with the disappearance of heat. But he would not criticise Dr. Maclagan, who had admitted two of his chief arguments—namely, that of bacterial degeneration, and that of the non-causal relation of bacteria to disease. As for the virulent inflammations, Dr. Bastian said he had used the word "virulent" advisedly, instead of "infective," which had been loosely employed. Experiments in favour of such terms and views had been performed on rodents, and the effects of non-specific irritants had been under-estimated. In Dr. Sanderson's cases of co-existence—in diphtheria and erysipelas—Dr. Bastian considered that bacterial degeneration was the source of the organisms. In conclusion, Dr. Bastian contended that there was a practical outcome of his views. They taught pathologists that they might accept the facts of contagion without becoming pure contagionists. The conditions and the origin of contagious diseases were to be searched for; and it was by learning the causes of its origin that the ravages of typhus had been curtailed—not by the diminution of its spread. Let the same be done for other diseases of the same class.

The President proposed a vote of thanks to Dr. Bastian, which was passed with applause.

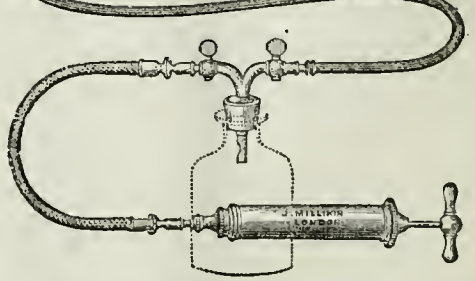
NEW INVENTIONS.

FARINA VITÆ.

This is a new diet for invalids, as well as for healthy persons which is manufactured by Edwards, Allen, and Kitching, Holland-street, Blackfriars-road. Some of the evidence brought out by the late Parliamentary Committee on the Adulteration of Food seems to have given an impulse to the manufacture of new "foods" for children, invalids, and healthy but wholesome-pudding-loving persons; and no doubt there is room still, and a ready demand will be found, for new really good nutritious articles of diet. This "Farina" is a combination of the best cereals reduced to an impalpable powder, selected, desiccated, and mixed in scientific proportions, so as to form, according to the analysis made by Dr. Bartlett, a highly nutritious, digestible, and easily assimilable food. It may be cooked with water, milk and water, or milk only, may be made into puddings or custards, or used in various other ways, and is, we are informed, very agreeable to the palate.

A HANDY AND CHEAP ASPIRATOR.

The aspirator which is figured in the accompanying illustration has been in use at St. Thomas's Hospital for the last three years, and, we are given to understand, gives great satisfaction. The indiarubber cork with which it is supplied enables it to be used with any tolerably wide-mouthed bottle, so that it is not necessary to carry a bottle with the instrument. When fitted into a bottle, as shown in the illustration, the stopcock furthest from the exhausting syringe must be closed, and the

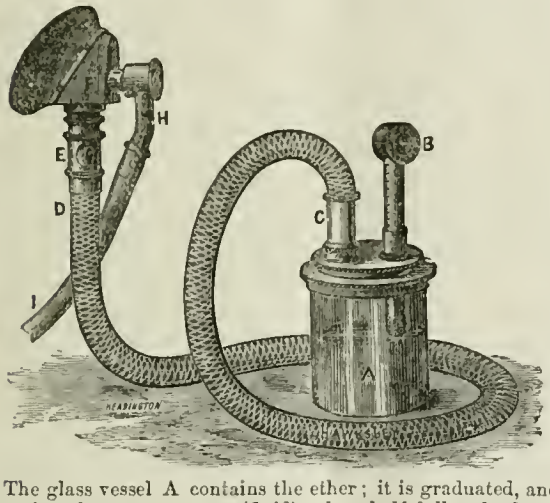


syringe or pump worked till a vacuum, more or less perfect, is produced in the bottle; the stopcock next to the exhausting syringe is then closed, and the instrument is ready for use. The needle then is inserted when required, and, the stopcock between the needle and the bottle being opened, the cyst is rapidly emptied into the bottle. The instrument is supplied

with two gilt needles of different sizes, and the whole, fitted into a neat mahogany case, is manufactured by Mr. J. Millikin, of St. Thomas's-street, for the price of thirty shillings.

HAWKSLEY'S ETHER INHALER.

The apparatus, of which we subjoin a full description, is a very admirable one. As the surgical instrument maker to the Middlesex Hospital, Mr. Hawksley has great opportunity of testing and perfecting any invention of this kind, and he has succeeded in making an ether inhaler which will find much favour with the profession. Besides being in regular use at the Middlesex Hospital—which may be called its birthplace,—it is, we understand, used in St. George's Hospital, at Moorfields, and St. Mark's, in Worcester and the North Staffordshire Infirmaries, and by several administrators in private practice. It has found considerable favour with Mr. Everitt Norton, the chloroformist at the Middlesex Hospital, who considers it to possess many advantages. For instance, it causes less feeling of suffocation in the patient; a uniform rate of evaporation is kept up, no matter what the temperature of the patient's room or of the operating-theatre may be; the expired air is conveyed in a tube to a distance from the mouth of the patient, without causing any annoyance to the operator or his assistants; lastly, there is a very considerable saving of ether. Mr. Norton says that about two ounces of ether are used during the first quarter of an hour, and about one ounce or less every subsequent quarter of an hour, but that double this quantity is required when a "cone" or some other such inhaler is employed.



The glass vessel A contains the ether; it is graduated, and contains about ten ounces (fluid) when half-full; the large space above provides an abundance of air, saturated with ether, for each inspiration. The sliding-valve B admits air close to the surface of the ether, or it may be pushed below the surface when the vapour is required very strong. Super-saturation is thus, however, produced, by the mechanical suspension of particles of ether, and this causes coughing. To cause the equable evaporation of the ether contained in the vessel A, independently of the variations of external temperature, it is immersed in water heated to 100° or 102° Fahr., and during the operation fresh hot water may be added to keep the bath at about the above-mentioned temperature. Although the ether boils at 96° Fahr., or below that point, the rapid evaporation from its surface by the inhalation prevents it boiling in the instrument. The face-piece F is of the usual shape, all parts which come into contact with the face of the patient being covered with thick indiarubber; a tube of water surrounds the edge to enable it to fit the face with great precision. The angular piece H is the outlet-valve. This, by means of the tube I, allows the expired air to escape on a level with the floor. The long flexible covered tube C D connects the ether vessel with the face-piece; a shutter-valve at E enables the administrator to regulate the admission of air during the early part of the inhalation, without removing the face-piece. The japanned case which contains the instrument, forms also the hot-water chamber for the ether vessel. A bag can be made, if required, to be attached to the expiratory tube so as to prevent the ether vapour getting into and about the room at all.

LEGAL INTELLIGENCE.

THE MALAHIDE GRAVEYARD.

In the Court of Queen's Bench, Ireland, last week, before the Lord Chief Justice, Mr. Justice O'Brien, and Mr. Justice Barry, in the case of "The Queen at the prosecution of Peter Radcliffe *v.* the Local Government Board," Mr. Heron, Q.C., on behalf of the prosecutor, moved for a writ of *certiorari* to bring up, with a view to having it quashed, an order made on March 31 last by the Local Government Board, directing that on and after June 1 next no further interments should take place in the graveyard within the demesne of Lord Talbot de Malahide. Counsel stated that after a former order of the Local Government Board was quashed early last year, the Board procured the insertion of a section (section 18) in the Public Health (Ireland) Act, 1874, by which permission was given to them to re-investigate matters upon which orders might have been already made by them. Accordingly, Mr. O'Brien, Local Government Board Inspector, held a public inquiry at Malahide, and several witnesses were examined for Lord Talbot de Malahide, and also for the prosecutor and others claiming the right of burial in the graveyard. After receiving the report of Mr. O'Brien, together with the report of the evidence taken by a shorthand writer, the Local Government Board issued a report, stating that the medical evidence was so conflicting that they were unable to come to any determination on the subject. Notwithstanding this, and without any further inquiry, they, on March 31 last, addressed a letter to the parties concerned, stating that they had submitted the evidence to Dr. J. Emerson Reynolds, an expert in analytical chemistry in the University of Dublin, and acting on the report which he had made, they did not think further inquiry necessary, and accordingly they made an order for the closing of the graveyard on June 1 next.

The Lord Chief Justice: What is the objection to the order?

Mr. Heron: That they have made an order on the report of a person who was not present at the inquiry, who was not examined nor submitted to cross-examination, and who, in fact, made the order for the Board.

The Lord Chief Justice: These public boards are most unfortunate institutions.

Mr. Heron: And yet they have rules laid down specially for their guidance.

The Chief Justice: Yet they always seem puzzled by them.

Judge O'Brien: I have a distinct recollection that on the former occasion we quashed the order, because they did not hear the parties objecting.

Mr. Heron: And in this case they have heard a person behind our back, and made an order on his report.

The Chief Justice: I quite agree that they should hear the opposite side before coming to a decision. We grant the conditional order.

OBITUARY.

ROBERT LAW, M.A., M.D. Dub., Hon. F.K.&Q.C.P.I., M.R.I.A., etc.

Yet another of the "Old Guard" of Irish Medicine has been touched by the finger of death. On the morning of April 23 Robert Law died at his residence in Upper Merrion-street, Dublin, at the advanced age of seventy-five years. In the summer of 1873 he had been struck down by an apoplectic attack, and from that time he lingered on—hopelessly paralysed. Born at the very commencement of the present century, Law entered Trinity College, Dublin (as was then the fashion), at a very early age. His undergraduate career was a distinguished one, so that at the age of seventeen we find him a "Scholar of the House,"—a scholarship in Dublin University being one of the highest distinctions obtainable by the alumni. He graduated in Arts at the Spring Commencements of 1819, and in Medicine in 1822, when he also proceeded to the degree of M.A. It was not until 1857 that he took the degree of *Doctor Medicinæ*. Very early in his professional career Dr. Law gave promise of attaining a position of eminence as an accurate and original clinical observer. His appointment as Physician-in-Ordinary to Sir Patrick Dun's Hospital afforded an opportunity of developing his talents in this direction. For many years he worked diligently in the wards of that institution, and in due time gave to the world a

series of contributions to medical literature, all of which are of rare merit. To the "Cyclopædia of Practical Medicine" he contributed articles on "Hæmoptysis" and "Pleurisy." A paper, entitled "Hæmatemesis dependent upon Disease of the Liver," and communicated to the Medical Association of the King and Queen's College of Physicians in Ireland, may be said to have thrown light for the first time on the pathology of the affection described by Laennec as "cirrhosis of the liver." Of his numerous contributions to the *Dublin Medical Journal*, one especially had an important bearing on practical medicine. We allude to that on the exhibition of mercury in very small doses and at short intervals. This method attracted deserved attention from therapeutical physicians at home and abroad, and is still followed with success. On June 18, 1836, Dr. Law delivered a clinical lecture at Sir Patrick Dun's Hospital, on "Delirium Tremens and its Treatment by Tartar Emetic and Opium." A claim to the priority of employing this method of treatment put forward in this lecture (which, by the way, is to be found in the *London Medical Gazette*, July 2, 1836, page 538) excited some degree of surprise, as Dr. Graves was generally credited with the introduction of the practice. A letter to the *Medical Gazette*, July 30, 1836 (page 694), fully established the justice of Law's claim to priority, although Dr. Graves seems to have first made public the method. That a controversy between two such men as to a question of priority should ever have arisen cannot but be regretted. The fact, however, will not now detract from the posthumous fame of the two Irish clinical teachers. Of the Pathological Society of Dublin, Dr. Law was from the commencement an ardent and a distinguished member. He made numerous communications of great value at the weekly meetings of the Society, and in 1858 he filled the presidential chair. His pathological observations as to the diagnosis of the double lesion of aortic and mitral valve disease, and as to the brain-softening due to valvular disease of the heart, are particularly valuable. In 1827 Law had become a Licentiate of the King and Queen's College of Physicians; in 1829 he was elected a Fellow. Twelve years later he succeeded Dr. Graves as King's Professor of Institutes of Medicine in the School of Physic in Ireland. This chair he filled until the end of October, 1173, when his shattered health obliged him to place his resignation in the hands of the President and Fellows of the College of Physicians. Amongst the other appointments which he held may be mentioned those of Consulting Physician to the Adelaide Hospital, Physician to Simpson's Hospital, and Visiting Physician to the Criminal Lunatic Asylum, Dundrum, county Dublin. Of Law's private character, all that need be said is that it combined the qualities which make the Christian gentleman. He died, as he had lived, with a lively faith in the merits of his Saviour's atonement and intercession.

JOHN RIDLEY, M.D., F.R.C.S.I.

The death of this well-known Irish provincial practitioner, who was throughout a lengthened professional career the type of all that a medical man should be, occurred on the afternoon of May 3, at his residence, More Hall, Tullamore, King's County. At an early age, Dr. Ridley was apprenticed to the late Dr. George Peirce, who was at the time Surgeon to the King's County Infirmary and in the enjoyment of a large country practice in Tullamore and its neighbourhood. He entered Trinity College, Dublin, but circumstances obliged him to complete his professional course earlier than he had intended, so that he was reluctantly compelled to give up his collegiate studies in Dublin and to proceed to Glasgow University, where he graduated as M.D. in 1838. On his return to Ireland, he commenced to practise in his native town, Tullamore, and soon obtained a reputation as a careful, intelligent, and skilful surgeon and physician. In 1844 Dr. Ridley became a Fellow of the Royal College of Surgeons in Ireland, which body he had joined as a Licentiate in 1837; and in 1860 he became a Licentiate of the King and Queen's College of Physicians. In 1852 he was appointed Medical Officer of the Tullamore Dispensary, a post which he continued to fill with credit until a few weeks ago. In 1859 he succeeded Dr. Peirce, whose daughter he had married some years previously, as Surgeon to the King's County Infirmary. He also was Physician to the County Gaol, and Medical Attendant to the Royal Irish Constabulary stationed in Tullamore. For many years he enjoyed a lucrative consultant and visiting practice in the country for miles round. The amount of work through which he went was marvellous, and, alas! ultimately told on a naturally robust frame. Early last winter signs of failing health appeared. He rallied; but a second illness in January first revealed the serious nature of his malady. A failing heart, with albuminuria, and secondary congestion of the lungs and liver, obliged him to throw up practice and to seek for health in rest and change of air. But it was too late, and on Monday, May 3, he passed away, in the sixtieth year of his age, amidst the sincere and deep regrets of a large circle of friends. In public life he was universally respected and beloved. In his home he was a kind and affectionate husband; a firm, yet loving and tender-hearted father; a generous and hospitable friend. Owing to his multifarious duties, his writings were not many, but the admirable description of an epidemic of scarlatina in Tullamore from his pen, which Dr. Graves quoted at length in the second edition of his "Clinical Lectures," at page 247, shows that he possessed the *mens medica* in no ordinary degree.

DAVID PETER EVANS, M.B., M.R.C.S., L.S.A.

We cannot allow to pass unnoticed the loss our profession has sustained in the death of Mr. D. P. Evans, of Belper. It took place on Tuesday, the 20th ult., after a month's most painful and distressing illness, terminating in abscess (pyæmic) of the brain. He was the fifth son of the late Mr. David Evans, who for upwards of forty years was one of the most distinguished surgeons in the Midland Counties; and brother to the late Dr. Evans, of Birmingham. Another brother, who attended him in his last illness, is Mr. H. S. Evans, who has lately retired from the practice of his profession after a long and honourable career at Derby. Mr. Evans received his education at King's College, London, and took the degree of M.B. in 1845 at the University of London, coming out in the first class. No sooner did the serious character of his illness become known, than a profound sensation of anxiety and sorrow pervaded the neighbourhood far and wide. This culminated at his funeral, which presented a scene rarely witnessed. It was attended, it is calculated, by at least 1500 people of all ranks. Middle-aged men were seen sobbing like children, and old men looked on with eyes streaming with tears. Now, to what cause was this to be attributed? He was doubtless an able and judicious physician—a most skilful and self-reliant surgeon, a man thoroughly to be trusted in every department of his noble profession. He, moreover, possessed naturally a singular amiability and gentleness of character, combined with an unobtrusive charm of manner, which won the affection of all who knew him. Above all, he was a Christian in the true sense of the word; ever ready with a word of spiritual advice and comfort—not rarely as beneficial to the patient as the exercise of the highest medical skill. But it was to his treatment of the more serious cases that came under his notice that his popularity was mainly owing. The whole force and beauty of his character were then manifested. All his energies were called into action. He spared neither time, labour, nor money, in cases where he could look for no remuneration, and not in one case or two only, but in many. We need not wonder, then, that a feeling of love and admiration for him personally had gradually but secretly diffused itself through all classes, and that it found its outlet when the end came, and they saw him cut off in the prime of life. He was only fifty-three when he died.

HUBERT MARTIN FLOYER.

"Those whom the gods love die young" is an old proverb, and has just been sadly verified at St. Bartholomew's Hospital, in the case of poor Hubert Martin Floyer, the careful and painstaking dresser to Mr. Savory. Mr. Floyer was born at Horncastle, Lincolnshire, and, after a good preliminary education, came to London and passed his examination in Arts, etc., at the Society of Apothecaries in January, 1872. Entering on his professional studies at St. Bartholomew's Hospital, he soon became an especial favourite with his teachers and fellow-students. In January last he passed his primary examination for the diploma of Membership of the Royal College of Surgeons, and, becoming dresser to one of the surgeons, had to attend to a case of diphtheria where tracheotomy had been performed last week, and in which he was much interested. On the evening of the 7th inst. he complained of slight indisposition, and was so much worse the next day as to be unable to attend to his patients. On Sunday, the 9th, symptoms of diphtheria set in, accompanied by diffuse cellulitis of the neck. So severe were they the following day that tracheotomy was decided on.

This operation was skilfully performed by his teacher and friend, Mr. Langton, one of the surgeons to the Hospital; but, notwithstanding the greatest care and unremitting attention of all, he died late the same evening. Mr. Floyer for the last few months had much distinguished himself by too close an application to his clinical studies, thereby impairing his health to a great extent, and rendering him physically unable to cope with the disease.

MEDICAL NEWS.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed their primary examinations in Anatomy and Physiology at a meeting of the Court of Examiners on the 11th inst., and when eligible will be admitted to the pass examination, viz. :—

Aldridge, Edward Arthur, student of the Manchester School.
Brown, Alfred Beaver, of the Sheffield School.
Cupon, Herbert James, of St. Bartholomew's Hospital.
Cardew, George Arthur, of the Birmingham School.
Clarke William Henry, of the Manchester School.
Clarkson, William Clarkson, of the Leeds School.
Crook, Herbert David, of the Bristol School.
Devenish, Wilhelm, of the Dublin School.
Diggle, Charles Frederick, of the Manchester School.
Edington, James Edward, of the Manchester School.
Elam, William Henry, of the Leeds School.
Fawcett, Arthur, of the Leeds School.
Greasley, Joseph, of the Edinburgh School.
Harle, William John Vincent, of the University College and Cambridge Schools.
Hough, James Hayward, B.A. Cantab., of St. Mary's and Cambridge Schools.
Jenkinson, Alfred Samuel, of the Leeds School.
Jones, David Johnston, of the Edinburgh and Liverpool Schools.
Maberly, William Henry, of the Edinburgh School.
Porter, Charles Frederick, of the Manchester School.
Richmond, Charles Ernest, of the Manchester School.
Routh, Jules Isham, of the Edinburgh School.
Stone, Arthur William, of the Leeds School.
Westwood, Henry Owen, of the Edinburgh School.
Winterbottom, Arthur Thomas, of the Manchester School.
Witz, James Frederick, of the Dublin School.
Wood, John, B.A. Oxon., of the Birmingham and University College Schools.

The following gentlemen passed on the 12th inst., viz. :—

Bathe, Anthony John, student of St. Bartholomew's Hospital.
Bonsall, George Richard Edleston, of the Middlesex Hospital.
Budler, Charles Ferdinand, of University College.
Bullock, Charles, of St. Bartholomew's Hospital.
Butler, George William, of Guy's Hospital.
Clegg, John Hague, of St. Bartholomew's Hospital.
Cross, Horatio Robert Odo, of King's College.
Darbishire, Samuel Dukinfield, M.A. Oxon., of St. Bartholomew's Hospital.
Davy, David Henry, London Hospital.
Gaze, William Henry, of St. Bartholomew's Hospital.
Giles, Bernard Faraday, of Guy's Hospital.
Goodchild, William Henry, of St. Bartholomew's Hospital.
Haynes, Percy Octavius, of Guy's Hospital.
Jago, William Pearce, of the London Hospital.
Jones, Charles Trickey, of University College.
Peskett, Henry, of Guy's Hospital.
Plummer, Charles Joseph, of Guy's Hospital.
Prior, Edward Thurland, of St. Bartholomew's Hospital.
Robertson, Frederick Freer Leslie, of St. Bartholomew's Hospital.
Smart, Alfred, of Guy's Hospital.
Smith, Ebenezer, of the London Hospital.
Tarleton, Paul, of St. Bartholomew's Hospital.
Waddington, Frank, of Guy's Hospital.
Watson, Charles John, of University College.
White, Octavius Mark, of St. Mary's Hospital.
White, Alfred Thomas Oliver, of St. George's Hospital.
Wiles, Frederick William, of the London Hospital.

The examinations were brought to a close on the 13th inst., when the following gentlemen passed, viz. :—

Baker, Thomas, of St. Bartholomew's Hospital.
Browne, Horace Ximenes, of St. Bartholomew's Hospital.
Dallaway, Joseph William Dennis, of St. George's Hospital.
Fenwick, Bedford, of the London Hospital.
Grayling, John Francis, of King's College.
Hammond, Thomas, of Guy's Hospital.
Jaynes, Victor Alexander, of Guy's Hospital.
Johnson, George Stilliogfleet, of King's College.
Keer, John Cordy, of Guy's Hospital.
Keep, Charles Henry, of Guy's Hospital.
Kirkpatrick, John, M.D. Toronto, of the Westminster, St. Thomas's, and Toronto Schools.
Langton, Herbert, of St. Bartholomew's Hospital.
Master, George Reginald, of St. Bartholomew's Hospital.
Messum, Julian Alexander Brokes Galsworthy, of St. Bartholomew's Hospital.
Prosser, Thomas Gilbert, of St. Bartholomew's Hospital.
Russell, James, of St. Bartholomew's Hospital.
Silcock, Arthur Quarry, of University College.
Woods, John Francis, of St. Bartholomew's Hospital.
Whittle, Ewing Mould Glynn, B.A. Cantab., of the Cambridge School.

Twenty-seven out of the ninety-nine candidates examined having failed to acquit themselves to the satisfaction of the Court of Examiners, were referred to their anatomical and physiological studies for three months. Amongst the visitors who have attended these examinations, by permission of the President, were Messrs. Marsh, Cumberbatch, and Butlin, of St. Bartholomew's Hospital; B. Thompson Lowne, of the Middlesex Hospital; Owen, of St. Mary's Hospital; Dr. Curnow, of King's College; and Mr. Taylor, of Wargrave. The pass examination commences this day (Friday).

APOTHECARIES' HALL. — The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, May 6 :—

Brenchley, Algernon Dutton, Denmark-hill, S.E.
Jackson, Philip John, Merton, Surrey.
Neylan, John, Ennis, Ireland.
Snell, Edmund George Carruthers, Stepney-green, E.

The following gentlemen also on the same day passed their primary professional examination :—

Berdoe, Edward, London Hospital.
Burnes, Henry Foster, Queen's University, Ireland.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that place.

BASS, CHARLES WILLIAM, M.R.C.S. Eng., L.S.A.—House-Surgeon to the Beckett Hospital and Dispensary, Barnsley, *vice* Mr. Walter Shaw, resigned.

BIRCH, PHILIP, M.R.C.S.—House-Physician to King's College Hospital.

FOWLER, JAMES K., M.R.C.S.—House-Surgeon to King's College Hospital.

PALFREY, JAMES, M.D.—Senior Obstetric Physician to the London Hospital.

YOUNG, ARTHUR, B.A. Cantab., L.S.A.—Resident Accoucheur to King's College Hospital.

NAVAL AND MILITARY APPOINTMENTS.

ADMIRALTY.—George W. Sutherland, Staff-Surgeon to the *Foscawen*, for temporary service at Portland sick quarters; Matthew Trevan, Surgeon to the *Flora*, additional for service at Ascension.

BARVAT.—Deputy Surgeon-General Joseph Fayrer, M.D., C.S.I., retired Bengal Medical Establishment, Honorary Physician to her Majesty, to have the local rank of Surgeon-General in London while holding the appointment of President of the Indian Medical Board. Surgeon-Major Thomas Fraser, M.D., to have the honorary rank of Deputy Surgeon-General upon retiring on half-pay. The honorary and local rank of Surgeon conferred upon Senior Apothecary Frederick James L'Estrange, Bengal Subordinate Medical Establishment, in the *Gazette* of February 3, 1874, is post-dated to December 4, 1874.

WAR OFFICE—MEDICAL DEPARTMENT.—To be Surgeons-Major—Surgeons James Land, M.D., James Africanus Beale Horton, M.D., African Department; William Broughton Davies, M.D., African Department; Thomas Wood, M.D., William Creagh, Francis Falwasser, John Butler Hamilton, M.D., Edward Denham Tomlinson, John James Chappell, M.D., William Cherry, Samuel Edward Maunsell, William Christy Robinson, John Wales, John Livingston Power, Patrick Walter Stafford, Thomas Henry White, M.D., Owen Owen, James Ferguson, Edward Joseph Boulton, and Joseph Elmsley Will. Surgeon-Major Thomas Fraser, M.D., retires upon half-pay. The first christian name of Surgeon-Major Scott, whose promotion to that rank appeared in the *Gazette* of April 13, 1875, is John, and not James, as therein stated.

BIRTHS.

BUCK.—On May 8, at 107, Camden-road, N.W., the wife of A. H. Buck, L.R.C.P., of a son.

GRIEVE.—On May 10, at Crouch-end, the wife of Robert Grieve, M.D., of a daughter.

HOWARD.—On April 21, at Montreal, the wife of Robert Palmer Howard, M.D., of a daughter.

REID.—On May 7, at 29, Canonbury-park, N., the wife of Alexander Reid, M.A., M.D., of a son.

SANSOM.—On May 7, at 29, Duncan-terrace, City-road, N., the wife of Arthur Ernest Sansom, M.D., of a son.

TEALE.—On May 10, at Headingley, near Leeds, the wife of T. Pridgin Teale, M.B., M.A., F.R.C.S., of a daughter.

WAKEFIELD.—On May 10, at 19, Prince's-square, the residence of her father, Major-General Emmott Rawdon, the wife of Henry Wakefield, Surgeon-Major Bombay Army (retired), of Conheath, Dumfries, of a son.

DEATHS.

BARTLETT, —, beloved and only son of Walter F. C. Bartlett, Staff-Surgeon R.N., H.M.'s Dockyard, at Bermuda, on April 13, aged 2 years.

HAWKE, CHARLES JOHN, late Colonial Surgeon, St. Vincent, West Indies, in London, after a long illness, on May 11.

KILGOUR, SUSAN ANN, fifth daughter of J. S. Kilgour, M.D., at Cheltenham, on May 5.

LEARMONTH, JOHN FRANKLIN, eldest son of the late John Livingstone Learmonth, M.D., of 45, Gloucester-gardens, Hyde-park, W., in London, suddenly, on May 2.

MAGRATH, SARAH MAUGER, widow of Nicholas Magrath, M.D., R.N., late of Manor House, Lefebre-street, Guernsey, at 20, Saumarez-street, Guernsey, on May 4.

McDERMOTT, JOHN, M.D., L.R.C.P., M.R.C.S., at Shrewsbury-road, Westbourne-park, W., on May 10, aged 78.

SMITH, Mrs., the beloved wife of H. Fly Smith, B.A., M.B., M.R.C.S., of 1, Queen's-crescent, Haverstock-hill, N.W., at Gotha, on May 4 (by telegram).

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before May 19.

BRADFORD INFIRMARY AND DISPENSARY.—Physician. Candidates must be duly qualified. Applications, with testimonials, to Mr. Charles Woodcock, Secretary, 65, Market-street, Bradford, on or before June 12.

BRISTOL GENERAL HOSPITAL.—Physician's Assistant. Candidates must possess a registered medical qualification. Applications to the Secretary, on or before June 4.

CENTRAL LONDON SICK ASYLUM DISTRICT.—Assistant Medical Officer and Dispenser for the Asylum in Cleveland-street. Candidates must be doubly qualified. Applications, with testimonials, to Wm. Appleton, Clerk to the Managers, Highgate Infirmary, Upper Holloway, N., before May 19.

CHELTENHAM GENERAL HOSPITAL AND DISPENSARY.—Honorary Medical Officer. Candidates must be M.R.C.P. Applications, with testimonials, to the Board of Governors, on or before June 5.

HIGHGATE INFIRMARY.—Assistant Medical Officer. Candidates must be doubly qualified. Applications, with testimonials, to W. Appleton, Clerk to the Managers, at the Infirmary, Highgate, N., before May 19.

NOTTING-HILL PROVIDENT DISPENSARY AND MATERNITY, PORTLAND-ROAD W.—Resident Medical Officer. Candidates must be duly qualified and registered. Applications, with testimonials, to the Honorary Secretary, Mr. W. P. Collins, 8, Pembridge-gardens, W., on or before May 20.

ROYAL FREE HOSPITAL, GRAY'S-INN-ROAD.—Honorary Surgeon. Candidates must be F.R.C.S. Eng. Applications, with testimonials, to the Secretary, at the Hospital, on or before May 24.

SCARBOROUGH DISPENSARY AND ACCIDENT HOSPITAL.—House-Surgeon. Candidates must be duly qualified and registered, and unmarried. Applications and testimonials to the Medical Staff, under cover to the House-Surgeon, on or before May 17.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY AND FEVER HOSPITAL.—House-Surgeon and Dispenser. Candidates must be duly qualified. Applications, with testimonials, to the Honorary Secretary, on or before June 1.

WORCESTER UNION.—District Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to Mr. Knott, Solicitor, 14, Foregate-street, Worcester, on or before May 19.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Louth Union.—Mr. John Hembrough has resigned the Tetney District; area 14,811; population 2978; salary £35 per annum.

Wellingborough Union.—Mr. Thomas Clark has resigned the Workhouse; also the Wellingborough District; area 14,729; population 13,195; salary £100 per annum.

APPOINTMENTS.

Bolton Union.—George H. Whitaker, L.R.C.S. Edin., L.R.C.P. Edin., to the Horwich District.

Calne Union.—Ernest W. Paul, L.K.&Q.C.P. Ire., M.R.C.S. Eng., for the Union.

Hardingstone Union.—Howard Arnold, L.R.C.P. Edin., L.R.C.S. Edin., to the Brafield District.

Knighton Union.—Joseph Welsh, F.F.P.&S. Glasg., L.S.A., to the Brampton Brian District.

Newbury Union.—Montague H. C. Palmer, M.R.C.S. Eng., L.S.A., to the Second District.

Patrington Union.—Wm. A. Rudd, M.R.C.S. Eng., L.S.A., to the Middle District.

South Shields Union.—George F. Henry, L.R.C.P. Edin., L.R.C.S. Edin., to the Westoe District.

Sunderland Borough.—Henry J. Yeld, M.D., M.R.C.S. Eng., L.S.A., as Analyst.

Wangford Union.—Edward B. Adams, M.R.C.S. Eng., L.S.A., to the Bungay District.

Watford Union.—Michael D. Lavin, L.R.C.P., Edin., M.R.C.S. Eng., L.S.A., to the Busbey District.

Wem Union.—Augustus E. Bower, M.R.C.S. Eng., L.S.A., to the Prees District.

Wirral Union.—Wm. Way, M.D. Lond., M.R.C.S. Eng., L.S.A., to the Upton District.

DR. PALFREY, of Brook-street, was on Tuesday last elected Senior Obstetric Physician to the London Hospital.

DR. DUDLEY PHILLIPS, being about to leave Aberaman, has been presented with a purse of money as a mark of the esteem and respect in which he is held by the inhabitants.

MR. JOHN STEELE PERKINS, L.S.A., of Exeter, Devon, was admitted a Fellow of the Royal College of Surgeons on the 10th inst., his diploma of Membership bearing date June 4, 1830.

AT the meeting of the Committee of the Belfast Branch of the Royal Medical Benevolent Fund Society of Ireland, held at Belfast on the 5th inst., Dr. Wilberforce Arnold was unanimously elected Honorary Secretary, in the room of Dr. Robert Stewart, deceased.

PROFESSOR ALFRED GEORGE ANDERSON, Analyst to the Vestry of St. Martin's-in-the-Fields and to the Board of Works for the Poplar District, has been appointed Analyst for Paddington, in the place of Dr. Hardwicke, resigned.

THE water supplied during April to the metropolis, according to Dr. Frankland's report, showed considerable improvement. All the samples were efficiently filtered.

BIRMINGHAM HOSPITAL SATURDAY FUND.—The recent Birmingham Hospital Saturday collection amounted to £3838, and the net balance for distribution to £3500.

INFECTIOUS DISEASES IN PUBLIC VEHICLES.—The magistrates at Warminster last week fined Captain Sheppard £3 and costs for having allowed the removal in a cab, without giving notice to the driver, of a servant suffering from scarlet fever.

THE LATE MR. WILLIAM H. MORRIS.—A memorial window has been placed in St. Cuthbert's Church, Darlington, by the Marquess of Ripon Lodge of Freemasons. "To the memory of William Henry Morris, M.R.C.S., born February 3, 1837, died October 27, 1874. A tribute of fraternal affection and esteem from the Brethren of the Marquess of Ripon Lodge 1379, of which he was the founder."

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following were the questions given at the last written examinations. Candidates were required to answer four questions, including one of the first two, viz.:—1. Describe the changes which food undergoes, from its entrance into the mouth until it reaches the termination of the small intestine. 2. Give examples, in the human body, of the three kinds of lever; explain the action, and specify the advantages of each. 3. Describe how the arch of the foot is formed; on what points it rests in standing; and what ligaments and muscles contribute to its support. 4. Enumerate, in their respective relations, the various structures which are brought into view on removal of the gluteus maximus muscle. 5. Describe the arterial anastomoses around the elbow-joint; and mention the sources from which the anastomosing branches are derived. 6. Describe the origin, course, relations, and distribution of the spinal accessory nerve.

HEALTH OF LONDON.—The deaths of 1489 persons were registered in the metropolis last week, showing an excess on the average number of 21. The death-rate was 23 per 1000. The fatalities from whooping-cough were 71, being 25 less than the preceding week, from scarlet fever 35, from measles 25, and only one from small-pox. The deaths referred to diseases of the respiratory organs, which in the five preceding weeks had declined from 534 to 375, further decreased last week to 354, but exceeded the average number by 99; 218 resulted from bronchitis, and 83 from pneumonia. In outer London the death-rate from all causes, and from the seven principal zymotic diseases, was 18·6 and 1·5 per 1000 respectively, against 22·6 and 2·7 in inner London.

NOTES, QUERIES, AND REPLIES.

"He that questioneth much shall learn much."—*Bacon.*

M.R.C.S.—None is yet published.

A. N.—Dr. Parkes's Clinical Lecture, *Medical Times and Gazette*, vol. i. 1860, page 187.

A Subscriber.—"Diseases of the Joints," 1850, fifth edition. Sir B. C. Brodie.

M. A., King's College.—There is no hospital of the kind you mention. Several private establishments are advertised, but we are not in a position to recommend any of them.

A Fellow.—Mr. Spencer Smith was the Honorary Secretary to the Government Commission which has been productive of such good results. You will find the report in the libraries of the College of Surgeons and of the Medico-Chirurgical Society.

An Old Subscriber.—There are two vacancies for pensioners, and nine candidates, only two of whom were subscribers to the Royal Medical Benevolent College—viz., Mrs. Goude, who goes to the poll with 3745 votes, and Mrs. Garrett with 1022. For foundation scholars there are four vacancies and forty-one candidates, and out of this large number only six were subscribers. How improvident are the members of our profession!

Dr. Blane.—The Burial Acts Office is in Great George-street. Mr. P. H. Holland is the Medical Inspector, with a salary of £800 per annum. Mr. George Alfred Walker, M.R.C.S., to whom the public is so much indebted in this matter, has retired from the practice of the profession.

F.R.C.S.—September, 1871.

Wynter A.—Sir James Clark, Chief Physician to the Queen, died at Bagshot Park on June 29, 1870, aged eighty-two.

Mr. Simpson.—Our advertising columns will give you the desired information, and also when the Fellowship Examinations take place.

Mr. H. Thompson.—They are both Government appointments. Dr. Henry Briscoe is the Inspector of Prisons, with a salary of £750 per annum. The salary of Mr. Frank Buckland as Inspector of Salmon Fisheries is £700; he is a Member of the College of Surgeons.

Adolphus.—Dr. Hall returned to the United States from an Arctic exploration of five years' duration on September 26, 1869. He had found the graves of many of the Franklin party, and brought back several of their relics.

G.F., Hull.—Professor Samuel Cooper, F.R.S., President of the College of Surgeons, and author of the "Surgical Dictionary," died at Shepperton, December 3, 1848.

S. S., Isle of Wight.—The House of Lords decided, on August 7, 1840, in the case of The College of Glasgow *v.* The Faculty of Physicians, that the latter could grant degrees in surgery without the interference of the Senatus.

B. O. B.—The foundation of the Metropolitan District Asylum for South London, at Caterham, was laid by Dr. Brewer on April 17, 1869.

W. W., Bristol.—From the year 1800 until the alteration of the law in 1832, the Resurrectionists or "Body-Snatchers," were almost the only sources of supply to anatomical teachers for the purpose of obtaining subjects for dissection.

M.D., Royal Navy.—Mr. W. Allingham, F.R.C.S., of Chandos-street, Cavendish-square, has succeeded Mr. T. Carr Jackson as honorary secretary of the Fellows' Festival. Write to him.

L.S.A.—The President and members of the Pharmaceutical Society have issued invitations to their annual dinner at Willis's Rooms on Tuesday, the 18th inst.

Mr. Murray.—The Serjeant-Surgeons to her Majesty the Queen are Sir William Fergusson, Bart., and Mr. Cæsar Hawkins. The appointment of Serjeant-Surgeon Extraordinary to her Majesty is held by Sir James Paget, Bart.

S. S. V.—The family of the late Dr. Abercrombie presented his professional library (nearly 1000 volumes) to the Royal College of Surgeons of Edinburgh, of which he had been a member since 1804. He died November 14, 1845.

F.R.C.S., and A Teacher.—We must not anticipate the annual return of rejections at the College of Surgeons, which, we suppose, will be published as usual in July; but we have heard that from one of the large metropolitan hospitals, to which one of our correspondents alludes, as many as fourteen were rejected.

Aubrey.—The late Dr. George Swiney was a man of most eccentric habits. He left by his will two sums of £5000 each in the Three per cent. Consols to the Society of Arts and the British Museum. The directions of the will are that the Society of Arts shall present every fifth year (and first on the fifth anniversary of the testator's decease, which was on January 21, 1849), a silver goblet of £100 value, and containing gold coin to the same amount, to the author of the best published work on Jurisprudence, to be adjudged by the Members of the Society and the Fellows of the College of Physicians, *with the wives of such of both of them as may be married.* The bequest to the British Museum is directed to be employed in establishing a Lectureship on Geology; the lecturer to be an M.D. of Edinburgh.

Chronicles.

TO THE EDITOR OF THE MEDICAL TIMES AND GAZETTE.

Sir,—Gulliver, when pressed to publish those interesting Travels in Lilliput, Brobdingnag, Laputa, at first replied that when so many falsehoods were palmed off on a confiding, credulous public, his own modest, simple, truthful tale would find no favour. Sceptically one reads that when a man dies in Burmah a pig is sacrificed in order that the man's ghost may ride on the pig's ghost to the land of spirits; and to his toe is tied a dead fowl, whose ghost will frighten away by its cackling the grim janitors who guard the gates of Paradise. Sceptically, also, one reverts in thought to the soldiers at Agincourt compelled by diarrhœa to wear loose hose; to the tight-fitting cobweb pantaloons worn at Waterloo; to the Amazonian soldier, who, pleading advanced pregnancy, carried the big drum on her back; to Charles II.'s boyish passion for a wooden billet; to the epitaph over Lady Page, sixty-six times tapped in sixty-seven months, 240 gallons of water removed, without repining at her case or fearing the operation; to Edward Rogers, who at the age of ninety-six died of the agony of dentition; to Lord Chesterfield's death-bed words, "Give the gentleman a chair." And the question naturally arises, *Are* these things true? Are all medical cases and scientific papers true? We hope so. Books tell us that Lady Wortley Montague, of vaccination memory, had a son who would be a chimney-sweep, next a cab-driver; then he delighted Paris by his invention of a cast-iron wig; and eventually advertised that a gentleman, sixty years of age, of splendour and hospitality, twice M.P., wished to marry a widow or a single lady six months pregnant. A qualified fair one soon replied, and hastening to meet her, he choked himself whilst bolting a bad dinner at a wayside inn. In the hours of professional relaxation the medical episodes, points, and particulars in general literature are often curious, if not instructive,—sometimes startling, when deaths due to cardiac or cerebral complications have been ascribed to poison; when all the greatest physicians of the time could do nothing but dispute whilst a royal life was ebbing away; or when everything within the reach of human skill had been attempted, the death of some illustrious patient has not been accepted as inevitable. "I shall go mad; I shall end my days in a mad-house. I am ruined; who will place any confidence in me now?" said one physician, who shot himself soon after; and his mental agony has been experienced by many. There are records of queens who, previously attended by midwives, concealed from medical men until too late strangulated hernia, induced by stooping during pregnancy. One duchess wished to be bled in the foot for colic; another, the beautiful La Vallière, the king offered to deplete. In sickness, one monarch bathed in milk; Jerome in broth; Mary Queen of Scots in wine. Napoleon, rubbing his body with eau de Cologne, changed his linen several times a day. The "Grand Monarque," Louis XIV., would not wash, nor would Queen Christina of Sweden, nor the afore-mentioned Lady Montague. Certain sovereigns defied medical advice, insisting on drinking beer. "I won't be blistered; I won't die," said Sarah Duchess of Marlborough, who kept her word. A certain duke, afraid of the sea and of catching cold, never would sleep alone. Besides intemperance, gluttony, fever, the strain of mental anxiety has killed very many rulers in all countries. Henry IV. of England suffered from eczema. Edward I., worn out by exhausting dysentery, still clung to command, even ordering his wasted corpse to be carried with confidence in front of the army. Queen Elizabeth, at the age of seventy, fell into a peculiar stupor, one finger ever in her mouth. Numberless are the instances of fatal uræmic convulsions during pregnancy—for instance, Agnes Sorel; also a celebrated French duchess, after hearing bad news, nor did Cæsarian section save the child. One Spanish queen, developing mania before and after delivery, carried her husband's corpse about, disbelieving his death. One emperor ordered his body to be shaved and his teeth extracted before burial. Another could only sleep on a mattress made of soldiers' moustaches. James II., to whose memory patients the subjects of fistula lacrymalis, palsy, quinsy, rheumatism, deafness, confidently prayed for relief, left his heart to one convent, brains to another, bowels to a third, trunk to a fourth, and his extremities somewhere else. The Duchess of Cleveland, quickening at a dinner-party, mentioned the subject at the table, and during pregnancy, out of pure curiosity, weighed herself constantly; also at one of the Merry Monarch's balls a Miss Wells was confined during a minuet. Variola terribly scarred many a Court beauty to her ruin, yet not always; and the fascination of many a lady continued powerful, even to old age. Cholera struck as a chill one aged king at mass, and followed Madame Recamier, who at the age of seventy-two fled from Paris, dreading the disease. Concerning ague, there are strange tales of theories, cases, and treatment—for instance, the curious deathbed of Oliver Cromwell, who, with intermitting pulse, cold clammy sweats, and terrible prostration, believed he would recover, because his clerical friends said so. He suffered from calculus in the bladder; so did Henry Cromwell. Madame de Maintenon, when a mere child, was courted by an old cripple, whose love-letters often inquired all about her tertian ague, for if it turned to a quartan he would catch the cursed malady. The medical history of Jeanne D'Albrecht, Queen of Navarre, is worthy of transcription. Some time married before falling pregnant, her first child was taken care of by an infirm old lady, who shut all the doors, closed every window; so the child, aged eighteen months, died of atrophy when the mother was again pregnant. The next infant, dropped down marble steps by a careless nurse, lived but four days after. During her third pregnancy, in camp, her husband, in joke, levelled, as he thought, an unloaded gun at her, and pulled the trigger, the bullet whizzing terribly close. Her father, who did not want a peevish girl or drivelling boy, promised rank, power, anything for the child, provided during labour the mother sang merry Gascon ballads, which she did, song after song, without flinching during prolonged hours of agony. This time, instead of an old woman, a healthy peasant girl took the infant from a palatial castle to her humble cottage, where, as bad luck would have it, this and eight successive nurses sickened of typhus, then endemic. The next two children were very weakly. When her husband was shot in the left shoulder, the bullet beyond extraction, the revelry of the sick-room conduced to fever, delirium, and death. When her daughter had pleurisy, requiring free blood-letting, it was supposed that the worn-out, kind, watchful mother then contracted phthisis; and at the age of forty-four this pure, angelic, long-suffering lady gladly laid down her wearied head to rest. In a few hours the Huguenot cry spread like wildfire all over Paris—"The Queen of Navarre has been murdered! has been poisoned by Catherine de Medici! poisoned by scented ruffs and gloves!" The post-mortem made that night to allay popular excitement revealed large abscesses in the right lung, besides effusion of the brain. Certain instances of longevity are remarkable. Henry Jenkins, 169; Countess of Desmond, 148; Parr, 152—viscera sound, cartilages of the ribs not ossified; Diogenes 90, Hippocrates 99, Plato 82, Socrates at 70, and Archimedes at 75, died prematurely. Actors, dancers, clergymen, lawyers, as a rule appear long-lived compared with medical men, who, from infection of disease, exposure to weather, broken rest, worry, anxiety, and competition, cannot confidently expect a prosperous green old age under their own vine or fig tree. Talleyrand, Metternich, Nesselrode, Bolingbroke, Palmerston, Thiers, Lyndhurst, Brougham, Goethe, Newton, Humboldt, Mansfield, lived long; and Lesseps is a wonderful instance of prolonged vigour. In a place of honour, those lucky medical men with F.R.S. affixed to name doubtless have noticed the bust of the talented authoress of the "Mechanism of the Heavens," "Physical Geography," etc.—once a beautiful woman, a good wife, an admirable mother, one truly religious; a lover of animals, plants, of everything in nature; fond of society, music, dancing, painting; all the while an eager student, who would rise in the cold wintry mornings or shiver under a blanket to master abstruse sciences, astronomy or algebra. During her long illustrious life this extraordinarily gifted lady had full share of sorrow and sickness, yet at the age of ninety-two, except deafness, knew none of the infirmities of age, and the marvellous mind of Mary Somerville never grew old. Her painless end must have been very happy, for although there naturally lingered a certain amount of wistful regret in parting with a beloved family, in leaving also a world found so beautiful, still she peacefully closed her eyes in the sure and certain hope of a glorious resurrection.

I am, &c., F. R. H.

COMMUNICATIONS have been received from—

The Registrar of the Apothecaries' Hall; The Secretary of the Belfast Branch of the Royal Benevolent Fund Society; The Secretary of the Society for Relief of Widows and Orphans of Medical Men; The Honorary Secretary of the Harveian Society; R.M.S.C.; Oxford; The Registrar-General, Edinburgh; Dr. Vines, London; Dr. Douglas Powell, London; M.R.C.S.; Our Liverpool Correspondent; The Town Clerk, Hastings; The Secretary of the Birmingham Medical Benevolent Society; Professor Huxley, Edinburgh; The Sanitary Commissioner of the Punjaub; Dr. T. Stevenson, London; The Secretary of the Medical Microscopical

Society; The Secretary of the Royal Institution, London; Mr. German Reed, London; Dr. W. H. Corfield, London; Dr. Palfrey, London; Rasper, jun., Madras; M.A.; Mr. Warren Tay, London; Mr. J. R. Fowlea, London; A.; Dr. T. W. Hime, Sheffield; The President of the Odontological Society; Dr. Hughlings-Jackson, London; Mr. J. Chatto, London; Mr. E. L. Hussey, Oxford.

BOOKS AND PAMPHLETS RECEIVED—

McNally on the Indian Army, its Actual Defects and Proposed Remedies—Annual Report of the Crichton Royal Institution—Brickell on Rupture of the Perineum, with a Description of a New Operation—Dawson on a Case of Inversio Uteri—Wood on the Study of the Nature and Mechanism of Fever, being the fourth Toner Lecture—St. Thomas's Hospital Reports, vol. v.—Keen's History of the Philadelphia School of Anatomy and its Relations to Medical Teaching—Keen's Sketch of the Early History of Practical Anatomy—Rigg and Goolden's Easy Introduction to Chemistry—Corson on the Treatment of Pleurisy—Letheby on Noxious and Offensive Trades and Manufactures—Pringle on Asiatic Cholera—Papers on Small-pox, Vaccination, &c., by Surgeon-Major Robert Pringle, M.D.—Littlejohn's Report on the Outbreak of Typhoid Fever at Crosshill—Report on certain forms of Skin Diseases observed in the Madras Presidency—Gray's Anatomy, seventh edition.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—National Food and Fuel Reformer—Philadelphia Medical Times—Pharmaceutical Journal—Centralblatt für die Medicinischen Wissenschaften—La France Médicale—Iron—Wiener Medizinische Wochenschrift—Journal des Sages-Femmes—New York Medical Journal—Pacific Medical and Surgical Journal—Indian Medical Gazette—Practitioner—Students' Journal and Hospital Gazette.

APPOINTMENTS FOR THE WEEK.

May 15. Saturday (this day).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

Society of Medical Officers of Health, 7½ p.m. Dr. Francis T. Bond (Medical Officer of Health for Gloucestershire Combined Sanitary District), "On the Public Health Bill in its relations to the Sanitary Requirements of Rural Districts."

Royal Institution, 3 p.m. Mr. W. Herries Pollock, "On the Drama."

17. Monday.

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

18. Tuesday.

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Pathological Society, 8½ p.m. Mr. Godlee—Blood-Cyst formed in Sarcoma. Mr. Knowsley Thornton—Carcinoma of Ovary. Dr. Julius Pollock—Worms in Right Ventricle of Heart of a Dog. Dr. Crisp—1. Recent Specimens of Tubercle in Pheasants; 2. Cancer in Common Fowl; 3. Brain and Cord of Fowl; 4. Softening of Cerebellum; 5. Purulent Pericarditis; 6. Cavity in Apex of Lung filled with Bony Deposit. Mr. Maunder—A Fatty Tumour. Dr. Duka—Dry Gangrene of Lower Extremities. Mr. Fairlie Clarke—Prolapsus Linguæ. Mr. Thomas Smith—Hæmorrhagic Periostitis. Mr. Francis Mason—Tumour in Sacral Region. Dr. Broadbent—Large Foramen Ovale without Cyanosis. Mr. Mac Cormac—Dislocation of Astragalus, with Fracture. Mr. H. Arnott—Parts from a Case of Cancer of Rectum two years after Colotomy. Mr. George Lawson—Melanotic Tumour of the Eye. Mr. Hutchinson—1. Casts of Teeth from a Patient with Lamellar Cataract; 2. Stricture of Colon plugged by a Gall-Stone. Dr. Goodhart—1. Contracted Aorta (two cases); 2. Spontaneously Cured Aortic Aneurism. Mr. Morrant Baker—Hernia Testis in Infant. Dr. Duckworth—Organs from a Case of Acute Tuberculosis.

Royal Institution, 3 p.m. Prof. Gladstone, "On Chemical Force."

Statistical Society, 7¾ p.m. Meeting.

19. Wednesday.

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

20. Thursday.

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.

Harveian Society, 8 p.m. Dr. Mahomed, "A Contribution to the Clinical History of Scarlatinal Convalescence."

Royal Institution, 3 p.m. Prof. Dewar, "On the Progress of Physico-Chemical Inquiry."

21. Friday.

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

Medical Microscopical Society, 8 p.m. Mr. W. B. Kesteven, "On Fatty Degeneration of Muscle."

Royal Institution (Weekly Evening Meeting, 8 p.m.), 9 p.m. Mr. J. Baillie Hamilton, "On the Application of Wind to Stringed Instruments."

VITAL STATISTICS OF LONDON.

Week ending Saturday, May 8.

BIRTHS.

Births of Boys, 1153; Girls, 1174; Total, 2327.
Average of 10 corresponding years 1865-74, 2247·1.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	746	743	1489
Average of the ten years 1865-74	704·6	667·1	1371·7
Average corrected to increased population	...	...	1468
Deaths of people aged 80 and upwards	...	...	57

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric or Typhoid Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	4	3	2	11	2	3	1	1
North	751729	...	3	12	1	14	1	1	...	4
Central ...	334369	...	...	2	1	5	...	2	...	1
East	639111	...	6	5	1	26	2	2	2	2
South	967692	1	12	13	4	15	...	11	2	3
Total	3254260	1	25	35	9	71	5	19	5	11

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·706 in.
Mean temperature	54·6°
Highest point of thermometer	70·0°
Lowest point of thermometer	43·4°
Mean dew-point temperature	49·2°
General direction of wind	S.W.
Whole amount of rain in the week	0·57 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, May 8, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1875.)	Births Registered during the week ending May 8.	Deaths Registered during the week ending May 8.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3445160	45·7	2327	1489	70·0	43·4	54·6	12·56	0·57	1·45
Portsmouth ...	122632	27·3	77	44	...	...	...	...	...	...
Norwich	82842	11·1	55	24	69·5	40·0	53·2	11·78	0·83	2·11
Bristol	196186	44·1	145	97	65·1	43·7	53·3	11·84	0·96	2·44
Wolverhampton ...	71718	21·1	57	31	70·9	43·4	53·5	11·95	0·58	1·47
Birmingham ...	366325	43·6	302	197	68·7	40·0	53·0	11·67	0·60	1·52
Leicester	109830	34·3	86	36	72·5	39·8	54·8	12·67	0·38	0·97
Nottingham ...	92251	46·2	68	38	71·9	34·2	52·6	11·45	0·46	1·17
Liverpool	516063	99·1	418	247	66·8	46·8	52·5	11·39	0·42	1·07
Mancheater ...	356626	83·1	252	198	...	...	...	...	...	...
Salford	135720	26·3	107	65	66·5	33·9	52·8	11·56	0·38	0·97
Oldham	87437	18·7	58	45	...	...	...	...	...	...
Bradford	168305	23·3	128	69	63·7	41·2	52·6	11·45	0·28	0·71
Leeds	285118	13·2	230	131	66·0	39·0	51·4	10·78	0·25	0·63
Sheffield	267881	13·6	249	107	68·0	37·5	52·8	11·56	0·39	0·99
Hull	133932	36·8	95	74	70·0	36·0	51·0	10·56	0·24	0·61
Sunderland ...	106342	32·2	95	45	67·0	41·0	52·0	11·11	0·13	0·33
Newcastle-on-Tyne	137665	25·6	94	65	65·0	44·0	52·4	11·33	0·13	0·33
Edinburgh	211626	50·5	127	95	...	...	...	...	...	...
Glasgow	534564	88·6	429	249	62·9	42·3	52·1	11·17	0·17	0·43
Dublin	314666	31·3	178	180	69·2	36·7	55·2	12·89	0·11	0·28
Total of 21 Towns in United Kingdm	7742889	37·0	5577	3531	72·5	34·2	52·9	11·61	0·41	1·04

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·71 in. The highest was 29·85 in. on Tuesday evening, and the lowest 29·41 in. on Friday at noon.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

NOTES ON THE INVERTEBRATA

FOR THE

USE OF STUDENTS OF ZOOLOGY.

BEING AN OUTLINE OF A COURSE OF LECTURES DELIVERED FROM THE CHAIR OF NATURAL HISTORY IN THE UNIVERSITY OF EDINBURGH.

By THOMAS H. HUXLEY, LL.D., Sec. R.S.

(*Continued from page* 519.)

The Cœlenterata.—This division of the *Metazoa* contains the great majority of those animals which are commonly known as polypes, jelly fishes, and sea anemones, and which are comprehended under the two natural groups of the *Hydrozoa* and the *Actinozoa*.

The Hydrozoa.—The fundamental element in the structure of the former group is the *Hydranth*, or *Polypite*. This is essentially a sac having at one end an ingestive or oral opening, which leads into a digestive cavity. The wall of the sac is composed of two cellular membranes, the outer of which is termed the *ectoderm*, and the inner the *endoderm*, the former having the morphological value of the epidermis of the higher animals, and the latter that of the epithelium of the alimentary canal. Between these two layers, a third layer—the *mesoderm*, —which represents the structures which lie between the epidermis and the epithelium in more complex animals, may be developed, and sometimes attains a great thickness, but it is a secondary and inconstant production.

All the *Hydrozoa* are provided with *tentacula*, elongated and sometimes filiform organs of prehension, which are generally diverticula of both ectoderm and endoderm, but may be outgrowths of only one of them.

Thread-cells, or *nematocysts*, are very generally distributed through the tissues of the Cœlenterata. In its most perfect form, a nematocyst is an elastic, thick-walled sac, coiled up in the interior of which is a long filament, often serrated or provided with spines. The filament is hollow, and is continuous at its thicker or basal end with the wall of the sac, while its other, pointed, end is free. Very slight pressure causes the thread to be swiftly protruded, apparently by a process of evagination, and the nematocyst now appears as an empty sac, to one end of which a long filament, often provided with two or three spines near its base, is attached. Many of the Cœlenterata, and notably the *Physalia*, give rise to violent urtication when their tentacles come in contact with the human skin, whence it may be concluded that they produce a like injurious effect upon the bodies of those animals which are seized and swallowed by the Polypes and jelly-fishes. No certain evidence of the existence of a nervous system in the Hydrozoa has yet been obtained, but there can be little doubt that the *lithocysts*, or sacs containing mineral particles, which are so frequently found in the Medusoids and Medusæ, are of the nature of auditory organs; while the masses of pigment, with embedded refracting bodies, which occur often associated with the lithocysts, are doubtless rudimentary eyes.

The sexual reproductive elements are ova and spermatozoa—the ova being usually, if not invariably, devoid of a vitelline membrane. The fully formed generative elements lie between the ectoderm and the endoderm of that part of the body wall in which they make their appearance. M. E. von Beneden has recently brought forward strong evidence in favour of the belief that—in *Hydractinia*, at any rate—the ova are modified cells of the endoderm, and the spermatozoa modified cells of the ectoderm; but it remains to be seen how far this rule is of general application.

Usually, the region of the body in which the generative organs are produced undergoes a peculiar modification before the reproductive elements make their appearance in it, giving rise to peculiar organs, the *gonophores*. In its simplest condition the gonophore is a mere sac-like diverticulum, or outward process of the body wall. But, from this simple state, the gonophore presents every degree of complication until it acquires the form of a bell-shaped body, called (from its resemblance to a "Medusa," or jelly-fish) *Medusoid*.

In its most complete form, the Medusoid consists of a disc having the form of a shallow or deep cup (*nectocalyx*), from the centre of the concavity of which projects a sac, termed the *manubrium*. The cavity of the sac is continued into that of sundry symmetrically disposed canals, which radiate from the centre of the disc to its circumference, where they open into a circular marginal canal. A membranous fold, the *velum*, which contains muscular fibres, is attached to the inner circumference of the mouth of the bell, and projects, like a shelf, into its interior. Minute sacs, containing solid particles, or lithocysts, which have a close resemblance to the auditory organs in their simplest form, may be developed on the margins of the bell, which may also give rise to tentacles, and the manubrium, opening at its free end, may become functionally, as well as structurally, a polypite, and may serve to feed the Medusoid when it becomes detached from the *hydrosoma*, or body of the Hydrozoon. However complex its structure may be, the Medusoid commences as a simple bud-like outgrowth, which thickens at one end; and the central part of this thickening becomes the manubrium, while its periphery is converted into the disc.

In some of these medusoid gonophores the reproductive elements are developed while the gonophore is still attached to the hydrosoma, and then they always make their appearance in the wall of the manubrium. But, in other cases, the Medusoid becomes detached before the development of the reproductive elements, and, feeding itself, increases largely in size before the ova or spermatozoa appear. Sooner or later, however, the reproductive organs are developed, either in the walls of the manubrial hydranth, or in those of the canals of the nectocalyx of the medusoid.

In an early stage of its existence every Hydrozoon is represented by a single hydranth, but in the great majority of the *Hydrozoa* new hydranths are developed from that first formed, by a process of gemmation or of fission. In the former case the bud is almost always an outgrowth or diverticulum of the ectoderm and endoderm, into which a prolongation of the cavity of the body extends. Sometimes the Hydranth formed by gemmation becomes detached from the body, but, in many cases, the buds developed from the primary Hydranth remain connected together by a common stem or *cœnosarc*, and thus give rise to a compound body.

In many cases the ectoderm gives rise to a hard cuticular coating, which, on the hydranth, takes the shape of a case or "cell"—the *hydrotheca*—into which the hydranth may be more or less completely retracted. In other *Hydrozoa* a protective covering is afforded to the hydranth by the development of processes of the body wall, which become thick, variously-shaped, glassy lamellæ. These appendages are termed *hydrophyllia*.

Again, certain groups are provided with bell-shaped organs of propulsion, produced by the metamorphosis of lateral buds of the *hydrosoma*. These *nectocalyces* have the structure of a Medusoid, supposing the manubrium to be absent. In others, one extremity of the hydrosoma is dilated, contains air enclosed within a sac formed by an involution of the ectoderm, and constitutes a float or *pneumatophore*; while in yet others the aboral end of the hydranth is dilated into a disc or *umbrella*, which is susceptible of rhythmical contractile movements, and by which the body is propelled through the water. Thus it has a close resemblance to a Medusoid. According to the existence or absence of these various appendages, and the manner in which they are disposed, the *Hydrozoa* are distinguished into three divisions—1, the *Hydrophora*; 2, the *Discophora*; 3, the *Siphonophora*.

1. The *Hydrophora* are, in all cases but that of *Hydra*, fixed ramified hydrosomes, on which many hydranths and gonophores are developed. The tentacula are either scattered over the hydranths, or arranged in one circle round the mouth, or in two circles, one close to the mouth, and one near the aboral end. Very generally—*e.g.*, in all *Sertularidæ* and *Tubularidæ*—there is a hard, chitinous, cuticular skeleton, which usually gives rise to hydrothecæ, into which the hydranths can be retracted. The Gonophores present every variety, from sacs to free swimming *Medusoids*. The inner margin of the bell in these Medusoids is always produced into a velum, and otolithic sacs and eye-spots are very generally disposed at regular intervals around the circumference of the bell. The great majority of what are sometimes termed the naked-eyed Medusæ (*Gymnophthalmata*) are simply the free-swimming gonophores of Hydrophora.

2. *The Discophora.*—These "Medusæ" resemble the more perfect free Medusoid gonophores of the Hydrophora, in so far as they consist of a hydranth or polypite attached to the centre

of a gelatinous contractile swimming disc. But they differ from the Medusoids of the Hydrophora, insomuch as they are developed either directly from the impregnated ovum, or by gemmation from a Medusa which arises in this way, or by the transverse fission of the hydriform product of the development of the impregnated ovum.

In some of these (*e.g.*, *Carmarina*, *Polyxenia*, *Æginopsis*) the disc is similar to the nectocalyx of one of the Medusoids of the Hydrophora, and, like it, is provided with a velum. But in the rest (*Lucernaria* and the *Steganophthalmata*) the disc is devoid of a velum, and is termed an *umbrella*.

Lucernaria is fixed by the aboral side of its umbrella; but the rest are all free swimmers, and some attain a large size, as the ordinarily known "jelly-fishes." The angles of the hydranth are ordinarily produced into long, sometimes foliaceous, lips in these last; and, in the *Rhizostomidæ* (as has been shown by L. Agassiz, Haeckel, and A. Brandt) the margins of the lips of the hydranth unite, leaving only a multitude of small apertures for the ingestion of food on the long arms, which represent prolongations of the lips of the hydranth. The polystomatous condition thus brought about by the subdivision of a primitively simple oral cavity is obviously quite different in its origin from that described in the Porifera.

3. In the *Siphonophora*, the hydrosoma is always free and flexible, the ectoderm developing no hard chitinous exoskeleton, save in the case of the pneumatophore of some species. In the hydranths or polypites there is never any circlet of tentacula round the mouth, but long tentacles, frequently provided with a unilateral series of branches, are developed, either one from the base of each hydranth, or, independently of the hydranths, from the cœnosarc.

Hydrophyllia are generally present, and, like the tentacula, are developed either from the pedicle of a hydranth, in which case they enclose the hydranth with its tentacle and a group of gonophores (*Calycophoridæ*), or, independently of the hydranths, from the cœnosare (many *Physophoridæ*). The gonophores vary, from almost the simplest forms to free Medusoids.

In the *Calycophoridæ* (*Diphyes*, *Abyla*, etc.) there is no pneumatophore, and, at one end of the hydrosoma, two nectocalyces, which are the organs of propulsion, are developed.

In the *Physophoridæ* the corresponding end of the hydrosoma possesses a pneumatophore, which is sometimes relatively small (*Agalma*, *Physophora*), sometimes very large (*Physalia*), and sometimes converted into a sort of hard inner shell, its cavity being subdivided by septa into numerous chambers (*Porpita*, *Velella*).

4. In the great majority of the Hydrozoa, the naked ovum undergoes cleavage and conversion into a *morula*, and subsequently into a *planula*, comparable to those of the sponges, and possessing a central cavity enclosed in a double cellular wall, the inner layer of which constitutes the hypoblast, and the outer the epiblast.

In the Hydrophora the ciliated, locomotive planula becomes elongated and fixed by its aboral pole. At the opposite end the mouth appears, and the embryo passes into the gastrula stage. Tentacles next bud out round the mouth, and to this rudimentary condition, common to all the Hydrophora, Allman has given the name of *Actinula*.

In certain *Tubularia*, while the embryo is still free, a circlet of tentacles is developed close to the aboral end; and this form of larva differs but very slightly from that which is observed in the Discophora.

In the genus *Pelagia*, for example, the tentacles are developed from the circumference of the embryo, midway between the oral and aboral poles; but it neither fixes itself nor elongates into the ordinary actinula-form. On the contrary, it remains a free-swimming organism, and, by degrees, that moiety of the body which lies on the aboral side of the tentacular circlet widens and is converted into the umbrella, the other moiety becoming the hydranth, or so-called "stomach," of the Medusa.

In *Lucernaria* the larva fixes itself before or during the development of the umbrella, and passes directly into the adult condition. But, in most Discophora, the actinula (the so-called "*Hydra tuba*") divides transversely into a number of eight-lobed discoidal medusoids ("*Ephyræ*" or "*Medusæ bifidæ*"), which are set free, and, undergoing a great increase in size, take on the form of the adult discophore, and develope reproductive organs. Metschnikoff(a) has recently traced out the development of *Geryonia* (*Carmarina*), *Polyxenia*, *Æginopsis*, and other Discophora, which differ from the foregoing in possessing a velum; and in these, as in the *Trachynema ciliatum*, observed by Gegenbaur, the process appears to be of essentially the same nature as in *Pelagia*. The "*Hydra tuba*" larva of *Cyanœa* and its allies is probably to be regarded not as analogous to Hydra, but like the larva of *Pelagia*, as a Discophore with a rudimentary disc. In which case, the production of the "Medusa bifida" forms of young Discophora will not be comparable to the development of medusoid gonophores among the Hydrophora, but will merely be a process of multiplication, by transverse fission, of a true, though undeveloped, Discophore.

In the Siphonophora,(b) the result of yelk division is the formation of a ciliated body consisting of a small-celled ectoderm investing a solid mass of large blastomeres, which eventually pass into the cells of the endoderm. This body does not take the form of an actinula. On the contrary, it appears to be the rule that buds from which a hydrophyllium, a nectocalyx, a tentacle, or pneumatophore, or even all of them, will be developed, take their origin antecedently to the formation of the first polypite and of the gastric cavity.

As Metschnikoff well remarks, the mode of development of the Siphonophora is wholly inconsistent with the doctrine that the various appendages of the hydrosoma in these animals represent individuals. The Hydrozoa are not properly compound organisms, if this phrase implies a coalescence of separate individualities; but they are organisms, the organs of which tend more or less completely to become independent existences, or zoöids. A medusoid, though it feeds and maintains itself, is, in a morphological sense, simply the detached independent generative organ of the hydrosoma on which it was developed, and the so-called "alternation of generations," in these and like cases, is the result of the dissociation of the generative parts of the organism from the rest.

In certain Discophora belonging to the group of *Trachynemata*, a method of multiplication by gemmation has been observed, which is unknown among the other *Hydrozoa*. It may be termed *entogastric* germination, the bud growing out from the wall of the gastric cavity, into which it eventually passes on its way outwards; while, in all other cases, gemmation takes place by the formation of a diverticulum of the whole wall of the gastro-vascular cavity, which projects on to the free surface of the body, and is detached thence (if it become detached), at once, into the circumjacent water. The details of this process of entogastric gemmation have been traced by Haeckel in *Carmarina hastata*, one of the *Geryonidæ*. As in other members of that family, a conical process of the mesoderm, covered by the endoderm, projects from the roof of the gastric cavity, and hangs freely down into its interior. Upon the surface of this, minute elevations of $\frac{1}{300}$th of an inch in diameter make their appearance. The cells of which these outgrowths are composed next become differentiated into two layers—an external clear and transparent layer, which is in contact with the cone, and invests the sides of the elevation; and an inner darker mass. The external layer is the ectoderm of the young medusa, the inner its endoderm. A cavity, which is the commencement of the gastric cavity, appears in the endodermal mass, and opens outwards on the free side of the bud.

The latter, now $\frac{1}{250}$th of an inch in diameter, has assumed the form of a plano-convex disc, fixed by its flat side to the cone, and having the oral aperture in the centre of its convex free side. The disc next increasing in height, the body acquires the form of a flask with a wide neck. The belly of the flask is the commencement of the umbrella of the budding medusa; the neck is its gastric division. The "belly" of the flask, in fact, continues to widen out until it has the form of a flat cup, from the centre of which the relatively small gastric "neck" projects, and the bud is converted into an unmistakable medusa, attached to the cone by the centre of the aboral face of its umbrella. In the meanwhile, the gelatinous transparent mesoderm has appeared, and acquired a great relative thickness, in the umbrella. Into this eight prolongations of the gastric cavity extend, and give rise to the radial canals, which become united at the circumference of the disc into a circular canal. The velum, tentacula, and lithocysts are developed, and the bud becomes detached as a free swimming *Medusa*. But this Medusa is very different from the *Carmarina* from which it has budded. For example, it has eight radial canals, while the *Carmarina* has only six; it has solid tentacles, while the adult *Carmarina* has tubular tentacles; it has no gastric cone, and has differently disposed

(a) "Studien ueber die Entwickelung der Medusen und Siphonophoren,"—*Zeitschrift für Wiss. Zool.*, xxiv.

(b) See especially the late observations of Metschnikoff, *loc. cit.*

lithocysts; and Haeckel considers that it is, in fact, a young Medusa, *Cunina rhododactyla*, formerly reckoned to be not only specifically and generically different from *Carmarina*, but a member of a distinct family—that of the *Æginidæ*.

What makes this process of asexual multiplication more remarkable is, that it takes place in *Carmarinæ* which have already attained sexual maturity, and in males as well as in females.

There is reason to believe that a similar process of entogastric proliferation occurs in several species of *Æginidæ* allied to *Cunina*,—*Æginela prolifera* (Ergenbam), *Eurystoma rubiginosum* (Kölliker), *Cunina Köllikeri* (F. Müller); but in all these cases the Medusæ which result from the gemmative process closely resemble the stock from which they are produced.

(To be continued.)

LECTURES ON INJURIES TO THE HEAD.

By JONATHAN HUTCHINSON, F.R.C.S.,
Senior Surgeon to the London Hospital; Surgeon to Moorfields Ophthalmic Hospital and the Hospital for Skin Diseases.

Lecture IV.

DIRECT TRAUMATIC ARACHNITIS.

(Concluded from page 521.)

I have next to ask your attention to a very important case in which the arachnitis was developed almost immediately after the accident, and in which it spread at once over both hemispheres. The patient died on the third day. It is the most rapid case of the kind which I have witnessed. There was no hemiplegia, because both sides were equally involved. The injury was one in which inflammation of the sub-arachnoid spaces might have been expected rather than arachnitis, for there was no proof of laceration of dura mater or of arachnoid. We may conjecture, however, that the latter had probably been torn through over perhaps the track of the seventh pair of nerves. As it is the best, indeed the only example of this acute and general kind of arachnitis, I shall trouble you with the notes in detail.

Fracture of the Left Temporal Bone—Death in Seventy-two Hours from Acute Arachnitis.

July 16. S., midnight. A van-driver fell backwards from his footboard, and pitched on his head. Was somewhat stunned.
,, 17. Sun., a.m. Slight bleeding from right ear. Vomiting. Partial consciousness; moderate collapse.
11 a.m. Quite recovered from collapse and perfectly conscious. Watery discharge from right ear. Slow and intermitting pulse.
,, 18. M. Vomiting and some headache, the only symptoms.
4 p.m. Some headache. Flushed face and cool extremities. Irregular pulse (slow). Anxiety of manner.
9.30 p.m. Pallor of face and intense pain in head. Cold extremities; soft irregular pulse.
12 p.m. Delirium.
,, 19. Tu., 2 a.m. Wild delirium; great heat of skin. Venesection.
10 a.m. Restless delirium. Rapid pulse; dilated pupils.
4 p.m. Restlessness. Rapid pulse; fixed and dilated pupils. Trunk and head hot; limbs cool.
10 p.m. Death in an attack of convulsions.

Autopsy.—Fracture of the petrous and squamous portions of the right temporal bone, but without laceration of dura mater. Acute arachnitis over both sides of the brain.

The following are the detailed notes:—

Joseph Ineh, aged thirty-one, a robust and fairly temperate carman. On July 16 he had been out with a pleasure party and returned about midnight. "He had been drinking, but was not drunk." He took his van home, put his horses into the stable, and then, having occasion to climb again to the driver's seat, managed to catch his foot and fall backwards. It was believed that he pitched directly on his head. He was at once carried to the hospital. He was conscious at first, but quickly became bewildered. When admitted was partially insensible, but could speak and move all his limbs, but he could not stand. He vomited soon after his admission, and the ejected matters contained a little blood. When he vomited, a little bloody serum began to flow from his right ear. No bleeding from his ear had been observed previously. As regards the degree of collapse, his extremities were cold; pulse 70, feeble and intermittent. He slept at intervals during the early morning, but had frequent vomitings of bilious matter. At 11 a.m. his pillow was wet with fluid which had drained from the right ear. After this, during about four hours, an ounce was collected. It consisted of serum stained with blood, and contained sugar. The tests tried were Trommer's and Moore's. At this time, 11 a.m., he was perfectly rational and had no symptoms of injury to the brain. His pulse was 46, full, but intermitting. 6 p.m.: The fluid has nearly ceased to flow. No other alterations in symptoms.

18th, Monday.—During the night no fluid has been discharged from the ear. He has slept a little; no vomiting. This morning he again has vomiting, and complains of headache. His face is flushed; tongue clean; pulse compressible, 56; pupils normal in size, fairly active. He is ordered ice to the head, and a drop of croton oil to be taken immediately. 1.30: The bowels have acted, and he feels somewhat easier. The fluid is again running from his ear. 4 p.m.: He is perfectly conscious; has been sick this morning, but less so than yesterday, and complains only of pain in his head. His face is flushed and hot, arms cool. Pulse soft, very irregular, rarely two beats alike—68 in the minute. A watery fluid slightly stained with blood drains away. Taste saline, not sweet. He certainly hears somewhat with right ear, but not well. Both feet cool and equally so. Pupils of equal size; no squint, no diplopia. He appears to use the muscles on the right side of his face with decidedly less power than on the other; still they are by no means paralysed. His face is quite symmetrical, and he can shut both eyes closely. 9.30 p.m.: During the afternoon, although he was wholly free from special symptoms, yet there was a certain degree of anxiety in his manner, and he complained somewhat of headache. He has now become much more pale than he was, looks very ill, and complains of intense pain in his head. Whilst I was with him he scarcely ceased his complaint of "this terrible pain." He was perfectly conscious and rational, but fretful. He would put his hand to his forehead, and exclaim that unless we could do something to relieve his pain he could not possibly get through the night. His pupils were somewhat larger than they had been, and not so active. His face and forehead, hot and flushed in the afternoon, were now pale and cool. His extremities were decidedly cool, and his pulse very compressible and intermittent. He was constantly moving his head in the endeavour to relieve his pain. He referred the pain to the forehead and back of the head, and "all over." It did not appear from his expression to be much worse on the right side than on the left. He had had no rigor. We discussed the following questions:—First, should this condition be considered to depend upon inflammation? Secondly, was it due to mere irritation, such, for instance, as might be benefited by a full opiate? And lastly, had it any connexion with the commencement of delirium tremens? Both the two latter I decidedly opposed. Complaints of pain are not usual in the early stages of delirium tremens in any of its forms; and we had, on the other hand, an entire absence of some of its most important symptoms—tremulous tongue, hot perspiring skin, and soft full pulse. As his extremities were tending to cold and his head cool, we did not venture to recommend bleeding. It was determined to apply a very large blister to the nape of the neck.

At two in the morning the symptoms had undergone such alteration that the house-surgeon deemed it best to take blood. The man had become delirious, excessively restless, so that he could not be kept in bed. His face and extremities were hot, and his pulse resisting. He was bled from the left arm to about fourteen ounces, and became much quieter, and seemed more comfortable. He did not sleep, however, but continued in a restless condition of mild delirium till the time of next note. 10.30 a.m.: He seems very restless, tries to get out of bed. He knew his mother. He tried to vomit, but was not sick, and nurse said that he had not been so since last note. His pupils are widely dilated. Pulse 120. Puts his hand to his head as if in pain. 4.30 p.m.: He is still restless, catching at the bed-clothes, attempting to take hold of those who go near him. His countenance is not expressive of pain, nor are his actions angry or excited. He cannot be got to speak,

or to put out his tongue. Teeth covered with dry sordes. Pupils very large, and quite motionless. His ears are hot, his arms and body are hot, but his feet and hands are cool. He has not been sick, but cannot be got to swallow anything. Pulse 120, sharp, but very compressible. He has passed urine unconsciously. Ophthalmoscope: The principal arteries appear to be rather smaller than natural. No other changes.

He died about ten o'clock this evening.

He had convulsions just before he died, and, indeed, died in the attack. He had not shown any material change until this occurred; there had been no convulsions until this seizure.

Post-mortem next morning at seven.

Post-mortem Notes.—Very slight evidence of bruising on the skin of scalp. On removing the scalp a large ecchymosis was found over the hinder part of the vertex, and extending backwards over the occiput. There was no laceration. A fissure was seen on the squamous part of right temporal bone, and about this fissure there was some extravasation of blood. The skull-cap was sawn completely through, and removed with the hemispheres *in situ*. A layer of blood, a quarter of an inch thick in the middle, and extending over an area nearly as large as the palm of the hand, was between the bone and dura mater at the seat of fracture—*i.e.*, squamous part of temporal and adjacent parts of the parietal. The base of the skull was examined first. The hemispheres, where cut through, were but little congested. The arachnoid beneath the anterior and lateral lobes was somewhat opaque, and there was evidence of slight recent deposit of yellowish lymph. The arachnoid covering the pons and medulla did not show any traces of inflammation. A certain quantity of blood-stained puriform fluid had escaped during the removal of the calvaria. It was difficult to estimate the quantity, but it was probably not less than two ounces. The parietal arachnoid of the base of the skull was everywhere glistening and polished, and had no shreds of lymph or other inflammatory deposit. Very slight evidences of contusion, ecchymosis, etc., were observed at several different places in the convolutions beneath the brain. They were quite trivial. The dura mater was not torn, but ecchymosis beneath it was visible over the petrous part of right temporal bone, which was crossed by a linear fracture. On removing the hemispheres from the skull-cap they were found to show over their whole surfaces evidences of commencing arachnitis. They were smeared over with a thin sero-purulent secretion.

Compound Fracture of the Frontal Bone on Left Side, with Laceration of the Dura Mater—Death from Arachnitis over One Hemisphere.

William W., aged forty, a groom, was admitted about 9 a.m. on June 9, 1865. He was carried in, having been kicked by a horse on the left temple. There were two wounds, a triangular one just at the external part of the eyebrow, the other one lower down on the cheek. He was quite conscious, and had no symptoms. About one o'clock he became very much exhausted, pale, and almost insensible. He was reported to have lost much blood before admission, but he had lost none since. He vomited blood soon after he was brought in. 4.30: At present he is in a semi-conscious condition and very restless. He is rather pale; his skin is covered with perspiration; he will not answer questions nor obey any directions as to moving limbs, etc. As far as we can judge from occasional movements, he does not appear to be paralysed in any limb. The left eyelids are swollen and ecchymosed, and he resists any examination of them. Pupil of right eye of moderate size and sluggish. His left ear is full of blood, which, as far as we can ascertain, has trickled down from the wound. He can hear with his left ear. The outer wall of the orbit is comminuted. Several fragments are loose. The finger passes deeply through an irregular opening into the cavity of the cranium. His pulse is 48 in the minute, very deliberate, and somewhat unequal. I removed some considerable fragments of loose bone.

10th.—He has equal power in the two hands, and can grasp firmly. He says he feels equally in the two feet. The temperature appears equal on the two sides.

Yesterday evening he was very low, and for some hours was almost unconscious. Through the day, to-day, he has been rational, but restless; answers questions put to him, puts out his tongue, etc. He has repeatedly slept for short periods, a quarter to half an hour, but during the night he was generally restless. As present his scalp is fairly cool; pulse deliberate, regular, 56 in the minute. His hands also are cool. He denies all knowledge of the accident, and says he is quite well. Says he has "a little pain in his head, but nothing out of the way." He says he had "a dreadful blow," but does not know what caused it. He evidently hears better with his right than his left ear. There was no bleeding after the operation yesterday.

There is no proof that the dura mater is lacerated. Sensibility returned about twelve hours after the operation.

11th.—Yesterday morning he had a rigor, and another in the evening; a third this morning about seven o'clock, and a fourth about eleven o'clock.

12th.—When the right arm is pricked he moves the left. He cannot move the right arm. Yesterday he could move the right arm and move his feet equally; now he can only move the right toes slightly. When the right side of his face is pricked he moves the left arm, not the right one. The right pupil is more dilated than it was. The paralysis seems to affect the fifth nerve as well as those of the extremities. The left leg is decidedly hotter than the right one. Skin hot and dry. Pulse weak and fluttering, 120 to 140 in the minute. He lies with his mouth open, and is quite unconscious; face dusky; his left ear, which is exposed, is cool; capillary circulation feeble; there is no relative increase of temperature in either of his extremities. There is no congestion of the conjunctiva it is white and quite pale.

He died the same day. At the autopsy we found that the dura mater had been lacerated, and that acute arachnitis had occurred. The layers of arachnoid membrane were everywhere covered with lymph. The calvaria is now in the London Hospital museum.

To these cases I will add a table giving the particulars of six examples of direct traumatic arachnitis. One of them, I regret to say is incomplete as regards the paralysis.

I have related the six cases given in the appended table as those best illustrating uncomplicated and acute traumatic arachnitis. Many other cases occur in my note-books, in which arachnitis was present. A second group I have collected in which the arachnitis occurred in connexion with inflammation of bone and with pyæmia. I have carefully excluded cases of this kind from the present list, because the existence of pyæmia introduces a most important complication of the symptoms. I may, nevertheless, appeal to the pyæmic arachnitis series for additional evidence in support of one of the conclusions deduced from the present one—viz., that arachnitis causes hemiplegia.

Although the six cases now grouped together present considerable differences in some respects, yet they coincide remarkably in others.

In only one case did rigors occur at any stage of the inflammation. In three out of the six there was no material headache. In one, however, the headache was intense. In all the cases but one convulsions or convulsive spasms occurred, and in four of them paralysis of the limbs and side of face opposite to the inflamed hemisphere occurred. In one case in which local paralysis was not noticed the patient died within seventy-two hours of his injury, and in the first attack of convulsions. In this instance the arachnitis was symmetrical and universal, and thus no local paralysis could well have been produced. One case (Case 2) was not under my own observation, and we have no note as to whether paralysis was present or not. In only one case was vomiting at all a prominent symptom. In only one case was the delirium violent; in others it assumed a restless type and alternated with periods of perfect consciousness. In the most typical of them all the patient was conscious and quite rational on the day on which he died, and scarcely considered himself ill. Considerable heat of skin occurred in all, but in two of them this symptom varied very much at different times.

In four cases the pupils did not present any noticeable peculiarities. In the fifth they became dilated and fixed at an early stage.

In no case did squinting occur. None of the patients passed into a state of insensibility or coma. Four of them died in convulsions.

In this form of arachnitis the symptoms usually commence very quickly after the accident, and death ensues within a short time. Two of our patients lived nine days, one five days, one four days, and the other only seventy-two hours. In the last both hemispheres were involved.

When convulsions take place they appear to exercise a most marked influence in exhausting the patient's strength, and always occasion great acceleration of the pulse.

ORIGINAL COMMUNICATIONS.

DO CERTAIN OCCUPATIONS PRODUCE SKIN DISEASE?

By BALMANNO SQUIRE, M.B. Lond.,
Surgeon to the British Hospital for Diseases of the Skin.

THE statistics, the results of which are given below, have been collected by me from the registers of the East and West Branches of the British Hospital for Diseases of the Skin—the one branch being situated in Finsbury-square, and the other in Great Marlborough-street. These two registers have always been very carefully kept, and have furnished in about equal proportions the results which are here given. It is of some importance to bear this in mind, because the localisation of certain industries in different parts of London would constitute a source of error in an inquiry of this kind, which it would be impossible to avoid if the data were derived from the records of any institution possessing a single focus only of operation, since the immediate neighbourhood of any hospital always furnishes it with a larger proportionate number of patients than any district of equal extent situated beyond. Taken from this very necessary point of view, I believe the materials I have at my disposal afford probably a unique opportunity for arriving at a solution of the question I have endeavoured to investigate, since the two branches of the hospital, placed widely apart, are situated in neighbourhoods differing very considerably from one another in character. In order to collect a sufficient mass of materials to afford such an average as might be relied on as a constant average, I have gone through the whole of the materials afforded by the registers of the past five years, omitting only the entries referring to children under twelve years of age.

The results given below are obtained by dividing the number of persons engaged in each occupation in London, as ascertained by the census of the metropolis taken in 1871, by the number of patients of each occupation respectively that attended the hospital at the two branches collectively during the past five years. The results thus afforded of course show only the comparative liability to skin disease of the several occupations The absolute liability of course could only be ascertained by the hypothetical expedient of examining in detail the whole population of London on the night of the census. The results are given separately for males and females as a more convenient method of arrangement, inasmuch as many occupations are followed exclusively by males, and many others exclusively by females. A mean of liability by which each of the two tables may be absolutely gauged, is arrived at by dividing the total number of the male population of London by the total number of males attending the hospital during the past five years. This process gives a mean average liability in the case of males, as applied to these tables, of 1 in 70. The same process applied to the case of females gives a mean liability of 1 in 100. The occupations in each of the two tables are not stated in alphabetical order, but, as will be seen, in the order of comparative liability to skin disease. Consequently, in the table of occupations of males all those occupations which precede the figure "70" in the column of figures come out as specially predisposing to skin disease in the order of precedence here given them, whereas all the remaining occupations stated in that table appear as specially exempting from skin disease in inverse order to the order of precedence here assigned to them. So, again, in the table of occupations of females, with regard to occupations respectively above or below the figure "103" in the table.

COMPARATIVE LIABILITY TO SKIN DISEASE.

Occupations of Males (Five Years' Statistics.)

Leather cutters	1 in 7	Cabinet makers and upholsterers	1 in 36	Tailors	1 in 50
Weavers	„ 14	Engine drivers	„ 36	Jewellers	„ 51
Dyers	„ 16	Railway servants	„ 36	Printers	„ 52
Gardeners	„ 20	Stonecutters	„ 37	Mast makers	„ 54
Cellarmen	„ 22	Turners	„ 38	Masons	„ 55
School teachers	„ 23	Bookbinders	„ 39	Bakers	„ 56
Paperhangers	„ 26	Travellers	„ 44	Carpenters	„ 60
Warehousemen	„ 28	Gasfitters	„ 47	Grocers	„ 60
Clerks	„ 31	Harness makers	„ 49	Musicians	„ 61
Carvers and gilders	„ 33	Brass workers	„ 50	Umbrella makers	„ 61
Wood carvers	„ 33	Coopers	1 in 89	Hairdressers	„ 62
		Gun makers	„ 90	Smiths	„ 62
		Coachmen	„ 91	Chairmakers	„ 64
		Watchmakers	„ 92	Postmen	„ 64
		Confectioners	„ 93	Tanners	„ 70
		Hatters	„ 93	Brush makers	„ 71
		Labourers	„ 95	Porters	„ 71
		Brewers' servants	„ 107	Cabmen	„ 73
		Domestic servants	„ 109	Cigar makers	„ 75
		Police	„ 114	Engineers	„ 79
		Bootmakers	„ 114	Painters	„ 82
		Cork cutters	„ 124	Wheelwrights	„ 83
		Iron workers	„ 124	Opticians	„ 84
		Plasterers	„ 124	Barmen	„ 85
		Soldiers and sailors	„ 125	Coopers	1 in 89
		Dairymen	„ 133	Gun makers	„ 90
		Butchers	„ 135	Coachmen	„ 91
		Bricklayers	„ 165	Watchmakers	„ 92
		Carmen	„ 191	Confectioners	„ 93
		Builders	„ 202	Hatters	„ 93
		Shipworkers	„ 283	Labourers	„ 95
		Costermongers	„ 324	Brewers' servants	„ 107
		Artists	„ 550	Domestic servants	„ 109
		Plumbers	„ 702	Police	„ 114

Occupations of Females (Five Years' Statistics).

Box makers	1 in 32	Tailoresses	1 in 91
Needlewomen, shirt makers, and sewing machinists	„ 36	Charwomen	„ 103
		Milliners and dressmakers	„ 119
Fur workers	„ 39	Artificial flowermakers	„ 126
Schoolmistresses and teachers	„ 68	Cooks	„ 129
		Domestic servants	„ 136
Bookfolders	„ 75	Nurses	„ 192
Cap makers	„ 83	Laundresses	„ 231

The investigation was undertaken with the view of ascertaining, in a more comprehensive and precise manner than (as I believe) has been yet attempted, whether the prevailing professional opinion that certain particular occupations were special predisposing causes of skin disease was founded on mere *à priori* deduction, or was based on the surer foundation of matters of fact. I desired to see how the occupations of dyer, of grocer, or of baker, to each of which callings a special predisposition to skin disease is commonly imputed, would come out in such a list, and generally how such occupations as may be supposed to exercise a specially irritant effect on the skin would range themselves amongst the other occupations to which no such effect can be imputed.

As to this, my figures, on which I am disposed to place some general reliance, speak for themselves, without requiring any comment in detail on my part. I will content myself with saying generally that while as to some occupations they support in some measure the views commonly held, it will be seen that as to some other occupations they fail very decidedly to do so. They are, indeed, altogether much less satisfactory, in pointing with desirable decision either one way or the other, than they probably would have been had I been actuated (even with the greatest desire on my part to avoid bias) by any special bias in compiling them; but, as it happened, I was quite undecided on the question, and undertook the task simply to resolve my indecision.

In speaking of myself as having been undecided as to whether the avocations in question were predisposing causes of skin disease, I do not for a moment desire to convey that I ever thought they were otherwise than very material aggravators of many common forms of skin disease when those have once been fairly established, possibly by the influence of other, if less evident, agencies. Long and ample experience has sufficiently satisfied me as to this.

The point that I ventured to think unproved is this—Are these occupations, or are they not, harmful to the skin of such persons as do not already (from the influence of other causes, of whatever kind) present so special an inclination to cutaneous disease as to make it a matter of indifference as regards the *causation* of such disease what occupation they have followed? The reply to such a question is by no means settled by the admission I have only just freely made; for there is a wide difference between the behaviour of sound and of raw skin in respect of moderate irritants applied to it, and that equally whether the irritant be, as in the case of some occupations of a mechanical, or as in others of a purely chemical kind.

To put a case. Let the moderate irritant be a mechanical one

—namely, the irritation of constant moderate friction,—and let the portion of skin involved be that of the heel. Moderate constant friction, such as that of a well-fitting boot, against the heel, when fair walking exercise is taken, simply hardens the skin—not always *palpably*, but certainly always evidently; but let the skin of the heel once become abraded, *then*, unless the heel be either rested or else duly protected from the friction of the boot, the sore will get from worse to worse.

What may be said as to this of mechanical irritants applies equally to chemical ones. *This* I am enabled confidently to assert from a pretty extensive experience of the action on my own fingers of various irritant or corrosive liquids that I have had to apply.

PRACTICE OF PHYSIC IN SMYRNA.

By JAMES M'CRAITH, M.D., F.R.C.S.,
Surgeon, British Hospital, Smyrna.

Midwifery.

There is a difficulty which in my many years' practice I have met on four occasions. As my experience in this branch is not very extensive, this difficulty must present itself much more frequently to those of my colleagues who make this their chief practice. Yet I do not find it laid down in any of the special treatises on parturition. Being called on yesterday to a case, in which this special difficulty was met with, I will give some details, which may rest in the memory better in this form, and better explain the matter, than any general observations could do.

I was called in yesterday (March 10) to see a patient in labour, by Dr. Cossoni, of this city. The patient was about forty years of age, and had already given birth to six children, but for the last six years had not been pregnant. Dr. Cossoni believed that he had changed a back presentation into the present one by manipulating with his finger. However this may be, I found a head presentation—the head not quite descended into the cavity of the pelvis, and having apparently room enough; but as she had been in strong pains for three or four hours, though some progress had been made even in that time, as Dr. Cossoni admitted, he had provided his forceps, and was anxious to apply them. The waters had escaped gradually in the beginning of the labour, some twelve hours previously. I made the remark that the bones of the head were overlapping more than the pressure explained, and I suspected all was not right with the fœtus. I therefore declined to apply the forceps immediately, and arranged to see our patient again in three hours, when we might act, if it should appear necessary. This was agreed upon. Some two hours afterwards I was called on, and found that the labour advanced steadily, and that the head was born some one and a half hours after my departure, but neither Dr. Cossoni nor the midwife could free the body. I immediately recognised the difficulty: the left shoulder was hooked, as it were, by the acromion process on to the os pubis. The child being dead, there was no need of hurry, so I proceeded leisurely. The child had been dead for the last week or ten days, as afterwards appeared, though the mother insisted it was living, and that she felt it during the day. Simple traction in this case is useless; you will separate the head from the trunk, but you will not, by traction, free the shoulder. If present when the accident has happened, or is threatening, you can easily obviate it, before the uterus has contracted firmly on the fœtus, by passing one hand before and another behind as far as you can. In a well-shaped patient this is not difficult. You must, in fact, get the best "purchase" (in sailor phrase) on the body of the infant that you can, and so force the turn of the shoulders which takes place in the natural process. By forcing back the body as much as you safely can, you will facilitate the "unhooking" of the shoulder from the os pubis, which is your object. In this case the manœuvre was difficult, as the uterus was firmly contracted on the body of the child. However, I slipped down the right arm, when I had more power over the body; and then, by forcing as much as I could with safety the body of the infant back, as it were, into the uterus, and using the shoulder as a moving power in turning the body, so as to unhook the left shoulder from the os pubis, I succeeded in freeing the shoulder, and making the turning, when of course the delivery followed immediately. The cord had a shrivelled appearance, and the after-birth a shrunken feel, not plump and full of blood as natural to it. The cuticle was peeled off the abdomen and sides of the fœtus, which had evidently been dead for some ten or more days. It was born at term. I then learned that all her children had perished in a similar manner (not by the shoulder difficulty). The father at the time of his marriage had some form of venereal disease, which it would appear had been communicated to the wife; but they had been quickly cured, and since then—twelve or fifteen years—neither had shown any symptoms of the disease. Still all her children had perished as this one, and not one was born alive. She and he had undergone various treatment. I advised a course of mercury,—mild, but continued for some time.

My experience of this peculiar accident is the following:—When a student, before I had passed my examination, living in the country, I was called on to all the difficult cases in the neighbourhood. The dispensary physician, Dr. Furlong, an old practitioner, had charge of an immense district, at one extremity of which he lived, and I happened to live at the other. I accompanied him once to a difficult case in our neighbourhood, when he told me to act, and after I had done so to his satisfaction he said, "Now, don't call me to any case where you see your way, and I will be responsible for all you do; call me only in case of necessity." Shortly after I was called to a case, where I found the head born for many hours. I had to ride five or six miles to it, and I found great difficulty in delivering the woman. I did not understand the case; still, on thinking over it, I came to a pretty clear idea of the difficulty. The second case I saw shortly after settling here in Smyrna. I was taken by an Armenian gentleman to see a poor countrywoman of his in labour. I found two of my colleagues—the late Dr. Wood and Dr. Matheys—had come before me. I do not remember if any attempts at delivery had been made by either, but the case was yielded to me. I found the head had been born for twenty-four hours, and was attached to the trunk only by the soft parts. The midwife, I believe, by pulling at its head, achieved this feat. The weather was excessively hot, in June, and the fœtus was much decomposed. The unfortunate mother was very well shaped, with a capacious pelvis. I easily succeeded in passing one hand at the back and another at the heart of the fœtus, and speedily delivered my patient. The difficulty was that the acromion process had got hooked on the os pubis. My next case was a Jewish woman; she had lost two children previously in the same way. I attended her in a succeeding confinement, and saved the child. I could, however, see that had I not been present she would have lost the child. I attended, on three successive occasions, a lady the wife of an Englishman here, in whom on each occasion the same difficulty threatened, and I warned the husband and friends to explain the difficulty to any medical man who might have to attend her, in case I should not be able to attend in any succeeding confinement. As it happened, I was going to a neighbouring village to attend this same lady (it was summer, and they had gone, as everyone else had done who could afford it, to pass the hot months in this village), when I was seized by robbers, and carried to the mountains. The same difficulty arose, and the child's head was born, but the delivery could not be effected for some hours, and of course the child was lost. The case detailed at the commencement of this paper is the last I have seen. Unless very quickly recognised and remedied, the child must inevitably perish. The cause is not want of room for the shoulders to make the turn, and adapt themselves to the transverse diameter of the upper aperture, as all my patients were well and fully shaped, the head giving no difficulty; but, as I am convinced, the hooking of the acromion process on to the anterior edge of the os pubis. I don't find any account of such an accident in any author to which I can have access here.

P.S.—Curious midwifery facts happen in this country, as they do even in England. I was called to a case some few years since; on arrival I found my patient evidently dying. On inquiring of a midwife in attendance, I found that the child was born naturally, but she added, "See what has come away from her." I found the entire womb, with the contained placenta, attached by a few fibres of the upper part of vagina, lying outside her person, between her thighs. It appears the after-birth had not come away quickly: the ignorant midwife had pulled at the cord, and, finding that it did not still descend, with a pair of scissors she most neatly performed "extirpation of the womb." The broad ligament and Fallopian tubes, with lateral ligaments, were divided close to the body of the uterus, and the organ literally extirpated, with the placenta still contained and attached, and the cord hanging from it. Of

course the unfortunate woman died a few minutes after my arrival. She was the mother of nine living children. I with difficulty saved the midwife from the vengeance of the unfortunate husband and others present in the house. I conducted her to her own house; she fainted on the doorsteps of the houses as we went along, two or three times. The husband and others of her friends came the following day to offer me money if I would give another colour to the affair, but I protected her only on condition that she would never again attend another confinement. She was so affected that she died in a few months of paralysis. Thinking that possibly some of my colleagues would doubt the possibility of such an operation, performed by an ignorant woman with a scissors, I enveloped the organ as it was in a handkerchief, and brought it away with me. I have it still, as a specimen preserved in a bottle. As I had anticipated, many of my colleagues the following day did not believe me, until, like St. Thomas, they examined and passed their fingers into the organ, and found the placenta still adherent.

REPORTS OF HOSPITAL PRACTICE
IN
MEDICINE AND SURGERY.

NORTH-EASTERN HOSPITAL FOR CHILDREN.

CASES ILLUSTRATING THE USE OF THE PNEUMATIC ASPIRATOR.

For the notes of the following cases we are indebted to the House-Surgeon, Mr. Thomas Burtonshaw.

Case 1.—*Empyema—Paracentesis on two occasions—Recovery.*
(Under the care of Dr. CAYLEY.)

Robert B., aged ten years, was admitted under the care of Dr. Cayley on January 21, 1875, with the following history:—He caught cold three months ago, which was accompanied by a stabbing pain in the left side. Since that time he has got thinner. He has shivered almost every day, both whilst in bed and when up. This was followed by sweating. He has also had a bad cough.

State on Admission.—Considerable dyspnœa. The left side of the chest was larger than the right, and moved less on inspiration. The intercostal spaces were slightly bulging. The apex of the heart was seen to be beating below the right nipple. The left chest was uniformly dull from apex to base, and the breath-sounds were inaudible. There was also diminished vocal resonance. The right chest was hyperresonant, and the breath-sounds were exaggerated.

January 22.—Paracentesis performed. The first puncture was made in a line with the angle of the scapula; nothing but a small quantity of blood flowed. A second puncture was then made in the axilla, and half a pint of thick yellowish-green pus was withdrawn. He coughed a good deal as the pus was escaping.

23rd.—Pulse 108; respirations 30; temperature 99·8°. Has slept well; complains of no pain; cough better; left chest resonant; breath-sounds audible, but feeble; apex of heart occupies normal position; slight dry râles heard at left apex behind.

26th.—Left chest dull; breath-sounds almost inaudible; heart beats to right of sternum.

29th.—A prominent fluctuating swelling is seen below left nipple. Paracentesis performed near previous puncture in axilla; ten ounces of turbid pus were drawn off. A pint of water at 100° mixed with one drachm of tincture of iodine was then injected and withdrawn. The fluctuating swelling was then opened with a scalpel, and some thick pus escaped. There did not appear to be a free communication with the pleural cavity, as the solution of iodine did not escape when injected into the other opening. After the operation the breathing was heard all over the front of the chest.

February 2.—Chest resonant behind as high as spine of scapula; in front dull above nipple level. Vesicular breathing heard all over back of chest. In front, above nipple, breath-sounds scarcely audible; apex of heart beats in epigastrium. Three ounces of pus drawn off through the opening in front by the aspirator. The chest was then washed out with a solution of tinct. iod. (℥j. ad ℥x.). This was repeated daily. The opening being valvular, no air entered the chest.

12th.—Pulsation of heart could be felt below and a little to the right of left nipple. The left side of the chest was resonant everywhere in front, and the note was somewhat tympanitic. Breathing in front and in axilla feeble, and attended with some crackling sounds. Breathing behind was also feeble, and attended by crepitation. Left side of chest falling in, especially behind. Opening in front quite closed. Daily injections of iodine and water discontinued. General health good.

23rd.—Apex of heart in normal position. Slight flattening of left chest; percussion less resonant than on other side, but not dull; breath-sounds still feeble. Has lately gained flesh. General health good.

26th.—Discharged, cured.

Case 2.—*Empyema—Aspiration—Recovery.*
(Under the care of Dr. SANSOM.)

Ferdinand F., aged eleven months, was admitted on February 20, 1875, under the care of Dr. Sansom. He had measles two months ago; subsequently cough, sickness, and diarrhœa.

On admission, the right side of the chest was found to be larger than the left, and it moved less during inspiration. On percussion, there was complete dulness from the clavicle downwards. The breath-sounds were quite absent; the heart was slightly displaced to the left; on the left side there was increased resonance on percussion, and harsh breathing. Cyrtometer showed an increase in size of the right chest. Paracentesis was performed in the axilla. About six ounces of very thick purulent non-fetid fluid were withdrawn.

February 24.—The right side of the chest measured from a half to three-quarters of an inch less than the left down to nipple line, but below this point it was half an inch larger.

27th.—Percussion note slightly diminished all over right chest, but nowhere dull. Breath-sounds heard throughout—feebly over the base, somewhat bronchial over the upper lobe. General condition good. Evidence of remaining fluid very slight.

March 3.—Right chest resonance as before, or rather increased. Below nipple tubular breathing was heard; above this line some mucous râles. Breath-sounds heard generally, but feebly, over the right lung. The child was discharged from the hospital, but requested to be brought to be treated as an out-patient.

11th.—The right chest-wall had become retracted, and measured eight inches, as against nine inches on the left.

17th.—A small quantity of pus was expectorated. Although the whole right chest continued to manifest impaired resonance, the breath-sounds could be heard throughout, and the child continued steadily to improve.

Case 3.—*Empyema—Paracentesis—Recovery.*
(Under the care of Dr. CAYLEY.)

Wm. R., aged eight years, was admitted as an in-patient on March 16, 1875, under the care of Dr. Cayley. Nine weeks ago the child came as an out-patient with stomatitis. This got well in three days; but he caught cold, and suffered with slight cough and dyspnœa, and has been losing flesh fast. The last three days has had diarrhœa. Previous health good.

State on Admission.—Much emaciated. Frequent hacking cough. Pulse 136; respirations 45. In front of chest on left side there was comparative dulness above nipple line, complete dulness below. There was also comparative dulness on back of left chest. On right side percussion normal. On left side in front moist and dry râles were audible; behind, breath-sounds scarcely perceptible. On right side breath-sounds were normal. Apex of heart was distinctly felt in epigastrium.

March 19.—Paracentesis was performed with pneumatic aspirator. First two punctures, nothing came; with the third two ounces and a half of thick pus without odour were withdrawn. The chest was resonant after the operation, and the breathing was audible.

April 2.—Dulness now confined to extreme base of left lung. Breathing over this side uniformly feeble behind, and quite inaudible at base.

6th.—There was now fair resonance over the base of left lung, and the breathing was audible, though feeble. General health improved. Child still thin.

7th.—Discharged, cured.

Case 4.—*Pleurisy—Paracentesis—Evacuation of twenty-three ounces of Serum—Recovery.*
(Under the care of Dr. CAYLEY.)

Martha E., aged eleven years, was brought as an out-patient

on April 6, 1875, under the care of Dr. Cayley. She had been ill three days. Previous health good. Complained of catching pain in left side, and there was considerable dyspnœa. Tongue coated; skin hot. On the left side there was dulness on percussion from the base of the lung as high as the middle of the scapula, extending round to the axilla and the lower part of the chest in front. There was slight ægophony.

April 13.—Admitted. Pulse 130; respirations 56; temperature 103·2°. Well nourished; cheeks flushed; tongue clean and moist; appetite bad; absolute dulness over the whole of left side of chest. Heart displaced to the right; apex more distinctly felt to right of middle line. Over dull side feeble tubular breathing everywhere audible, and bronchophony; vocal vibration diminished. Right side normal.

Paracentesis was performed with the aspirator, and twenty-three ounces of opalescent serum were drawn off. After the operation the left side was resonant from the apex to the base, and the heart had returned to its normal position.

16th.—Resonance in front normal on left side; apex of heart beats in normal position; comparative, but not absolute, dulness over left back, more marked at base; breathing everywhere audible, but feebler than on right side. Can lie on both sides.

20th.—A friction sound audible in front, just below the left nipple.

23rd.—Dulness at left base less marked; friction sound continues; general health improved.

27th.—Resonance now normal on left side, except slight dulness at extreme base. With the exception of slight crackling in axilla, the breath-sounds normal.

30th.—Left side now everywhere resonant, but less so at the base than the opposite lung. Vesicular breathing audible down to the base, but feebler than on right side; crackling still audible in axilla. General health very good, with the exception of a slight cough. Discharged, cured.

This case shows that paracentesis may be performed with advantage during the acute stage of the disease, before the febrile symptoms have subsided.

ST. THOMAS'S HOSPITAL.

CASE OF MYELOID SARCOMA OF THE SEPTUM NASI—SEVERAL OPERATIONS—GOOD RESULT.

(Under the care of Mr. FRANCIS MASON.)

C. H., aged sixty, was admitted into Albert ward on September 15, 1874. The patient was a pale, unhealthy-looking man, and stated that, although he could never boast of robust health, yet he was fairly well until the previous April, when he had a profuse hæmorrhage from the left nostril, which was arrested by plugging the posterior nares. He thinks he lost quite a pint and a half of blood on that occasion. Soon after there appeared a growth in the nostril, and an attempt was made at a metropolitan hospital to remove it with the ordinary polypus forceps through the anterior nares; but the bleeding was so free that the operation was abandoned.

When Mr. Mason examined the patient the left nostril was found completely blocked up with a black-looking mass, which distended the left ala considerably. The growth was highly vascular, and any exertion on the part of the patient caused hæmorrhage, which would last for several hours. It was evidently attached to or connected with the septum of the nose, the outer wall of the nasal cavity being free from disease.

September 19.—Mr. Mason removed (without chloroform) as much as possible of the growth through the nostril with a polypus forceps, and the nasal cavity seemed quite clear after the operation. A microscopic examination showed the tumour to be a myeloid sarcoma. The patient expressed himself as being greatly relieved, and progressed satisfactorily until September 26, when the nostril became again obstructed. He was watched for a time, and as the growth appeared to be extending rapidly, Mr. Mason determined to make a further attempt to extirpate it. Accordingly, on October 14, the patient was placed under the influence of chloroform, and an incision made down the side of the nostril, and the ala raised. A piece of the nasal process of the superior maxilla was removed with cutting forceps, and the tumour being found attached only to the septum, every particle was, as far as possible, carefully dissected away. The raw surface was then saturated with a solution of chloride of zinc (forty grains to the ounce), and the wound brought together with silk sutures. No dressing of any kind was applied.

On October 16 the stitches were removed, and the wound had healed by immediate union.

On October 23 he was discharged, much relieved.

As was anticipated, the patient presented himself again on December 22, when the tumour was found to have increased greatly in size, being much larger than it ever had been. The case was not promising for further operative procedure, but the patient was extremely anxious to have something done to get rid of the disease, which he said rendered his life miserable. Therefore, on January 6, Mr. Mason again operated under chloroform, by opening up the nostril, carrying the knife in the line of cicatrix left by the previous operation. The growth now not only filled the nasal cavity, but also infiltrated the neighbouring hard and soft textures. In order to effect the complete removal of the tumour, the knife was carried through the upper lip in the middle line, and the cheek with the nostril was dissected back. It was necessary to excise a portion of the inner surface of the upper lip, as the disease had invaded this part. The operation was completed by bringing together the lip with two harelip pins, and uniting the nostrils with silk sutures.

The patient made a remarkably rapid recovery, for on January 9 the harelip pins and the stitches were removed, and on January 11 he was up and well, and on January 14 he was discharged to go to a convalescent home.

On April 12, 1875, he called at the hospital to show himself to Mr. Mason, and there was then no indication of the return of the disease. He looked fatter and much improved in general health.

Remarks.—In referring to this case Mr. Mason observed that it was one of the most unsatisfactory the surgeon had to deal with. The tumour was of rapid growth, and was evidently of a malignant nature; yet, as the microscope revealed, it was not cancerous. The malignancy of the growth seemed limited to its local reproduction after operation. The neighbouring lymphatic glands were not invaded, and, as far as could be ascertained, there were no similar growths in any other tissue. It was a case in which complete extirpation was, if difficult, yet possible; and, contrasted with cancer, there was more hope of permanent relief after operation. The infiltration of the neighbouring lymphatics and the secondary growths in distant organs were common in cancer, but were also occasionally met with in myeloid sarcoma. In removing tumours from the nares, hæmorrhage was often very free, but as a rule it ceased, as in this case, spontaneously—neither torsion nor the application of a ligature or the actual cautery being required.

London Anthropological Society.—At a meeting of this Society on the 14th inst., Dr. Charnock, F.S.A., President, in the chair, there was an adjourned discussion on the "Lost Tribes, where are they?" by Groom Napier, Esq. The Revs. Canon Titcomb, G. Grimaldi, G. Tipper, Professor Leitner, Drs. Carter Blake and J. Kaines, Messrs. H. B. Churchill, Spencer, Tucker, Francisque Michel, Kirwan Browne, A. L. Lewis, and the President joined in the discussion.

School for Ricketty Children.—At the beginning of this year a school was opened at Milan for the benefit of children suffering from rickets. A flesh diet, "reconstituents," gymnastics, spirometry, hydropathy, and orthopædia are the means that have been resorted to with great success for improving the children's health, and their education is then pursued under the best masters, choral singing being found a principal means. The intellect of the subjects of this disease is often well developed, and they learn readily. Among the "reconstituents," that which has been found of most use is powdered bone given in milk.—*Annali Universali*, April.

Bad News for Vichy.—According to a note read to the Académie des Sciences from Prof. Claude Bernard, the waters of Vichy are most useful to persons who have little or nothing the matter with them. He says that, as the results of his examination of numerous clinical observations as well as of his experiments on animals, if the person taking these waters is in a normal physiological condition, or at least if he is not the subject of any organic lesion, their action is strengthening, the globules of the blood being increased. But they induce anæmia, and notably impoverish the blood when the person taking them is in more or less of a pathological condition, and especially if he is the subject of an organic lesion of any kind whatever.—*L'Institut*, May 5.

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Medical Times and Gazette.

SATURDAY, MAY 22, 1875.

BILLS BEFORE PARLIAMENT.

When the House of Commons again, on Thursday, the 13th, went into Committee on the Food and Drugs Bill, a long discussion took place on Clause 24, which provides that the defendant in any prosecution under the Act shall be discharged if he prove that he bought the article in question in the same state as sold, and with a warranty. A great effort was made to get the requirement of a warranty omitted, but Mr. Sclater-Booth insisted on this being retained as essential to the principle of the Bill; he, however, moved an amendment providing that "the defendant shall be liable to pay the costs incurred by the prosecution unless he shall have given due notice to him that he will admit at the hearing the matters charged against him in the information"; and this amendment was agreed to. Mr. Sandford said that under the clause as it stood the interests of the consuming public were not at all consulted: the retail dealer was protected, and the wholesale dealers, "the chief sinners in the matter of adulteration," escaped altogether; and he moved that power be given to the justices, in case of the discharge of the defendant, to summon before them the person who had given the warranty. Mr. Sclater-Booth objected, however, that it would be impossible to know who was to prosecute; and said that he could not assent to the amendment unless this was placed beyond doubt. In the end the amendment was withdrawn, on the understanding that it might be brought up in an amended form on the report; and the clause was passed. Some verbal amendments were made in the penalty clauses, and the words "not exceeding," giving the magistrates the power of mitigating the penalties, are to be introduced. Some amendments on Clause 29, containing "special provisions as to tea," were proposed, but were all negatived or withdrawn. The Lord Advocate and Sir M. Hicks-Beach moved that new clauses be added regulating the application of the Bill to Scotland and Ireland; and this having been done, the Bill as amended was ordered to be reported to the House. It has been somewhat improved and strengthened in Committee, but it certainly still remains what it was at first—a Bill drawn in the interests of the traders rather than of the public.

We will also notice shortly here two Bills just introduced into Parliament, which are not Government measures,—viz. the "Vivisection Act, 1875," brought by Lord Henniker into the House of Lords; and the Experiments on Animals Bill brought into the House of Commons by Dr. Lyon Playfair, Mr. Spencer Walpole, and Mr. Evelyn Ashley. We take liberty to doubt if it is altogether wise to attempt to legislate at all on the subject dealt with by these Bills, and we cannot think that either the House of Lords or the House of Commons in committee is by any means a fitting body to judge of the scope and details of a measure on such a matter. But though undoubtedly the movement against what is popularly called vivisection has in the main been caused by the ignorant and silly, or intentionally exaggerated, and sensational writings and declaimings of noisy agitators, still their statements have excited genuine horror and dismay in the minds of many excellent, though not very wise or broadly educated, people. It is undeniable, too, that the practice of physiological and anatomical experimentation *may* be carelessly employed, or carried to an undue and unjustifiable extent; and a belief that this not only may, but does happen, finds some ground in the unrefuted charges lately made against a Continental experimenter. It has therefore perhaps become necessary that some attempt should be made to place legal restrictions on the employment of experiments on living animals; and no genuine searcher after knowledge and truth will object to this being done, so long as it is done with understanding. But we shall object most strongly to any real difficulties being placed, in obedience to ignorant clamour and prejudice, in the way of men who, in a right and true spirit, are seeking to improve and extend medical science, and so benefit suffering humanity, though at the expense of suffering to animals. Attention has been called lately to the immense amount of cruelty to animals practised without thought or care in our midst, and overlooked by those who are so noisily attacking physiologists and anatomists, and to the cruel and utterly unjustifiable sports that are followed in this country; but two blacks do not make a white, and we do not care to allude to these matters save so far as to say, with all reverence, that we have the highest authority for asking that those who would cast stones at us for cruelty should see that they are themselves without sin in the matter.

Lord Henniker's Bill is intituled, "An Act for Regulating the Practice of Vivisection," and proposes to enact that, after January 1 next, vivisection shall only be practised in places duly registered, and upon notice given to the Secretary of State, or in Ireland to the Chief Secretary, such notice to be signed by a member of some college of physicians or surgeons. Any inspector of anatomy may at any time visit and inspect a registered place. Anæsthetics are to be employed for the purposes of vivisection, unless a special licence has been obtained from the Secretary of State or Chief Secretary, such licence to cost £10, and to continue in force only six months. The penalty for an offence against the Act not to exceed £20. And vivisection is defined as meaning the "cutting or wounding, or treating with galvanism or other appliances, any living vertebrate animal for purposes of physiological research or demonstration; also the artificial production in any living vertebrate animal of painful disease for purposes of physiological research or demonstration." Putting aside for the time all other objections to this Bill, we think strong objection may be made to the legalisation of the term "vivisection." It is not used by us, and has been hurled at us as a term of special opprobrium and abuse.

Dr. Lyon Playfair's Bill is "a Bill to prevent abuse and cruelty in experiments on animals made for the purposes of scientific

discovery," and proposes to enact that painful experiments on living animals shall, notwithstanding all existing enactments to the contrary, be permissible on the following conditions:—"That the animal shall first have been made insensible by the administration of anæsthetics or otherwise, and shall continue to be insensible during the whole of such experiment; and that if the nature of the experiment be such as to seriously injure the animal, so as to cause to it after-suffering, the animal shall be killed immediately on the termination of the experiment." Also that painful experiments may be made without the use of anæsthetics under the following conditions:—"That the experiment is made for the purpose of new scientific discovery, and for no other purpose; that insensibility cannot be produced without necessarily frustrating the object of the experiment; and that the animal shall not be subjected to any pain which is not necessary for the purpose of the experiment; that the experiment be brought to an end as soon as practicable; that if the nature of the experiment be such as to seriously injure the animal, so as to cause to it after-suffering, the animal shall be killed immediately on the termination of the experiment; and that a register of all experiments made without the use of anæsthetics shall be duly kept, and be returned in such form and at such times as one of her Majesty's principal Secretaries of State may direct." It proposes, also, to empower her Majesty's principal Secretaries of State to grant licences to persons producing a certificate signed by at least one of the following persons:—The President of the Royal Society; the Presidents of the Royal College of Surgeons or of Physicians in London, Edinburgh, or Dublin; and also by a professor of physiology, medicine, or anatomy in some university in Great Britain, or recognised by the Colleges of Surgeons or Physicians aforesaid. But such a certificate is not to be required if the applicant is a professor or lecturer of or in physiology, medicine, anatomy, or surgery in any university in Great Britain, or in any royal college, or employed by Government; but instead, the application shall be countersigned by the registrar, president, principal, or secretary of such university or college. A Secretary of State may at any time, on cause shown, revoke a licence; but, if not thus revoked, the licence is to last while the holder continues to be a professor or lecturer, or for five years; and the licence extends to assistants.

After the passing of the Bill no person shall, except as it provides, for any purpose whatever, make any painful experiment on any animal. The protection is not confined to the vertebrates. The penalty for an offence against the Act is a fine not exceeding £50, or imprisonment for a term not exceeding three months.

This Bill seems to us vastly superior in every way to Lord Henniker's, and, if either is to become law, we hope Dr. Lyon Playfair's will be the successful one; but, looking at the state of the business before the House of Commons, we should think Bills introduced by private members so late in the session have but little chance of passing this session.

THE GERM THEORY OF DISEASE.

The discussion upon this subject, at the Pathological Society of London, which was opened by an address from Dr. Bastian on April 6, extended over three of the ordinary meetings of the Society.

The opinions entertained by Dr. Bastian have been laid before our readers, and must now be pretty well known to all who take an interest in the subject. So, too, must be the views of Dr. Sanderson, who, having the credit of being one of the promulgators of the germ theory, has, in this debate, taken up a position of extreme philosophic caution, but, while now withholding or waiving any theory of his own, finds it impossible to accept the explanations of Dr. Bastian.

Dr. Maclagan, of Dundee, who commenced the debate after its first adjournment, proclaims himself an advocate of the germ theory. In doing so he repudiates the idea that he is therefore and thereby an opponent of the doctrines of heterogenesis and archebiosis; and further, he accuses Dr. Bastian of doing for the advocates of this theory what they have refused to do for themselves—of making them regard bacteria as having a causal relation to the phenomena of disease.

He then makes the admission that—"If any advocate of the germ theory ever thought that the connexion was causal, he must now give up the idea"; and he adds, in the next sentence, "I for one freely admit the justice of his claim to have established the position that bacteria are pathological products; but I do not on that account abandon the germ theory."

After these statements our curiosity was excited to know what Dr. Maclagan's interpretation of the germ theory really was. Could he be a supporter of Dr. Beale, or were some other known foreign organisms in his opinion the *materies morbi?* Neither alternative is required by Dr. Maclagan's theory, for, according to his view, "the organisms which produce the phenomena of disease are not those which we see and describe as bacteria, *but other, and much more minute organisms. I think,*" he says, "*indeed, it is still an open question, whether true disease-germs have ever been seen. Of their existence we judge by the phenomena to which they give rise.*" So that Dr. Maclagan on one hand explains certain phenomena of disease by supposing the existence of organisms, unseen and unknown (except by these phenomena), but whose composition he describes as albuminous; and, on the other hand, judges of the existence of these organisms by the phenomena to which they are supposed to give rise. We are not in a position to say that Dr. Maclagan's theory is wrong, nor shall we accept his challenge and state that the limits beyond which organised life is impossible have been already determined. Moreover, we agree with him in thinking that "there are more things in heaven and earth than are dreamed of in our philosophy." But there is one thing which is not only dreamt of, but is absolutely recognised as the foundation of all sound philosophy, and that is logical reasoning. By it we are able to avoid fallacies, one of the commonest of which is the *petitio principii.* But if ever there was an instance—and there are hundreds—of an argument in a circle, this theory of Dr. Maclagan's is one. But further, Dr. Maclagan thinks it is supported by a fact which Dr. Bastian says "suffices to complete the discomfiture of the germ theory,"—the fact "that the virulence of certain contagious mixtures diminishes in direct proportion to the increase of bacteria therein." We will quote Dr. Maclagan's own words. He says:—"Now, Dr. Bastian has shown us that the protoplasm of the tissues of epithelial cells and of an amœba undergoes bacterial degeneration. Why may not the protoplasm of contagium particles of disease-producing organisms do the same thing? Their composition is similar, and they are endowed with no special powers by which (at least, in the moist state) they can resist the ordinary tendency of organised material to undergo change. I believe that they do undergo such a change, and that the bacteria which are observed in contagious fluids are formed (in part, at least) from the disintegrating elements of the organisms which give to these fluids their specific properties. This is why the virulence of these fluids diminishes in intensity as organisms appear more abundantly therein; and thus it is that Dr. Bastian's main argument against the germ theory becomes an argument in its favour."

If this be so, Dr. Maclagan has not yet proved it, even from his own point of view; for if the virulence of the fluids diminishes with the formation of bacteria through the disintegration of unseen organisms contained in them, Dr. Maclagan has to explain how the virus of contagious diseases in the fresh state can give rise at one and the same time to both

the contagious disease and to bacteria. Dr. Sanderson must have had a prophetic insight into this ingenious but sophistical speech when he expressed a hope that the Pathological Society would not follow the example of the French Academy, and discuss theories only. Dr. Murchison's arguments with reference to the rest of this speech render it superfluous for us to follow it further.

Dr. Dougall, of Glasgow, is a supporter of the physico-chemical theory, which he thinks interprets more fully and more rationally all the phenomena alleged to be explained by the germ theory. His speech is of interest on account of the facts stated in the early part of it, and also because his opinions are based upon researches the very opposite of those who have studied the development and life-history of bacteria and their allies—viz., upon researches into the conditions fatal to their vitality. He has made, he tells us, several thousands of experiments to test the powers of different bodies in preventing the appearance of these organisms in the animal solutions, and his description of some of these gives us proof that putrefaction may exist without bacteria, and bacteria without putrefaction. Bacteria, like fetid gases, are, he says, the products of putrescent change; and in the virulent inflammations they are "the pathological results of cessation or aberration of the chemical forces exercised by vital tissues." It is clear, then, according to him, that bacteria and their allies are not necessary for the initiation of the conditions associated with their presence; and this being so, Mr. Lister's view that they are the cause of putrefaction and its sequelæ is shown to be erroneous. To Dr. Dougall's mind, the arresting or preventing of putrefaction by a chemical body, such as carbolic acid, does not seem to be the effect of its toxic action on contiguous organisms. It is obvious, he says, that the soil or pabulum on which they thrive is affected as well; and if, as has been asserted, carbolic acid prevents pyæmia, there is a strong probability that the pyæmic poison is engendered in the tissues, and that the application of the acid to the lesion prevents its formation. The views of Dr. Dougall differ from those both of Dr. Sanderson and Dr. Beale, "in not regarding contagious units as vitalised entities, but simply as fragments of dead organic matter, whose elementary particles are in some occult state of chemical union, and capable of imparting their condition to other bodies susceptible of the same change."

Dr. Crisp, after referring to observations of his own on oxen and sheep in splenic apoplexy, and to the investigations of Davaine on rabbits, stated that they all tended to the conclusion that without bacteria were present fatal results did not follow. In pleuro-pneumonia and the foot and mouth disease he has not found these organisms. He is disposed to think that some chemical change is produced in the blood which occasions these low organisms, and considers that we have no proof that the germ theory of disease is anything more than a hypothesis.

Mr. Jonathan Hutchinson thought it unwise to argue concerning the contagia of the specialised forms of inflammation at the same time and in the same manner as concerning the contagia of specific fevers, but thought it better to keep these two subjects wholly apart. But it clearly was not optional with Dr. Bastian, holding the views he does, to separate the two. The germ theory has been asserted to be applicable to both groups of diseases: and Dr. Bastian, denying the theory altogether, was concerned in disproving it for both. This he set himself to do, more especially, because, as he says, many of the considerations which are hostile to the one group are hostile also to the other. Moreover, as Dr. Murchison subsequently pointed out, there is not that radical difference, as regards the question in dispute, between the acute specific fevers and contagious inflammations which Mr. Hutchinson asserts; nor is there even among the acute specific fevers that agreement which Mr. Hutchinson and others ascribe to them. But this separation of the two classes of cases was necessary to Mr. Hutchinson, who accepts the germ theory as applicable to the specific fevers, but rejects it, as well as the physico-chemical theory, for the virulent or contagious forms of inflammation. His impression is that a third theory is required for these latter cases—for gonorrhœa, purulent ophthalmia, erysipelas, etc.,—which is, that the products of inflammation themselves may be the means of contagion; contagion by continuity of tissues and through the vascular channels in the patient, or contagion by transplantation to another individual. This is not, of course, a new theory, but it is very ably put by Mr. Hutchinson, and we can recommend his speech to the consideration of our readers. The speech of Mr. K. Thornton, which concluded the second evening's discussion, bore chiefly on Billroth's views respecting a phlogistic zymoid and a septic zymoid, but as it had only an indirect reference to the subject of debate, we may pass on to the speech of Dr. Murchison.

Dr. Murchison began the discussion after its second adjournment, on the evening of the 4th inst. His speech is characterised throughout by lucid statements and good reasoning. He brought forward no new facts concerning bacteria, nor had he any personal experience to record respecting them, but for all that his speech contains many original remarks based on and suggested by the experience of speakers who had preceded him; while of course it will be acknowledged that his wide experience of many of those diseases in connexion with which bacteria are considered such important organisms, gives great weight and authority to his opinions. His criticism upon part of Mr. Hutchinson's remarks we have just glanced at. He next pointed out that although Dr. Sanderson now refuses to commit himself to the germ theory of disease, yet his observations, and those made under his immediate superintendence, have been used as strong arguments in favour of it. He referred to certain statements about typhoid fever in Professor Tyndall's now celebrated letter to the *Times*, and said that he is satisfied "that this discussion will do good, if it do nothing else than help to correct such erroneous notions." A fact considered by Dr. Sanderson as very strongly opposed to Dr. Bastian's theory, is the presence of spirillæ in the blood in relapsing fever during the febrile paroxysm, but not at the time of the crisis or during the intermissions. This sudden appearance and annihilation twice over is best accounted for, Dr. Murchison thinks, by considering the germ theory untrue. It is well known that the great majority of persons attacked by infectious diseases recover, and it is said that they recover because the germs have exhausted all the material in the body required for their existence and growth; but the behaviour of bacteria in relapsing fever is opposed to such an explanation. "If," Dr. Murchison says, "the germs exhausted all the material necessary for their growth in the first attack, whence comes the material necessary for their growth in the second attack, in the relapse? This material cannot be produced by the febrile process, because on the germ theory the febrile process is itself the result of the germs." Then, admitting that the strong argument in favour of the germ theory of disease is the multiplication of the poison, Dr. Murchison thinks it is not right to speak of "the poison multiplying itself." This mode of speech conveys a theory, so that it is more correct to say "the poison is multiplied"; and this is all, in fact, we really know. In illustration of his remarks on this point he referred to a letter from Dr. Lyon Playfair, calling attention to the mode in which oxalic acid is multiplied, independently of any vital germs, in the process of converting oxamide into oxalate of ammonia by boiling an indefinite quantity of the oxamide with a little of the acid.

Three other speakers—Mr. Wagstaffe, Dr. Goodhart, and Dr. Payne—also took part in the discussion. The two former contented themselves by recording facts which each has personally

observed, without venturing to express an opinion on the germ theory itself. The results of the observations of these two gentlemen are in many respects conflicting, in others coinciding.

Dr. Payne's remarks deserve careful consideration on the part of the opponents of the germ theory. He pointed out the importance of ascertaining if there be or be not a distinction between bacteria, such as are found in putrefying animal substances, and those found in disease. This has been treated by some of the speakers as a subject of comparative indifference. Dr. Payne, however, considers it both in relation to the appearance of the organisms and also to the effects apparently produced by them. He quotes Professor Kohn, of Breslau, with respect to the first question. This celebrated botanist says that the appearance of germs observed in ordinary putrefaction is distinct from that of germs observed in various diseases. Whether these forms are convertible into one another or not is not of much importance, because of the transformations such minute organisms go through. But it becomes a matter of interest to ascertain whether the effects apparently produced by different germs are different. Dr. Payne's facts and arguments in this direction are of great interest. He refers on one side to the post-mortem emphysema associated with tissues full of the ordinary bacteria of putrefaction; and on the other to the presence of spheroidal granules in pyæmic lesions after death, without the evolution of gas or any other sign of active putrefaction. So that to a certain extent it does seem that a particular form of organism, differing from the bacteria of putrefaction, can be traced as the associate of a particular disease. And let it be marked, these organisms referred to by Dr. Payne are not the unseen, unknown, and altogether hypothetical organisms of Dr. Maclagan, but are "spheroidal granules, which show an extreme degree of resistance to alkalies and acids, and are therefore quite insoluble in potash, and are distinguished from the albuminous granules resulting from the breaking up of blood cells, or from fatty granules." This must surely be looked upon as a strong argument, which, if not actually in favour of the germ theory, yet requires to be met by the opponents of that theory on its own independent merits. Dr. Bastian, however, made no reference to it in his reply speech; so that with this argument unrefuted, if for no other reason, it may be said that, although Dr. Bastian and the majority of those who have taken part in the debate have done a very great deal to discredit the germ theory, they have not entirely overthrown all that has been advanced against their objections to it.

THE WEEK.

TOPICS OF THE DAY.

The prizes for the winter session in the Faculty of Medicine at the University College were distributed on the 14th inst.; Dr. Sterrar presided. The awards were numerous. They included gold and silver medals and certificates in surgery, physiology, anatomy, chemistry, etc. The report stated that the number of students attending the various classes was 377, or an increase of 97 on the previous year. Dr. Sterrar, in addressing the students, contrasted the state of things as existing in schools of medicine thirty years ago and at the present time. With reference to examinations, he said that he regarded them as evils, but as necessary evils, and if any way could be found of dispensing with them he should be only too glad; but, believing that they could not be dispensed with, he was desirous of making them as effective as possible, but, at the same time, not more difficult for the students than the circumstances called for. He thought the time was coming when the system of conjoint examination would be generally established. It would be a great relief to the students to consolidate their examinations; and there was great ground for satisfaction in the fact that those who had the direction of examinations were showing an earnest desire to establish the system.

The Hampstead Heath Defence Committee are still unsubdued, and seem like the famous hero, who, when his legs were off, fought upon his stumps. At all events, notwithstanding the decision of the Metropolitan Asylums Board not to entertain any further suggestions as to any other alternative site for the proposed fever hospital at Hampstead, the Committee intend to exert every means in their power to obtain a thorough investigation into the subject by a Parliamentary Committee. Mr. Coope's motion in the House of Commons on this question will be brought forward early in the ensuing month.

Our obituary column this week contains the name of William Hey, of Leeds (the second of the name), who died last week, at an advanced age. The Heys have been associated with the town of Leeds for nearly a century, the chief Surgeon to the Infirmary during that long period being a Hey. The first William Hey was a man of consummate ability and considerable acquirements; his name was identified with surgery throughout the civilised world. It is remarkable that British surgery attained an eminence at this time which was not altogether due to the great London surgeons; the provinces did much to add to that eminence. At the time when Astley Cooper was in full practice in London, in the provinces, in addition to Hey (of Leeds), White (of Blackburn), Soden (of Bath), Martineau (of Norwich), Mayo (of Winchester), Kerr (of Northampton), and James (of Exeter) were in the full blaze of a great reputation. "Paris" is said to be "France." Certainly London is not England with respect to surgery. Long may this be so; and long may the "country doctor" deserve the high reputation that he has so long enjoyed.

A new system of ventilation has just been added to the myriad of schemes. Some experiments have been made on a new plan, which can scarcely be considered sufficiently striking to warrant the opinion that it will be entirely successful. The "principle was wholly comprised in the fact that a column of air introduced into a room by a vertical current ascends to the ceiling, from whence, according to the law of the diffusion of gases, it spreads itself uniformly throughout the enclosed space without producing a perceptible draught in any portion of the apartment." Some difficulties will attend the employment of the plan on the part of builders and architects; but these may possibly be overcome.

At an inquest held by Dr. Hardwicke, on Friday last, at University College Hospital, some facts of a very painful character were elicited. The deceased, who was a plasterer, fifty-six years of age, whilst repairing the roof of a house, suddenly complained of illness, and sat down on the roof. At one o'clock he went away with the other men, fell down in the street, and was taken into custody by a police-constable, who took him to University College Hospital. There he was attended by one of the resident staff, and walked up and down one of the hospital wards. The following evidence is of so much importance, in a medico-legal point of view, that we give it somewhat in detail. It moreover shows the necessity of insisting that the divisional surgeon shall be called in, in all cases where there is any doubt as to the real condition of the patient. We shall look with interest for the evidence which will be adduced at the adjourned inquest. There are signs and symptoms sufficiently clear to establish broadly the difference between apoplexy and drunkenness, though it may not always be possible to make a clear scientific diagnosis. An examiner at Apothecaries' Hall would not, we believe, pass a candidate who could not tell these signs and symptoms. At all events, it used to be, and is now, we believe, a common question—"Sir, if called in to see an insensible person, how

would you determine whether he is labouring under the effects of opium, alcohol, or apoplexy?" There may have been some peculiarities in the case in question, and these may be explained by the medical man who saw him in his last illness. Until the examination of these witnesses, we of course refrain from any comment. A surgeon asked the deceased if he had been drinking, and he said, "Yes, six glasses of whisky." Another surgeon said he smelt of drink, and he was finally conveyed to the police-station, and charged with being drunk. Inspector Goodwin informed the jury that the standing order was, if a constable found a person insensible, he was either to take him to the nearest hospital or call at once a medical man. Mr. Thomas Colcott Fox, House-Physician at University Hospital, said he saw the deceased in a state of apoplexy and unconsciousness. The post-mortem showed a rupture of a bloodvessel, the hemorrhage extending over the surface and into the ventricles of the brain; there was no fracture, and, excepting the arteries and lungs, all the organs were healthy. He had not yet been able to distinguish the difference between prolonged disease and drink. Inspector William Goodwin stated he went on duty at Albany-street station on Monday at six o'clock, when the deceased was charged with being drunk. The divisional surgeon ordered his removal into the air, where he remained two hours. It then got cold, and witness ordered his removal to the cell again. Soon after nine o'clock he perceived a change for the worse, and sent immediately for the nearest medical man. Dr. Bush said the man might remain in his cell, but was to have a man in attendance. Witness then left. Returning to duty at nine o'clock the following morning, he found the deceased breathing heavily and quite unconscious. He immediately sent again for Dr. Bush, who advised his removal home. The landlord, seeing the state he was in, refused to receive him, and he was again taken to the hospital. The house-surgeon said the deceased expired about twelve hours after the last admission. The jury remarked that these cases were assuming a greater importance daily, and in their opinion this was the most serious one yet. The deceased had been in custody of the police and the hospital officials nearly thirty-five hours. They desired the coroner to bring before them the medical men who saw him at the station, the police officials who had charge of him during the absence of Inspector Goodwin, and all the persons at the hospital who had anything to do with the case. The proceedings were then adjourned.

The Royal College of Physicians have determined to give a *conversazione* on June 15.

Mr. Alfred Cooper has been elected an Honorary Fellow and Corresponding Member of the Medical Society of St. Petersburg.

LECTURE AT THE SOCIETY OF ARTS ON WATER SUPPLY.

At the Society of Arts, last week, Mr. Jabez Hogg delivered a lecture on "River Pollution with special reference to the Impure Water Supply of Towns," in which he maintained that water charged with animal organisms is dangerous, and that by no power of filtration conducted on a large scale can any of the dissolved impurities be removed; the minuter vegetable and animal microscopic forms—spores, seeds, and ova—easily passing through most of the filters in ordinary use. Drawings of magnified specimens of amœbæ, rotifers, larvæ of filariæ, and fully developed filariæ resembling the much-dreaded trichinæ, and like organisms were exhibited, and numerous instances given of the evils arising from polluted water, and the diseases created by the animalcules discovered by microscopical investigation; and Mr. Hogg complained that the Royal Commission of 1866 "altogether ignored the aid of the microscope." He recommended that artesian wells should be sunk in the chalk or sandstone, far out of the reach of sewage contamination; having recourse to the large supplies of water stored up in the deepest recesses of the earth would alone remove existing evils. The water in such stores is absolutely pure and brilliant; it is entirely free from all suspended matters, from decaying organic substances and fæcal refuse: neither spores, seeds, fungi, ova, nor the larvæ of animalcules are present. Such water does not contain any albuminoid ammonia. It is therefore, according to Mr. Hogg, absolutely safe; is indisputably wholesome, and fit for domestic and dietetic purposes. Mr. R. Rawlinson, C.B., who was in the chair, said that if the animalcules produced such diseases as had been described, it was astonishing that the human family still remained on the surface of the globe. The deep well waters must be pure when they first come up; but the purer a water the more rapidly it imbibed impurities, and it could not be exposed to the atmosphere long without taking from it those spores which were always floating about in myriads, and which were taken into the lungs at every respiration, so that life, after all, must be endured subject to such contingencies. Professor Wanklyn said that deep spring water is absolutely free from organic matter, and shows no trace of any matter capable of yielding ammonia by oxidation. But these waters are pure simply because they have been filtered, and it is quite possible to imitate the process. He had put Thames water through a filter, and it would come out like what the West Middlesex Company supplied: by filtering it a second time it would resemble that supplied by the Kent Company; and by repeating the process a third time you could get water absolutely pure, and free from all nitrogenous organic matter. It was quite a mistake to suppose that the large filters used by the water companies had only a mechanical action; they had a powerful chemical action also. The organic matter adhered to the material of the filter, and by-and-by the oxygen dissolved in the water oxidised it. If, therefore, you took polluted river water, let it subside, and then filtered it, you could obtain it sufficiently pure for all practical purposes. Some years ago he and his colleagues had examined the water supplies all over the country, and they found almost every description of water when fairly filtered soon attained to a high state of purity. This was important to keep in view, or the country might spend millions in getting water from deep wells when it could be obtained sufficiently good from any river. Deep spring water was often impregnated with an undesirable quantity of mineral matter. He had recently examined some deep spring water which it was proposed to supply to a district. It was beautifully pure, but it contained twenty-five grains of ordinary sulphate of magnesia per gallon. The organic matter present in water could be dealt with more readily than the inorganic; and to the presence of the latter, therefore, attention should be more particularly directed.

THE POLLUTION OF RIVERS BILL.

The Bill for the prevention of the pollution of rivers has passed its second reading, though not without some show of opposition; and, taking into consideration some of the remarks which its introduction has elicited, the projected legislation in this direction has not come one day too soon. The rivers of England, setting aside any romantic notions on the subject, could never have been intended to degenerate into a sort of open sewer, useless for drinking or domestic purposes, and utterly unfit for the propagation or preservation of fish; yet the Duke of Somerset announces it as his deliberate opinion that the streams near our manufacturing towns are hopelessly polluted, and could not in any way be cleansed so as to make the water in them fit for drinking purposes. That such an openly-avowed, disgraceful state of things should have been allowed to last so long reflects little credit upon the legislature of the country; and, so far from showing any leniency to any number of years' prescription, the present

nuisance to the community at large should be stopped at once. That anyone in a civilised country should be supposed to have the right of fouling a stream passing his door, exclusively for his own benefit, and at the expense of his neighbours' health and comfort, is simply preposterous; and it is impossible to agree with the arguments of the Marquis of Salisbury, that the interests of large manufactories engaged in industries essential to the commercial advancement of the country are bound to be respected in this instance. The concession also in those cases where science is supposed to offer no means of taking out of any refuse its polluting character is most intolerable, as in such instances long-established rights of wholesale pollution are to be respected. The Bill is, in fact, as its framer remarked, too tentative to provide a perfect remedy; but a marked amelioration of the existing order of things in certain districts may be expected to follow its introduction. From a thoroughly Parliamentary view, it may be wise not to attempt legislation on this subject, which could not be carried out in the face of the opposition likely to be aroused; but, from a sanitary out-look, there should be no concession and no exception made, when the vast importance of the subject is taken into consideration; and it is to be hoped that the very first signs of amelioration following upon the present Bill will prove the signal for more stringent measures being enforced, until the rivers of Great Britain may become once more a pleasure instead of a pest.

THE LONDON WATER SUPPLY.

The report of Major Bolton on the state of the water in the River Thames, during the month of April, at Hampton, Moulsey, and Sunbury, where the intakes of the West Middlesex, Grand Junction, Southwark and Vauxhall, Lambeth, and East London Companies are situated, has just been published, and is on the whole satisfactory. At Seething Wells, Kingston, the state of the water in the river was good on eleven, indifferent on fourteen, and bad on five days. Should the Marquis of Salisbury's Bill become law, it is to be hoped that the "good" days will become gradually extended until they comprise the whole of the month. The arrangements for a constant service are rapidly extending all over the metropolis. The Kent Company now give a constant supply to a portion of their district, principally in Deptford and Plumstead, including about 5500 houses, and about 600 houses are to be added to this list, in New Charlton, after May 1. This Company has also constructed a new covered reservoir at New Cross, capable of containing 1,750,000 gallons, to provide for a constant service to Peckham. The Southwark and Vauxhall Company have also completed covered reservoirs at Nunhead, capable of containing 18,000,000 gallons, and are laying the mains for distribution from the reservoirs to the lower district, comprising Kent-road, Bermondsey, Rotherhithe, and Camberwell. Additional boilers and works are being constructed at Hampton, and the Company are erecting extra engine-power for high-pressure constant supply. The construction of further subsiding reservoirs by this Company is, the report says, most desirable. The West Middlesex Company are giving constant supply to a large number of houses on the application of the owners, and are fully prepared to extend the system when called upon to do so. This Company, having large reservoir capacity for subsidence, avoids taking in water when floods prevail, by which means they are enabled to filter their supply very efficiently. The Grand Junction Company have formed a high-service reservoir near Kilburn, to contain 6,000,000 gallons for constant supply. They are also erecting boilers and works at Hampton, and an extra thirty-inch main from the latter place to Kew is now being laid down, as well as a new twelve-inch main from Kew to Notting-hill, to supply the low service in this portion of the Company's district. Further impounding reservoirs for subsidence, so as to avoid taking in water at the floods, are, however, said to be needed. Meanwhile the Company is increasing the capacity of the filter-beds at Kew by about 5,000,000 gallons.

THE LIFFEY NUISANCE.

A case, probably unique in legal annals, was argued before the Dublin Divisional Police Magistrates last week. The Public Health Committee of the Corporation applied for the granting of a summons under the Sanitary Acts against the Port and Docks Board for non-abatement of the notorious Liffey nuisance. Our readers will appreciate the merits of the case when we inform them that the vast improvements in the shipping accommodation of the Port of Dublin which have lately been made are due to the enlightened and energetic action of the Port and Docks Board, whereas the Liffey nuisance owes its origin to the decomposition of large quantities of filth cast into the river from the Corporation sewers. In a word, the Corporation pollutes the river with the excremental *débris* of 250,000 people at least, and then through a Public Health Committee, consisting of its own members, calls on another body, of acknowledged ability, to remove or abate a gigantic nuisance created by itself. It is needless to say that the Bench refused to grant the summons. The question at issue between the Public Health Committee and the Port and Docks Board has now been referred to the Court of Queen's Bench. Meanwhile, the Public Health Committee have been awakened to the necessity of doing something, and accordingly, at a meeting held on Friday, May 14, the following resolution was unanimously adopted:—

"That, inasmuch as the question of the liability of the Port and Docks Board to cleanse the bed of the River Liffey from Barrack-bridge to the sea is in course of being decided by a judgment of the Court of Queen's Bench, upon the case to be stated by the police magistrate, it is expedient that the cleansing should be at once carried out pending the decision; that Mr. Kenny (sewer overseer) be directed to employ men, and procure shovels, scrapers, brooms, carbolic acid, and other requisites, and to commence the cleansing of the river-bed from Carlisle-bridge upwards on Monday morning at half-past two o'clock, and continue same daily two hours before low water, until further orders, and provided low water shall take place between four and eight o'clock a.m.; that for the present the stuff deposited upon the foreshores be shovelled and swept into the centre of the river, and diluted carbolic acid strewn on the cleared gravel of the foreshore thereafter; and that if it shall be necessary to dredge the stuff from the centre of the river, the same be carried out at two hours before and two hours after high water; and for this purpose that barges be borrowed from the Port and Docks Board, if they shall be willing to lend them for the purpose."

In accordance with the foregoing resolution the work of sweeping the foreshores of the river was commenced before two o'clock last Monday morning.

"EARTH TO EARTH."

Mr. Seymour Haden has addressed to the editor of the *Times*, of the 20th inst., another of his powerful and able letters on the treatment and burial of our dead. In this letter he desires "to show how the thing that is manifestly wrong may be avoided, and the thing that is right be done"; and, finding occasion as he goes on to consider with the attention and respect to which they are fully entitled the fears and objections of others, to do what he can to remove those fears and objections. We regret that the exigencies of time and space will not allow us to notice the letter this week further than by reproducing the following important note from the heads of the profession on the recognition of death:—

"The following question, arising out of an apprehension admitted to exist, lest a curtailment of the interval now allowed between death and burial might lead to the accident of interment before life were extinct, has been proposed to us by Mr. Seymour Haden:—'As hospital physicians and surgeons of

extended experience, has it ever occurred to you to see a case of so-called suspended animation or trance which, in your opinion, could be mistaken for death; and do you think, the present state of our knowledge and resources considered, that the occurrence of such a case or of such a mistake can be regarded as possible?' In reply to this question we desire to say that no case of the kind it suggests ever presented itself to any of us, and to express our confident belief that the dread of the possible occurrence of such a case is without support in the medical experience of this country; and, further, that the signs of death are as certain after a few hours' suspension of the vital functions as they can be after many days. It would, we feel, be a matter of regret, and an indication of a low state of public intelligence, if the groundless fears to which our attention has been directed by Mr. Seymour Haden should hinder, for a moment, the adoption of an improvement in our social system, the importance of which cannot be overrated.

"George Burrows, M.D., President of the Royal College of Physicians.
Wm. Fergusson.
William W. Gull, M.D.
William Jenner, M.D.
James Paget.
Thomas Watson, M.D.

"London, March 13, 1875."

LECTURES AT THE APOTHECARIES HALL ON STATE MEDICINE.

On Saturday, the 15th inst., Surgeon-Major F. de Chaumont, M.D., delivered the first of a series of six lectures on State Medicine before the Society of Apothecaries at their hall in Blackfriars. The subject of the lecture was the "History of Sanitation, particularly in this country within the last thirty years, since the publication of the Report of the Health of Towns Commission." The lecture was necessarily of a prefatory or introductory character. The nature of the various Sanitary Acts which have been passed since the Factory Act of George III. was recapitulated, and the names of the pioneers in sanitary work—Drs. Southwood Smith, Lyon Playfair, Messrs. Chadwick, Simon, and others—were mentioned in laudatory terms, and portions of their reports quoted, showing the unsanitary state of many places they visited at the outset of their labours. The sanitary measures now before Parliament were alluded to, but not in a critical manner, the lecturer stating that, as the matter was still the subject of discussion in Parliament, he purposely abstained from offering any remarks upon the Bills. Allusion was made to the statement of a noble lord who some years ago was opposing the appointment of medical men as sanitary officers, on the grounds that it was contrary to their interest to prevent disease, and that they must necessarily starve if they did their duty as medical officers of health. The fallacy of this prophecy, the lecturer said, was clearly proved by the fact that now efficient and properly remunerated medical officers of health were found, who relinquished all other practice to carry out their important duties. The lecture, which lasted rather more than an hour, was listened to with great attention. The second lecture of the series will be given on Saturday, May 22, at three o'clock, and the subjects to be treated are—General and Special Hygiene, Air Supply and Ventilation, Legal Enactments existing or desirable, and Arrangements of Habitations.

THE MEETING OF THE GENERAL MEDICAL COUNCIL.

We understand that the General Medical Council is convened for June 17, the Executive Committee meeting on the previous day. It will be observed that this is three weeks earlier than the date of meeting last year. We confess that we cannot readily discover a reason for this departure from the ordinary arrangements of the session. The Enabling Act of the College of Surgeons cannot possibly have been obtained by that time. Further, we find that the Visitors of Examinations will be so far from having completed their labours by June 17 that they will be engaged on that very day at the University of Durham.

THE REGISTRAR-GENERAL'S QUARTERLY REPORT.

The Quarterly Report of the Registrar-General, ending March 31 last, shows that there were 162,514 deaths in England during the quarter, which were equal to an annual rate of 27·5 per 1000, and exceeding the average by 3 per 1000. Only twice during the past twenty years has the rate of mortality in the first, or winter, quarter of the year been so high as in the three months under notice. Through February and March, when north-east and east winds predominated, pulmonary diseases prevailed to an unusual degree—indeed, it is not certain that they had not an epidemic taint. The prevailing pneumonia and bronchitis demand the attention of pathologists. Old people were the greatest sufferers. The epidemic of scarlet fever was subsiding, but it was still fatal in many places. Whooping-cough was the only other zymotic disease epidemic, and that attained no great intensity. The 162,514 deaths at all ages included 36,019 of infants under one year of age, 78,712 of children and adults aged between one and sixty years, and 47,783 of persons aged sixty years and upwards. The marked increase in the deaths of persons aged upwards of sixty years, undoubtedly the result of the severity of the winter weather, is one of the most noticeable features in the present return. The deaths of elderly persons in the first three months of this year exceeded by 47 per cent. the number returned in the same period of 1872, when the temperature was high. To the seven principal zymotic diseases 17,216 deaths were referred in England and Wales, of which 5050 resulted from scarlet fever, 4065 from whooping-cough, 3323 from different forms of fever, 1991 from diarrhœa, 1552 from measles, 896 from diphtheria, and 339 from small-pox. These zymotic deaths showed an annual rate of 2·9 per 1000, against 2·4 and 3·1 in the two preceding corresponding quarters.

HEALTH OF SCOTLAND.

In the eight principal towns of Scotland during the month of April last the deaths of 2564 persons were registered, of whom 1306 were males and 1258 females. This number is 191 under the April average of the last ten years. The annual death-rate was 20 per 1000 in Aberdeen and Leith, 21 in Perth, 22 in Edinburgh and Dundee, 27 in Greenock, 28 in Paisley, and 30 in Glasgow. Of the 2564 deaths, 1083, or 42 per cent., were of children under five years of age. The zymotic (epidemic and contagious) class of diseases proved fatal to 453, thus constituting only 17·7 per cent. of the whole mortality. Scarlatina caused 107 deaths, or 4·2 per cent. of the whole mortality; whooping-cough, 98, or 3·8 per cent.; fever, 66—of these, 20 were tabulated as typhus, 40 as enteric, 1 as relapsing, 1 as simple continued, and 4 as infantile remittent fever. The deaths from inflammatory affections of the respiratory organs (not including consumption, whooping-cough, or croup) amounted to 553, or 21·6 per cent. of the whole mortality; those from consumption alone numbered 343, or 13·4 per cent.

DISEASE IN FOREIGN PARTS.

According to the last advices, the deaths at Rio de Janeiro from yellow fever ranged from ten to sixteen daily. Cases had occurred among the shipping at Santos and at two or three northern ports. Cholera is still somewhat severe in Mirzapore, Benares, and some places in Oude. The disease has been traced to pilgrims returning from recent large assemblies. The troops are everywhere free from attack. Cholera is decreasing in Bombay, but prevails at some of the Mofussil stations.

MEDICAL DEGREES AT CAMBRIDGE.

The first and second examinations at Cambridge for the degree of M.B. will be held as between June 10 and 14 inclusive, the third examination between June 12 and 16 inclusive, and for the degree of M.C. on June 14, 15, and 16.

ROYAL COLLEGE OF PHYSICIANS.

At an extraordinary meeting of the Royal College of Physicians, on the 15th inst., a communication was received from the Colonial Office expressing Lord Carnarvon's desire to make public, in the way most advantageous to the interests of medical science, reports and correspondence on questions connected with the public health in the colonies, and asking the advice of the College; in reply to which it was resolved to recommend that the papers be published under the judicious selection and supervision of a competent physician appointed for the purpose. A letter was received from Prof. Claude Bernard, expressive of his high appreciation of the honour conferred on him by the award of the Baly Medal, and his great regret that he should not be able to receive it in person.

ELECTION OF CORONERS.

Mr. H. Cole, M.P., has brought into the House of Commons a Bill to alter and amend the law relating to the election of county coroners in England.

PARLIAMENTARY.—INFANTICIDE—POLLUTION OF RIVERS—SALE OF FOOD AND DRUGS.

In the House of Commons, on Wednesday, May 12,

Mr. Charley moved the second reading of a Bill, the purport of which was to reduce infanticide to a simple felony punishable with penal servitude or imprisonment. He did not think the measure calculated to lessen the security of infant life. He thought mothers would be less likely to murder their children if there was a certainty of their being tried on an indictment which would insure punishment on conviction, instead of proceeding through the farce of a trial on a capital charge in which few juries would convict.

The Solicitor-General said that, in supporting the Bill, he believed it would not facilitate infanticide. According to the law of this country, a child could not be held to be murdered unless it could be proved that there was an independent circulation in the child, and that it had been completely born into the world; and it was very difficult to obtain medical or other testimony on the subject. Therefore, a Bill of this sort was necessary.

After a brief discussion the Bill was read a second time.

In the House of Lords, on Thursday, May 13,

The Earl of Morley opposed the second reading of the Pollution of Rivers Bill because it dispensed altogether with chemical tests, and made the common sense of the county court judge the only test as to what was "filthy," "noxious," or "polluting." He thought it would be very unfair to enforce the law more stringently upon manufacturers in one district than upon their competitors in another district because the judges happened to be more lenient in the latter than in the former district.

The Duke of Buccleuch objected to the proposal in the Bill to give a prescriptive right to pollute a stream provided the persons had carried on such pollution for twelve years.

The Marquis of Lansdowne was of opinion that though chemical tests embodied in a Bill would be likely to break down, some scale of test should be adopted.

The Marquis of Salisbury, replying to the criticisms of the previous speaker, said the owners lower down a stream had had from all time the right to use the water for themselves and their animals—the right to have it in a state in which it could be used. Consequently, they had the right that it should not be made noxious by those who dwelt higher up. On the other hand, manufacturers employing large numbers of people and carrying on manufactories essential to the prosperity of the country, had set up their works all along those streams. These were vast interests which neither our sense of justice nor our Parliamentary power would enable us to disregard. He must point out that the Local Government Board was charged with the performance of the duty in case the local authorities failed to perform it, so that a responsible Minister of the Government would have to see that effect was given to the provisions of the Bill. As the Bill stood, it did not confer sufficient power on conservancy boards to construct large drains in the centres of districts. He thought they could do this only by means of private Bills, and when this Bill went down to the Commons it might be expedient to provide means for the conservancy boards to promote private Bills for that purpose. As to tests, if satisfactory tests could be embodied in the Bill, that, no doubt, would be a convenient arrangement; but he did not think they could be. He believed the Government were going as far as they could go in the matter, and that the Bill would effect a marked improvement in respect of the many evils complained of.

Lord Selborne did not see how it would be possible to get rid of scientific tests and the evidence of experts when the question was, whether the best and most practicable means had been used to render the sewage harmless.

The Duke of Somerset thought that a manufacturer who could easily avoid pollution, say by subsidence into the soil, would get the Act enforced against a rival in trade who, for want of adjoining land, could not solve the difficulty so easily. The conclusion at which he had arrived, after reading much of the evidence, was that our rivers were hopelessly polluted, and that we never could make their water potable. The foul matters encumbering streams might be got rid of, but the notion of their supplying water fit to drink must be altogether put aside. Towns must be supplied with pure water for drinking purposes in some other way.

The Bill was then read a second time.

In the House of Commons,

The House went again into Committee on the Food and Drugs Bill, and Clauses 21 to 23 were agreed to.

On Clause 24, Mr. Rodwell proposed the omission of the words "and with a warranty to that effect"; his object being to relieve the retail trader of the necessity for producing a "warranty" from the wholesale dealer if he could prove in any other way that he sold the goods in the state in which he received them.

Considerable discussion ensued upon the application of this clause, when

Mr. Sclater-Booth said the omission of the words proposed to be left out would allow the retail dealer in adulterated articles to escape, while the purchaser would have no remedy against the original vendor of the article sold. Unless some provision were made under which the retail dealer could fix the guilt of adulteration upon some other person he must take the consequences. To adopt this amendment would be to depart from the pledge which the Government had given to retain the principle of the Bill unimpaired.

The amendment was then negatived.

Mr. Sandford considered that under this clause the consuming public were not considered at all, and the wholesale dealer escaped altogether. If the clause passed, a regular traffic might be carried on in adulterated goods. He moved an amendment giving power to the justices, in case of the discharge of the defendant, to summon before them the person by whom the warranty was given, which was withdrawn on the understanding that it might be brought up amended with the report.

Other amendments were proposed, including one by Alderman Cotton, to the effect that before condemned tea was destroyed the owner might require an examination of it by three sworn tea brokers. If two of the brokers certified that the analyst was right, the tea should be destroyed; but if they certified to the contrary, the tea should be returned to the owner. These amendments were, however, all negatived.

The Bill as thus amended was ordered to be reported to the House.

Cremation by means of Gas.—Prof. Polli, the distinguished Italian chemist, has recently been exhibiting some experiments, showing that cremation can be promptly, effectually, and cheaply performed by means of illuminating gas. A portion of a horse weighing 76 kilogrammes was exposed in a gas furnace with 240 flames for two hours, and was reduced to 6 kilogrammes of ashes. When the apparatus is completely heated, a human corpse will be "cremated" in forty-five minutes at the low figure of from 8s. to 10s.—*Annali Universali.*

Dublin Sanitary Association.—A course of lectures on Sanitary Science is now being delivered by members of the above Association in St. Matthias's School-house, Dublin. They are intended to be of a popular type, and the public are admitted free. On Wednesday evening, May 12, Dr. T. W. Grimshaw gave the first lecture of the series, choosing as his subject, "Sanitary Science in its relations to Health and Disease." Among the other lecturers are Drs. Stewart Woodhouse and H. J. Tweedy, both diplomates of State Medicine of the University of Dublin; R. O'B. Furlong, barrister-at-law, etc.

FROM ABROAD.

Mortality Returns of the Paris Hospitals.

M. Besnier, in his report for the first quarter of 1875 (*Union Médicale*, April 29, May 1, 4, and 11), observes that the wind, which during January blew from the south and west, remained during February and March fixed in the north and east with remarkable permanency, the atmosphere, that had been moist, becoming dry and highly irritating to the respiratory passages. This state of the atmosphere, which always more or less prevails at this epoch, was this year exceptionally intense and generalised, extending with great severity, even to the winter refuges in the South of France. In the Paris hospitals and hospices the mortality has been notably superior to that of the same period of the year for the last three years; and the affections of the respiratory organs have been those which have been most markedly prevalent.

Affections of the Respiratory Organs.—Although these have been more frequent than usual during the period in question, they have not been more fatal; and it is, in fact, by increasing this frequency rather than their gravity that the atmospheric conditions have operated. The relative gravity of these affections at different epochs depends upon other causes, the conditions of which at present are unknown. This absence of agreement between the number and gravity is not peculiar to these affections; for, although not sufficiently attended to, it is to be observed also in various prevalent diseases, such as cholera, small-pox, typhoid fever, etc. In fact, as regards the affections of the respiratory organs, the mortality, examined for a series of years, is not found to undergo very great variation.

Diphtheritic Affections.—These affections, which are always numerous and fatal in the Paris hospitals, have proved somewhat less so than at the corresponding periods of the two preceding years, in which they had reached their extreme limits, although in these two years the medical constitution was a benign one and the general mortality slight. In the first quarter of 1873 there were 129 cases of croup with 99 deaths (76·74 per cent.); in 1874, 148 cases with 121 deaths (81·08 per cent.); and in 1875, 124 cases with 90 deaths (72·51 per cent.). The total number of cases occurring in this quarter of the years 1868, 1869, 1872, 1873, 1874, and 1875, was 682, with 522 deaths (76·54 per cent.).

Small-pox.—Variola, after committing such ravages in 1870 and 1871, declined greatly in 1872, and in 1873 reached the lowest point ever known. In 1874 an ascending movement again commenced, giving rise to the fear that the disease, after remaining in the sporadic state for a year or two, had begun again to manifest the characters of transmissibility and diffusibility, which constitute the essence of epidemic disease. The first three months of 1870 furnished from the hospitals alone 1481 cases with 293 deaths, while in 1872 there were only 37 cases with 4 deaths; in 1873 there was not a single case; and in 1874 there were 16 cases without a death; but in 1875 there have been 49 cases with 17 deaths. The total number of deaths from small-pox among the civil and hospital populations of Paris during the first quarter of 1872 was 24; in 1873, 7; in 1874, 4; and in 1875, 31. Judging from the history of former epidemics, a new explosion would not seem to be imminent; but now that the disease threatens to be again passing from a sporadic into an epidemic form is the time for the vigorous employment of prophylactic measures—viz., methodical revaccination, the absolute isolation of persons attacked, and especially the careful guarding against those "ambulant contagions," the most potent agents of epidemic diffusion of the disease—convalescents. All students in medicine should be compelled to undergo revaccination before entering upon their hospital career.

Scarlatina.—Nothing is more remarkable than the rarity with which scarlatina epidemics prevail in France as compared with our own country. In a total mortality of 23,024 which occurred during the first three months of the seven years 1868-75 (omitting 1871), we find recorded only 45 deaths as occurring from this disease. True, the reporter admits that some deaths really occurred from this cause which have not been registered as such, in consequence of the children having a complication or succession of diseases; but still these add very few to the insignificant numbers just stated.

Measles.—Here, again, is another contrast with what occurs with us—viz., the far greater mortality from measles as compared with scarlatina. In this quarter there were 81 cases admitted, 21 of which terminated fatally; and for the seven years 1868-75, of the total deaths (23,024), 163 were caused by measles.

Mumps.—This curious affection is here introduced on the principle of *lucus a non lucendo*. Usually very rare in civil hospitals, so it has been in this quarter, while it has not been at all uncommon among the general population, where it is contagious, and, as usual, it has been very frequent in the military hospitals. In almost all the few cases met with in the children's hospitals these had brought the disease *ab extra*, and have not communicated it to other children in the hospitals. In the military hospital of Gros-Caillon, of 485 cases treated, 25 were cases of mumps. At the Val-de-Grâce M. Villemin reports an epidemic has also occurred, which has given occasion to verify two facts which are still a matter of controversy. The first of these is the atrophy of the testis as a consequence of the so-called metastatic orchitis. When the patients left the hospital there was an almost complete disappearance of the spermatic gland, which was reduced to a small soft mass not exceeding the probable size of the fibrous covering of the gland. A highly interesting question which remains to be solved is whether the testicle is able in time to recover its former dimensions. The second fact, which has a certain diagnostical and therapeutical importance, is that during the prevalence of this small epidemic several cases of orchitis occurred under the influence of the cause giving rise to the mumps, without the mumps themselves having appeared. This orchitis, accompanied by considerable fever during the first two days, and causing great anxiety to the patients, disappeared in the course of a week by the employment of cataplasms and fatty ointments.

Typhoid Fever.—This remained within its ordinary limits for the time of year, the annual curve of the disease descending as usual. There were but 225 cases during the quarter, with 42 deaths.

Alessandro Volta.

The *Annali Universali di Medicina* for April gives an account of the exhumation of the remains of the celebrated philosopher Volta, on March 30, at Camnago-Volta, Como. This does not seem to have been a national act, but merely one performed by his descendants for the purpose of placing the remains of their ancestor in a splendid mausoleum which they had prepared for their reception. Still, it was made a solemn and imposing ceremony, for not only was the body laid in state for some time for public inspection, but its re-interment was attended by the representatives of nearly all the Italian universities and learned societies, the Minister of Public Instruction being also represented by Prof. Cantoni, a successor to the chair held by Volta in the University of Pavia.

It seems that a careful examination of the cranium was made, and the following results are recorded:—Cranial capacity, 1865 cubic centimetres; orbital capacity, 25·5 c. c.; antero-posterior diameter, 190 millimetres; the maximum transverse diameter, 153 mill.; the basilo-bregmatic vertical diameter, 140 mill.; the height of the facial line, 115 mill.; the antero-posterior curve, 383 mill.; circumference of the cranium, 556 mill.; the facial angle, 73 degrees; weight of the cranium, 695 grammes; weight of the lower jaw, 57·5 gr. The weight of the brain must have been, according to the calculations of Prof. Lombroso, 2055 grammes, and therefore superior to that of Cuvier (1829 gr.) and to that of Byron (1807 gr.), and little less than the apocryphal weight of that of Cromwell, and 440 gr. above Italian mean weight. So, also, as the mean capacity of male Italian crania is little more than 1500 cubic centimetres, that of Volta exceeds this by about a fourth. In form, Volta's cranium belongs to the true Roman-Italian type, and exhibits great harmony in the development of all its parts. The sutures were all effaced, as was to be expected in an individual who had exceeded his eighty-second year.

The Prizes of the Académie de Médecine.

On May 4 the Academy held its anniversary meeting, and besides an eloquent eulogium delivered by M. Béclard on Cruveilhier, an interesting report was read by M. Roger on the prizes which have been adjudged in 1874. He commenced with deploring that for the large number of prizes at the

disposal of the Academy there should be so few candidates, and that so many of these did not come up to the mark. In fact 1874 has been one of the most sterile of years in this respect.

The Academy Prize for the best work on experimental physiology was not decreed, no candidate claiming it; and the same fate, for the same reason, attended the Civrieux Prize on the part played by the nervous system in the production of glucosuria, the St. Lager Prize on the experimental production of goître, and the Falret Prize on insanity in relation to epilepsy. For other prizes, essays were sent in which were not deemed deserving enough—viz., the Orfila Prize on aconite, and the Rufz de Lavison Prize on acclimatisation. The prizes that were decreed were—1. The Portal Prize of 2000 fr. for the best memoir on a question of pathological anatomy. Only one memoir was sent in, consisting of a description of a double monster forwarded from Egypt to the Société d'Anthropologie for examination. The prize was divided between M. Martin and M. Chudzinski for their elaborate description and illustrated atlas of the monster in question. 2. The Capuron Prize of 1000 fr. for the best work on an obstetrical subject attracted seven competitors, but none of these produced anything considered worthy of the full prize, an "encouragement" of 800 fr. only being accorded to Dr. Charles, of Liège, for his essay on retroversion of the gravid uterus, a work which, according to the reporter, seems little better than an indiscriminate compilation. 3. The Godard Prize of 1000 fr. for the best work on internal pathology was competed for by six candidates, and was awarded to M. Thaon, of Nice, for his published essay on the pathological anatomy of tuberculosis. 4. The Barbier Prize of 2000 fr. for the discovery of the means of curing disease reputed as incurable, has never yet been awarded during the forty years that have passed since its institution. "Encouragements" have only from time to time been adjudged to those who, if they have not succeeded in discovering cures, have introduced improvements in treatment. On the present occasion, one such "encouragement" of 500 fr. has been given to M. Planat, a provincial practitioner, for his essay on the treatment of epilepsy by picrotoxine, the active principle of cocculus indicus. The reporter may well say that he cannot guarantee the author's conclusions concerning the utility of a remedy founded purely on the *similia similibus* theory, the author declaring that by it he experimentally produces convulsions with foaming at the mouth in rabbits, cats, frogs, crabs, and snails! He refuses also to receive as conclusive the account of a few cures said to be obtained by this so-called remedy. In fact, never was a prize awarded on more futile grounds, the real object seeming to be to compensate its author for the patient waste of leisure time which he says he has snatched from practice during twelve years past.

Such a distribution of prizes as this is, indeed, pitiful; and if better success does not await the Academy's endeavours to stimulate research and observation in future, the sooner it abandons such a course the better, diverting the considerable funds it has at its disposal for scientific purposes into some more productive channel.

At this meeting of the Academy the subjects of the prizes for 1876 (all essays, written in French or Latin, to be sent in by March 1) were announced. These are—1. For the Academy Prize of 1000 fr., "A Comparison of the Different Modes of Dressing Extensive Wounds." 2. Portal Prize of 1000 fr., for the best memoir on any subject of Pathological Anatomy. 3. Civrieux Prize of 2000 fr., "The Part taken by the Nervous System in the Production of Glucosuria." 4. Capuron Prize of 2000 fr., "The Alterations of the Placenta and their Influence in the Development of the Fœtus." 5. Barbier Prize of 3000 fr., for the discovery of complete means of Cure for Diseases usually regarded as Incurable, as Hydrophobia, Cancer, Epilepsy, Scrofula, Typhus, Cholera, etc.; encouragements to be awarded to those who, without attaining the aim thus indicated, make the nearest approach to it. 6. Godard Prize of 1000 fr., for the best work on Internal Pathology. 6. Orfila Prize of 4000 fr., "Aconite and Aconitine." 7. Itard Prize of 2800 fr., to be awarded to the author of the best book or memoir on Practical Medicine or Applied Therapeutics, such work having been published at least two years before. 8. St. Lager Prize of 1500 fr., for the Experimental Production of Goître. 9. Falret Prize of 2000 fr., "Insanity in relation to Epilepsy." 10. Rufz de Lavison Prize of 2000 fr., "Establish, by means of precise and numerous facts observed in man and animals which pass from one climate to another, the modifications and alterations of functions and the organic lesions that may be attributed to Acclimatisation."

GENERAL CORRESPONDENCE.

VOTING AT THE MEDICAL BENEVOLENT COLLEGE.

Letter from Dr. W. H. Broadbent.

[To the Editor of the Medical Times and Gazette.]

Sir,—I am anxious to remove the impression that any discourtesy was shown to the deputation which waited on the Council of the Medical Benevolent College, to present the remonstrance against the system of voting which had been signed by more than 1300 subscribers. There was a very full attendance of the Council to meet us, and we had an attentive hearing, but it was not to be expected that they could either argue the question or give us a definite reply.

The annual general meeting of the College is to be held on Wednesday, the 19th, and I propose, if no one better qualified will undertake the task, to move a resolution on the subject. I did this some years since without effect, but obviously the question is in a very different position now that so large a number of the subscribers have declared against the system of voting and canvassing, which is seen to be pregnant with gross abuses. I hope many out of the 1300 will attend, and support by their votes the resolution to be brought forward. I am aware that, by giving public notice of my intention, I afford the opportunity of a "whip" on the part of those opposed to charity voting reform, but I have too much confidence in the justice of the cause and in its ultimate triumph to fear this contingency. I am, &c., W. H. Broadbent.

34, Seymour-street, Portman-square, May 13.

The Ranald Martin Memorial.—At the meeting held at Willis's Rooms on March 25, it was proposed by Sir T. Galbraith Logan, M.D., K.C.B., and seconded by Sir George Burrows, Bart., M.D., F.R.S.,—"That this meeting is of opinion that the services rendered to his country by the late Sir James Ranald Martin, C.B., in advancing the science of tropical medicine, and promoting sanitary reform in India and at home, with the inestimable result of improving the health and diminishing the death-rate in the Army of India, are worthy of commemoration." Second resolution, proposed by Sir William Mure Muir, M.D., K.C.B., seconded by Sir William Fergusson, Bart., F.R.S.,—"That this meeting is of opinion that the most fitting memorial of the services of one so long associated with the advancement of military medicine will be the foundation of a prize, to be called the Ranald Martin Memorial Prize, to be competed for in the Army Medical School by the candidates for commissions in the medical services of the British and Indian Armies, and the Royal Navy." Third resolution, proposed by Professor E. A. Parkes, M.D., F.R.S., seconded by Surgeon-General John Murray, M.D.,—"That, considering the disinterested manner in which the late Sir Ranald Martin devoted his time and energies to promote the interest of the officers of the medical services, and more particularly that it was mainly through his efforts that the question of admitting medical officers to the honours of the Bath was brought before Parliament, the medical officers of the three services be earnestly invited to co-operate with the Committee appointed by this meeting in carrying out the object embodied in the first resolution, and that the Committee be asked to solicit the aid of the administrative medical officers of the British and Indian armies in India in carrying out the same object. Fourth resolution, proposed by Surgeon-General Longmore, C.B., seconded by Dr. W. Farr, F.R.S.,—"That the following be appointed the Executive Committee, with power to add to their number:—The Right Hon. the Earl of Derby, Sir T. Galbraith Logan, M.D., K.C.B., Sir William Fergusson, Bart., F.R.S., Sir George Burrows, Bart., M.D., F.R.S., Sir William Mure Muir, M.D., K.C.B., Sir Alexander Armstrong, M.D., K.C.B., LL.D., Sir John Wm. Kaye, K.C.B., Surgeon-General W. C. Maclean, C.B., F.R.S., E. A. Parkes, Esq. M.D., F.R.S., Erasmus Wilson, Esq., F.R.S.; J. Fayrer, Esq., M.D., C.S.I., and G. D. Pollock, Esq., F.R.C.S., Treasurers; P. O'Brien, Esq., F.R.C.S., Hon. Secretary. And that the Committee be asked to solicit the aid of the public and administrative medical officers." Subscriptions will be received by Messrs. Herries, Farquhar, and Co., bankers, 16, St. James's-street; Dr. J. Fayrer, 16, Granville-place, Portman-square, W.; G. D. Pollock, Esq., 36, Grosvenor-street, W.; and by P. O'Brien, Esq., Hon. Secretary, 35, Lancaster-road, Westbourne-park, W. Lists of subscriptions received will be advertised from time to time.

REPORTS OF SOCIETIES.

CLINICAL SOCIETY OF LONDON.

FRIDAY, APRIL 9.

Sir W. JENNER, Bart., K.C.B., M.D., D.C.L., F.R.S., President, in the Chair.

DISSEMINATED CEREBRO-SPINAL SCLEROSIS.

DR. BUZZARD exhibited a patient suffering from this disease. The man, a house-painter, aged thirty-three, but looking many years older, was wheeled in a chair to the upper part of the room, and beside him was placed another man affected with paralysis agitans; and Dr. Buzzard then proceeded to compare the symptoms by which the two diseases, so often confounded, could be distinguished. The patient with sclerosis, whilst seated and with his limbs in repose, showed no signs of tremor in any of his muscles; whilst in the other man there were constant rhythmical movements, which could be seen even at a distance, and his hands maintained the position characteristic of paralysis agitans, the thumb being applied to the forefinger, as in taking a pinch of snuff or rolling a cigarette. The head of the latter patient was projected stiffly forwards; the chin of the former rested easily upon the upper part of the chest, for the reason that an effort to hold the head upright caused violent agitation of the muscles at the back of the neck. Asked to rise, the patient with disseminated sclerosis made at first several ineffectual efforts, his whole body being thrown into violent tremors, the feet being lifted from the ground when evidently he wished to stand upon them; and he attained at last the standing position, and took a few steps only with the help of an attendant. The patient with paralysis agitans rose without increase of tremors, and walked easily, but with a hurrying gait, the body bent forward. In answering questions, the articulation of the patient with sclerosis was observed to be greatly embarrassed, the words being clipped and uttered in jerks, syllables being often repeated three or four times, with the result that it was very difficult to comprehend him. The patients were then removed, and Dr. Buzzard gave some details of the case of cerebro-spinal sclerosis. It seemed that the man had ordinarily enjoyed good health; but, about two years ago, he was attacked with shakings of the arms and legs, only when he wished to move them. These increased, and after six months he had to give up work, but remained able to walk until six months ago. For the first six or eight months of his illness, he suffered only from the shakings; but then he began to have attacks of giddiness, with difficulty of articulation, and found that he could not read many lines without confusion in the type. At the same time, he began to experience numbness in the lower extremities, which still continued. The giddiness he had not felt for the last three or four months. At present there was some, but not much, deficiency of power in all four limbs. There was slight dulness of sensibility in his lower extremities, but no impairment of the functions of the bladder or rectum, and no loss of sexual power; nor was there loss of muscular sense. He did not suffer from flying pains, like those of locomotor ataxy, but he was subject to pain at the top of the head occasionally. The sense of smell was intact, the sight somewhat enfeebled. There was no paralysis of the third, fourth, sixth, seventh, and eighth nerves. The action of the masticatory muscles was a little irregular, and there was tremulousness of the tongue. His wife thought him as intelligent as ever; but, as he could not speak, except with difficulty, or read without embarrassment, or rise to his feet without help, he passed his time in a chair, doing nothing, and his face wore an aspect of hebetude. If he took a newspaper, he would read perhaps twenty lines fairly, but then he became confused, skipped several lines, or returned to one already read, and was forced to give over. The ophthalmoscope showed dark greyness of the optic discs, the vessels proportionate, and not tortuous; the outlines of the discs not sharply defined. In his remarks, Dr. Buzzard mentioned that, although the anatomical characters of this disease had been pictured by Cruveilhier nearly forty years ago, and about the same time by Carswell in this country, and although since that time many cases of the affection had been recorded by Türck, Frerichs, Valentina, Hasse, Niemeyer, and Leyden, it was certainly to Dr. Charcot, of Paris, that the credit was due of differentiating the disease from other forms of paralysis, and especially from paralysis agitans. This had been done during the last few years, and the diagnosis had been made so clear that it was almost impossible to understand the cause of any confusion in the two disorders, whose pathology, he might add, differed completely. Whilst the symptoms in disseminated cerebro-spinal sclerosis were always dependent upon the presence of scattered patches of indurated and condensed connective-tissue throughout the brain and spinal cord, there was no constant lesion to be found in those who died with paralysis agitans. Dr. Buzzard added, that he did not bring forward the case as a pathological curiosity, but with the hope that, the more widely diffused was the knowledge of the peculiar features of the disease, the more likely it would be that valuable information would be gleaned as to its earlier stages. In hospital practice it was only seen when confirmed, and then it was too late to treat it with any hope of success.

UNUSUAL CASE OF LEAD-POISONING.

Dr. DOWSE read the clinical notes of a case of chronic paralysis, upon which suddenly supervened diffuse general paralysis. The paralysis was not confined solely to the motor centres, but extended to the general encephalic mass. He prefaced the case by remarking that the action of lead upon the various centres must at all times be replete with interest, for many reasons. In some instances it influenced trophic nerves, and gave rise to subacute inflammation of joints; in others the abdominal plexuses were solely involved. Again, certain spinal nerve-centres were alone affected; while, lastly and most rarely, the encephalic functions were materially disturbed. The patient, of obscure family history, was twenty-six years of age, and by trade a painter. He had suffered from painters' colic upon several occasions, but otherwise his health had generally been good. When admitted into the Central London Sick Asylum, he gave one the idea of a man suffering from progressive insane paralysis in its later stage. The intellect was obtused and confused, and, although he tried to answer questions, he failed. The eyes were dull and hazy; the arms and forearms were partially raised, and the hands dropped listlessly at the wrists. He could not raise the legs from the ground without great effort. There was partial suppression and absolute retention of urine, which was highly albuminous, of gravity 1020. The clinical details of the case were minutely described up to the man's death, which took place four days after he came under Dr. Dowse's care. The temperature at the time of death was 110° Fahr. At the post-mortem examination it was stated, in connexion with the brain, that the straight sinus was occluded by a well-organised and adherent clot, and that there was sub-arachnoid hæmorrhage over the left parietal and occipital lobes. The microscopical examination of the cord and medulla gave evidence of degeneration of the grey matter, as well as abundant miliary sclerosis of the lateral and anterior columns. Upon chemical examination, the substance of the brain and cord was found to contain about $\frac{1}{250}$th of a grain of lead in each drachm.

INTRACRANIAL ANEURISM.

Mr. JONATHAN HUTCHINSON read notes of a case of intracranial aneurism diagnosed during life, and in which spontaneous cure occurred, and the patient lived eight years. Mrs. S. first came under his care in March, 1861. She was then forty years old, thin, and extremely pale. For ten years or more she had been subject to bad headaches. A year before coming under care, these became much worse, and were attended by severe throbbing in one temple, which sometimes lasted two or three days, and by a "beating under the ears." About the same time, her left eyelid drooped, and vision became dim in that eye. These symptoms persisted, and caused her to seek advice. On admission, there was on the left side complete paralysis of the external rectus, incomplete paralysis of the recti supplied by the third nerve and of the levator palpebræ; the papillary sphincter and ciliary muscle were paralysed; the superior oblique was perfect. The dilator of the iris (vaso-motor) was probably paralysed on her admission, and certainly was so a fortnight later, when she also had some loss of sensation of the left side of her forehead. There was no reason to suspect syphilis. An intracranial bruit was heard on auscultation of the head. A few months later, all branches of the third nerve became completely paralysed, the fourth still remaining perfect. There was now some implication of all the sensory divisions of the fifth nerve, but none of its branches were completely paralysed. The facial nerve remained perfect. She remained during the succeeding ten years in much the same state, suffering at times from very

severe internal headache, and, during the early part of the time, from throbbing. The fundus of the eye was healthy throughout; the other eye and orbital nerves were healthy. Aneurism of the internal carotid was diagnosed confidently by Mr. Hutchinson early in the case, and ligature of the carotid artery proposed, but deferred at the patient's urgent wish, expressed in consequence of a less confident opinion having been given by a colleague. The chief question was between aneurism and pulsating tumour. After this, the throbbing slowly subsided, the paralysis remaining; health improved somewhat, and the question of operation was abandoned. Vision of the eye remained tolerably good. In February, 1871, Mr. Hutchinson found a large pulsating tumour in the abdomen, which was confidently diagnosed as aneurismal; it was then of about six months' duration. Its early progress had been accompanied by pain in the abdomen, pain in the left leg, constipation, and inability to take food. For some weeks she was nourished solely by enemata. Death occurred early in May, 1872, she having had a large abscess in the left iliac fossa in connexion with disease of bone from pressure of the aneurism. Autopsy: A solid aneurismal tumour, of the size and shape of a bantam's egg, occupied the inner part of the left middle fossa of the skull. The internal carotid passed along its inner side, and a well-defined smooth-edged aperture, as large as a No. 6 catheter, opened from the outer wall of the vessel into the sac. The distal branches of artery were pervious. The optic nerve was in close apposition with the tumour, but it exhibited no evidence of compression. The Casserian ganglion was situated directly beneath the tumour and flattened by it. The motor nerves of the eyeball were lost on the wall of the aneurism. The aneurism was nearly solid; the opening admitted a probe only an eighth of an inch; its wall was in great part calcified. A large dissecting aneurism of the aorta was found, extending from the commencement of the thoracic part to the bifureation of the abdominal portion. In reference to the propriety of the operation, Mr. Hutchinson added that he thought its proposal had been quite justified by the group of symptoms present—the throbbing in the head, the bruit, the paralysis of the several nerves in succession,—without other assigned cause. On the whole, although the patient had survived so long, he thought it was a matter of regret that the operation had not been done, as the tumour would probably have been arrested at an earlier stage, and more completely. He urged, also, that it should be remembered that, during the first part of the case, there was from day to day considerable risk of bursting of the sac. He mentioned another case, which had been under his observation once only, in which a lady from the country, who had some symptoms of aneurism of the internal carotid, was seized with giddiness while sitting in church, and died before she could get to the door, the autopsy revealing a ruptured aneurism.

Three Cases of Pyæmia, and one of Acute General Miliary Tuberculosis complicated with Pyæmia.

Dr. Hermann Weber communicated four cases—three of pyæmia, caused by acute suppuration; and one of acute general miliary tuberculosis, caused by chronic inflammation and caseous deposit in the middle ear. *Case* 1.—A girl, aged six, was, on the fifth day of scarlet fever, seized with severe pain in the left ear, rupture of the tympani on the sixth, severe rigor with high fever (almost 107° Fahr.) on the eighth day, followed by other rigors on subsequent days, abscesses on different parts of the body, pericarditis and pleuritis, and death on the fifteenth day from the beginning of the affection of the ear. The post-mortem examination showed the left tympanum filled with pus, the phenomena of thrombosis in the small veins near the tympanum, and in the left jugular vein; those of fresh endocarditis and pericarditis and pleuritis; abscess in the liver, and embolic infarctus in the spleen. *Case* 2.—A boy, aged seven, had, on the eighth day of a diphtheritic sore throat, violent pains in the left ear, followed, on the tenth, by the rupture of the tympanic membrane, and profuse purulent discharge. Rigors set in, with high degrees of pyrexia (up to 107·3° Fahr.) on the eleventh day, and recurred at irregular intervals during three weeks, with almost normal temperatures between the attacks. Abscesses formed in several joints and at different parts of the surface of the body. The treatment consisted in large doses of quinine—viz., from sixty to 110 grains in twenty-four hours, port wine, and nourishing food. The recovery was slow, but perfect. *Case* 3.—A young man, aged twenty-one, had much pain in the right ear, already on the fifth day of a feverish sore throat; this was rapidly followed by rupture of the tympanum and profuse purulent discharge; and, two days later, by an attack of rigor, with high fever and profuse perspiration. Several such attacks occurred during the succeeding fortnight, separated by intervals of but slightly raised temperature. Abscesses formed in the mastoid region, and on different parts of the body; and there was also a slight endocardial affection. Gradually, however, the rigors became less severe, the discharges from the ear ceased, and the deafness, which had been complete on the affected side, disappeared. The treatment consisted in large doses of quinine (eighty grains per day), with iodide of potassium (twenty grains per day); in the local application of diluted carbolic acid; and in port wine and nourishing food. *Case* 4.—A formerly healthy boy, aged ten, began to complain, about twelve days after an ordinary sore throat, of pain in the right ear, with deafness on that side. The prominent and yellowish appearance of the tympanic membrane, as seen about three weeks later, led to the suggestion of perforation of the membrane, which suggestion, however, was not acted upon. About three months after the occurrence of the original sore throat, the symptoms of acute miliary tuberculosis of the lungs manifested themselves, and were rapidly followed by those of tubercular meningitis. The post-mortem examination exhibited the phenomena of general acute tuberculosis of the lungs, the pleuræ, the pericardium, peritoneum, and of the cerebral and spinal meninges; and, in addition, several pyæmic abscesses in the liver. The right tympanic cavity was filled with so-called caseous matter: the tympanic membrane was thickened and yellowish, the petrous bone and mastoid cells being normal. Dr. Hermann Weber remarked that the points in common to all four cases was, that inflammatory affections in the region of the tonsils and fauces had led through the Eustachian tube to inflammatory affections of the middle ear, and to subsequent infection of the whole system; but that there was this remarkable difference, that the general infection caused in three cases by the acute inflammation and suppuration was pyæmia, while that caused by the chronic inflammation leading to caseous deposit or metamorphosed pus was acute miliary tuberculosis, with only some traces of pyæmia in the liver. He was inclined to think that, if the general infection in this latter case had occurred at an earlier period of the disease—viz., before the pus had been transformed,—the result would have been pyæmia, as in the other three cases, and that possibly the pyæmic abscesses in the liver had been formed at that earlier period alluded to.

Friday, April 23.

E. Headlam Greenhow, M.D., F.R.S., Treasurer and Vice-President, in the Chair.

Fibroma.

Dr. Tilbury Fox communicated for Dr. Gustavus Fritsche, of Poland, a case of fibroma weighing thirty-five pounds, which was successfully removed. The case occurred in the surgical clinical establishment at Warsaw, and was operated upon by Dr. Kosiuski in that hospital. The patient, a female aged twenty-seven, stated that the growth had existed from childhood, and in all probability was congenital, as directly after birth a little dark spot was observed in the position of the subsequent growth. It increased slowly, and assumed great dimensions, so that the patient could not stand long, could not lie on her back, and could not work. Three years before admission, she observed a sore place on the lowest part of the growth; and there escaped from it an enormous quantity of serous fluid. When admitted, the patient was seen to be of medium stature and weakly constitution. Her skin was pale, rough, and covered with a great number of dark brown spots, especially on the extremities. In the sacro-lumbar region was a large tumour hanging to the knees of the patient when she was in the erect position. The pedicle of the tumour extended from the eleventh dorsal vertebra to the junction of the sacrum with the coccyx, and on the sides to lines drawn perpendicular from the ends of the eleventh ribs. The skin covering the growth was of a brown colour, and was very thick. At its lower part were numerous enormously enlarged lymphatic vessels in and under the skin. The whole mass was very soft, and felt like a bag filled with a gelatinous mass. The tumour was removed by an incision made round the pedicle; and afterwards, by a few deep cuts, the mass was separated from the body. A large quantity of blood was lost; and the patient, after the operation, was very weak and

exhausted. The healing of the wound, which was retarded by an attack of erysipelas, occupied six months. The growth weighed thirty-three pounds, without the fluid and blood which escaped during the operation, and which would have weighed at least two pounds. Microscopic examination of the tumour showed that it consisted of long bundles of cellular tissue, which was in some places very loose. These bundles contained many spindle-cells, and formed a network, the meshes of which contained much fluid, with a great percentage of albumen and many wandering cells. At the end of six months the patient left the hospital in good health and much strengthened.

Mr. POLLOCK said that in all the cases he had seen there had been both large and small masses. Everything, too, should be done to save blood in operating. In his last case this had been done by passing ligatures round the mass to be removed, the veins of which were as large as the fingers, and the arteries the size of the radial. Much was left behind, but the mass removed, extending the whole length of the thigh, was so great that the patient sank after the operation.

Disordered Nerve-Function in an Infant.

Mr. THOMAS SMITH related the following case. L. C., a girl sixteen months old, the only child of healthy middle-aged parents, was under the care of Dr. Chaldecott, of Chertsey. She was healthy up to a year old, when she could walk. At this time she began to cut her teeth rapidly, and suffered from disordered bowels, being for the most part troubled by obstinate constipation, but occasionally suffering from diarrhœa. Her urine became high-coloured and very offensive. She gradually lost strength, became unable to walk, and finally was too feeble even to sit up. She had no convulsions. When first seen by Mr. Smith, she had been ill for four months; her expression was anxious; face pallid; she was very irritable; she could neither sit nor stand. The skin was everywhere harsh and dry; on the front of the belly it was shrivelled, and looked as if she had borne children. The pulse, tongue, and respiration were natural; the bowels, though obstinately constipated, were less so than heretofore. There was scarcely any hair on the head. She held her hands to her head like a child suffering from cervical caries. There was tenderness over the spine in the sacral region. There was no paralysis of sensation or motion. The urine and fæces were normally retained. The following phenomena were observed:—The child, who was extremely fretful and irritable, could at once be quieted by scratching roughly either the palms of the hands or soles of the feet. If this were done, she at once became quiet; the expression of her face completely changed; her muscles relaxed; and in a minute or two the parts scratched lost their dry and horny condition, and became warm and soft. Meantime, perspiration began to flow most profusely, until it dripped from the surface. The parents said that as long as this irritation was continued the same phenomena were observable; and that the child would remain quiet even for hours. The same results could be obtained by scratching the scalp, or by plucking out the hair. The present hairless condition of the head was due to the child having torn off her own hair for her own pleasure. She had been treated with advantage by bromide of potassium and hydrocyanic acid, and her constipation had been relieved by small doses of jalapin with podophyllin. Two months later, under the continuance of the same treatment, all symptoms, with the exception of the constipation, had disappeared. The urine was normal; the skin moist and soft; the palms and soles were no longer dry and horny, and she could not bear to have them touched. The hair was growing well on the head: she had no pain; she could sit up, and even walk. The improvement had been gradual and persistent. Mr. Smith brought this case before the Society as an instance of that form of hysteria known as spinal irritation, and fully described by Dr. Radcliffe, the late Dr. Anstie, and others: a disease seen, as he said, too frequently in adults, especially in the middle and upper classes, but most rarely met with in infants.

Scald of Glottis, with Deposit of Diphtheritic Membrane in the Pharynx, Larynx, and Bronchi.

Mr. R. W. PARKER read notes of the case. The patient was a little girl, aged three, under the care of Mr. Thomas Smith, in the Hospital for Sick Children. She had put her mouth to the spout of a kettle, which was boiling on the hob, and from which steam was actually issuing at the time. She would not swallow anything that same evening; but there was no difficulty with her breathing. Indeed, the immediate effects of the accident seem to have been slight, as she was not seen by a medical man for thirty-six hours. It was not until three days afterwards that the breathing became really affected, and she had a "croupy" cough for the first time. During the next two days her breathing became more laboured, and her voice weaker; and on the sixth day from the accident she was admitted into the hospital. She was now exceedingly low and depressed, breathing very rapidly and with great difficulty, but she did not struggle for breath. Her voice was entirely suppressed. There was great contraction of the hypochondriac regions with each inspiration. The mouth was carefully examined, and the lips, tongue, palate, and tonsils were found free from any visible injury. On the posterior wall of the pharynx a small patch of membrane was seen. An ice-bag was applied to the neck, but at the end of two hours there was no amelioration, so tracheotomy was performed. Two long pieces of membrane were got up with the aid of a feather, one of which was tubular and about the size of a crow-quill. The child was greatly relieved by the operation. The general condition, however, rapidly got worse; she ceased to take notice of anything or anybody, and died thirty-six hours later, of blood-poisoning and exhaustion. The post-mortem examination showed the lips, tongue, and tonsils to be normal. Two small erosions existed on the hard palate at its junction with the soft. The anterior surface of the soft palate was normal; its posterior surface was rather swollen and mammillated in appearance, from swelling of the glands of its mucous membrane. There was a small patch of membrane on the bone of the uvula, and another just above the left arch of the palate, another piece on the posterior surface of the posterior pillars of the fauces; these pieces were not perfectly separable from the mucous membrane. The epiglottis was covered with membrane, and was thickened and swollen, as were also the aryteno-epiglottic folds. The tracheal mucous membrane was intensely red and injected, and coarsely granular in appearance; this appearance extended as far as the tertiary bronchi. In some of the bronchi, pieces of thin, reddish, well-formed membrane were found. In the lungs there were patches of slight superficial collapse; the margins and bases were slightly emphysematous. No pneumonia was present anywhere. No urine was observable during life, but a little found in the bladder after death contained albumen and hedgehog crystals of urates. It was argued that the membrane was not directly due to the hot steam, therefore that it was not a slough—1. Because those parts with which the steam would first come in contact were not injured, while parts with which the steam could not come in contact were patched with membrane; and, further, because membrane was found in the tertiary bronchi, where, even if the steam penetrated at all, it must have been so cooled by admixture with the contained air, and by contact with the bronchial secretion, that it could not then have caused the extensive mischief described. 2. Because the dyspnœa did not commence until three days after the accident, and only became urgent on the sixth day. The insidious onset of the more acute symptoms, on the contrary, suggested the diphtheritic nature of the complication, and the post-mortem evidence favoured this view. Mr. Parker maintained that the fact that false membranes had been found under a variety of circumstances, such as scalds of glottis, foreign bodies in the larynx, and in cut-throat cases, could scarcely be urged as an argument in favour of the non-specific nature of such exudations, any more than that the erysipelas which attacked a hospital patient after operation was non-specific, because the patient, though in exactly the same surroundings, had resisted the contagious influence for five or six weeks previous to his operation. Finally, the identity of croup and diphtheria was inferred from the fact that the same contagion would produce the two diseases indifferently, and, in illustration, the following cases were read:—A little girl was taken into the Children's Hospital with typhoid fever, and when she was in the fourth week of the disease, she had laryngeal diphtheria, and had to be tracheotomised. The disease began with a loud croupy cough, and slight hoarseness, which lasted for several days, but there was no dyspnœa. There was no enlargement or tenderness of the submaxillary grounds. There was no albumen in the urine; there was no dysphagia: no marked depression; and there was no membrane about the fauces. After an emetic on the fourth day of the disease, she vomited freely, and, in the effort of vomiting, she brought up some tough white membrane; other pieces were brought up on the two following days. Being much worse, she was tracheotomised. On the

ninth day after the operation, the urine became albuminous, and continued so for eight or ten days. She recovered. A few days later, another child in this same ward, who was under Mr. Smith for scrofulous disease of the knee-joints, began to be ill, with symptoms of languor and depression; then her temperature rose to 104·4° Fahr., she was flushed, and felt sick, and could not swallow without discomfort. On closer examination, it was found that there was swelling and tenderness of the glands below and behind the angles of the lower jaw. The uvula was of a deep red colour and swollen. Both tonsils were enlarged, and deep red in colour, and on the inner surface of each there was a patch of white membrane the size of a fourpenny-piece. The voice was pharyngeal in quality, otherwise not altered. There was no dyspnœa; no albumen in the urine. In eight days from the commencement, the membrane had entirely disappeared, the swelling of the throat was subsiding, and the child's general condition improving. She quite recovered. A fortnight later, one of the nurses in the same ward had a sore throat. On examination, the fauces were found red and congested, the tonsils large, and the left one spotted with half a dozen small white dots. The submaxillary glands were not enlarged. Now, had the first case not been operated on, she would quickly have died, and the disease in her case would have been found localised in and confined to the larynx, and on post-mortem examination it would have been demonstrated as true croup; while, had the second child died, the case would just as certainly have been called one of diphtheria; and there would be no hesitation in speaking of the third case as follicular tonsillitis. No doubt these three diseases were due to one and the same cause, the difference in manifestation being the result of idiosyncrasies of the individual attacked, or of the organ implicated.

Dr. Dickinson could not agree with the view taken. It was not likely that the child would be scalded one day and take infectious disease next. Boiling water might well produce membranous inflammation of the larynx. The idea that croup and diphtheria are the same was somewhat startling. Clinically they differed widely, at least in typical cases; and so also did they differ in their etiology. It was a question well fitted for such a society, the President (Sir W. Jenner) having recently given expression of his views as to their identity, whilst others thought the argument of their non-identity not to be overcome.

Dr. H. Fagge fully agreed with Dr. Dickinson. Every week or two a child was brought into a hospital with croup. If it died, membranes would probably be found in its pharynx, larynx, and perhaps bronchi. According to nomenclature, the former would be diphtheritic, the latter the result of croup. But, in truth, diphtheria was mainly an epidemic disease, and was as contagious as an exanthem. The truth was that much confusion had arisen from the use of the German terms, croupous and diphtheritic.

Dr. Duckworth concurred, and thought that the presence of false membranes in the pharynx was no sure sign of diphtheria.

Mr. T. Smith thought that Mr. Parker's case showed that the membrane produced by local irritation was precisely the same as diphtheritic exudation. He had also seen cases of croup to which diphtheritic symptoms were superadded, and where the patients died apparently as the result of these, though tracheotomy had been performed with relief.

Mr. Barwell had seen children scalded by sucking hot kettles, and when it was possible for water to reach the larynx. In one the larynx was covered with false membrane.

Dr. Cayley thought that in different constitutions the same cause might produce different effects. In some cases he had seen croup prove fatal in forty-eight hours. Whether tracheotomy were performed or not, there was always false membrane to be found in the throat. These were cases of truly laryngeal diphtheria. There were two kinds of diphtheria—in one of which the general symptoms seemed most marked, while in the other the throat symptoms seemed to be the most important.

Dr. Greenhow held strongly the view that croup and diphtheria were distinct. The depressing effects of diphtheria were strongly marked. He narrated a case illustrating this opinion.

Mr. Parker having replied in support of his views, the meeting adjourned.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, April 27.

Sir James Paget, Bart., F.R.S., D.C.L., LL.D., President, in the Chair.

On the Pulmonary and Cardiac Complications of Abdominal Tumours.

Dr. William Henry Day read a paper entitled "Practical Observations on the Pulmonary and Cardiac Complications of Abdominal Tumours; with Remarks on Blood-letting after Surgical Operations." The author first described some of the effects of solid or cystic abdominal tumours, and of large collections of fluid in the peritoneal cavity, in displacing the thoracic organs, and inducing a long series of constitutional and local symptoms. He showed the importance of ascertaining the condition of the lungs and heart before deciding upon the removal of fluid or of tumours from the abdominal cavity. He examined the effects of rapid and of gradually increasing pressure upon the thorax, and also the results of the rapid removal of pressure by tapping, or by the removal of a tumour; advocating the gradual removal of pressure whenever practicable, and giving several instances to prove the utility of venesection in cases where portions of lung which had been compressed have rapidly expanded, and congestions or hepatisation have followed. He also gave instances in which organic diseases of the lung have been relieved after the pressure which aggravated the symptoms had been removed. He compared the pulmonary symptoms which often follow operations on the abdomen with the more ordinary forms of bronchitis or pneumonia, and gave practical details of treatment in different classes of cases. The author ended his paper by endeavouring to enforce the two following conclusions:—1. That the surgeon who treats cases of abdominal distension must not overlook the pulmonary and cardiac complications which are due to compression or displacement. 2. That the success of operations for the removal of abdominal tumours may be increased or diminished by careful examination of the state of the chest before operation, and by equally careful attention after operation, not only to the parts involved in the surgical proceedings, but also to those changes in the blood and in its circulation through the heart and lungs, and to the effects on these organs which are due to sudden removal of pressure alone, or to other causes of considerable elevation in the temperature of the blood.

Mr. Knowsley Thornton had seen cases like those referred to by the author. There were two questions—When should blood-letting be performed, and in what kind of cases? He thought it should be done at once, with flushing of the face and hot dry skin; later it did not suit so well. In many cases cold to the head did great good; a constant stream could be kept up, and this sometimes improved matters in a short time.

Dr. Protheroe Smith said he had recently prepared patients for ovariotomy by small bleedings.

Mr. Spencer Wells doubted if this would do much good. He had recently had four or five cases where bleeding did much good when used early and freely. He thought the ice-cap more useful than the cold pack under certain conditions.

Treatment of Aneurism by Direct Temporary Compression.

Mr. John Wood communicated for Mr. Arthur F. McGill (Surgeon to the Leeds Public Dispensary) the notes of a case of left subclavian aneurism treated by temporary compression applied directly to the artery in the first part of its course. The patient, a laundress, aged thirty-five, had been suffering from an aneurism of the third part of the left subclavian artery for three years. She had been treated by digital compression, by manipulation, and by repeated galvano-puncture. The first two methods were adopted without result; the last with great, though temporary, improvement. In December, 1874, it was found, on examination, that the pulsation extended upwards from the centre of the clavicle for an inch and a quarter, and downwards and outwards from the same spot for two inches and a half. The patient was suffering much from pain; her rest was impaired, and she was rapidly becoming worse. Under these circumstances it was determined to try the effect of temporary compression applied directly to the artery at the first part of its course. On January 2, 1875, the operation was performed. An incision was made from the centre of the sternum upwards along the anterior border of the sterno-mastoid for two inches, and another of the same

length along the clavicle. The sternal and part of the clavicular origin of the sterno-mastoid muscle was then divided, and the anterior scalenus and first rib were reached. After searching with the finger, the artery was found displaced backwards, and an aneurism needle was passed round it. In passing the needle a small opening was made in the pleura. The artery being isolated from the surrounding structures, a pair of torsion-forceps were applied, and left on for ten hours and a half. The next day there was a return of pulsation in the sac; but this disappeared in twelve hours. She was apparently doing well, when symptoms of pleurisy and bronchitis supervened, and she died at the end of five days and a half. Leave could not be obtained to make a complete post-mortem examination, but a partial examination at the seat of the operation was allowed. The forceps had been applied at the point where the vertebral is given off, and at that position the artery was patent and healthy. The aneurism, which commenced a quarter of an inch from the thyroid axis, and extended outwards for three inches and a quarter, was filled with a hard clot, and was, in fact, cured. The operation was only performed after grave consideration. It was thought (1) that no other method of treatment could be adopted with advantage, (2) that the proposed operation was practicable, and (3) that there was a reasonable prospect of success. The second of these opinions was arrived at after making many dissections on the dead body, and after learning that Dr. Rodgers, of New York, had applied a ligature to the subclavian artery in this position. It was thought that the application of a ligature in the ordinary manner was unjustifiable, as experience showed that patients on whom this operation was performed almost invariably died of secondary hæmorrhage. It was hoped that by applying temporary compression this accident would be avoided, while the experience of the rapid-pressure treatment of aneurisms introduced by Dr. Murray showed that a cure by this procedure was not improbable. When this method of treatment is adopted, the cure is not effected by the gradual deposition of layers of fibrin, but by the sudden coagulation of the contents of the sac. This will account for the return of the pulsation on the second day after the operation. Though in this case the treatment has not been successful, it seems probable that it may hereafter prove so in similar cases.

Mr. JOHN WOOD said it was very difficult to apply force directly to the vessel so as to avoid sloughing. Mr. Gill was to be applauded for bringing such a case forward.

Mr. H. LEE said the filling of an aneurismal sac was not the same as curing the aneurism. In a case of his a clot formed, but again disappeared, the patient being restless, and portions of it seemed to pass along the vessel, giving rise to great pain.

Mr. HULKE called attention to Scarpa's method of using a broad band.

Sir JAMES PAGET spoke of the method employed by Mr. Dix, of Hull, who used wires drawn out through the skin, and tied over corks, so that the ligatures could be tightened or loosened.

Mr. MCGILL briefly replied, and the meeting adjourned.

NEW INVENTIONS.

THE "UNIQUE" DRY SHERRY.

To those who appreciate and like a dry sherry we can commend this wine. It is of a light, delicate colour, is clean and very pleasant on the palate, and leaves no sensation of heat or acidity. We believe it to be a sound, wholesome wine, and it is certainly cheap at thirty shillings per dozen, at which price it is supplied by H. R. Williams and Co., 3, Limehouse-street.

OREZZA WATER.

THE Vichy Water Company, of Margaret-street, have sent us some samples of a new acidulated ferruginous mineral water from a spring in Corsica. According to the analysis and report of Professor Poggiale, received by the French Academy of Medicine, the water is remarkable for containing unusually high proportions of carbonic acid and of the carbonates of iron and magnesia. It is said to be highly esteemed by the profession in Corsica in cases of anæmia, leucorrhœa, and like conditions, and especially in cases of slow and weak digestion. It is at any rate pleasant and refreshing to the taste.

OBITUARY.

WILLIAM HEY, F.R.C.S., ETC.

THIS well-known surgeon died at Gledhow-wood, Leeds, on the 10th inst., aged seventy-eight. Mr. Hey belonged to a family prominently known in the history of surgery. His grandfather, father, and himself held the office of Surgeon to the General Infirmary, Leeds, for upwards of 100 years, while a son of the deceased is at the present time Consulting Surgeon to that institution. The deceased was one of the senior Fellows of the Royal College of Surgeons of England, a Justice of the Peace, and Deputy Lieutenant for the West Riding of Yorkshire.

MEDICAL NEWS.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS, EDINBURGH.—DOUBLE QUALIFICATION.—The following gentlemen passed their first professional examination during the April and May sittings of the examiners:—

Baker, James Payne, Kent.
Bentley, Charles E., Bombay.
Boyle, Thomas, Maghera.
Drummond, J. H. G., Manchester.
Duncan, A. T., Banffshire.
Durand, Rodolphe, Mauritius.
Greasley, Joseph, Melton Mowbray.
Harris, Alfred Edwin, Cork.
Heslop, Robert Blumer, S. Shields.
Hunter, Henry, Bradford.
James, Henry Godfrey, co. Tipperary.
McCormick, Thomas C., Castlederg.
Mackay, John C., Portsmouth.
Macleod, Alexander William, Yarmouth.
Monaghan, Thomas Joseph, Tuam.
Redpath, R. K. W., Edinburgh.
Rundle, Cuvitt T., India.
Sandberg, Arthur G., Rotherham.
Smyth, Francis Sydney, Great Yarmouth.
Watson, John Adam, Edinburgh.

The following gentlemen passed their final examination, and were admitted L.R.C.P. Edin. and L.R.C.S. Edin.:—

Ballingall, William, Dunfermline.
Birtwell, Daniel, Clayton-le-Moors.
Cox, Joshua John, Clifden, Ireland.
Crampton, John S., Borrisokane.
Elliot, Henry Francis, Devonshire.
Foshrooke, Fredk. James Richard, Wigan.
Grier, Francis, co. Armagh.
Gunn, John, Beaverton, Canada.
Hamilton, Archibald Alexander, Cawnpore.
Hanson, Hargreaves Hallis Halls, Melton Mowbray.
Harris, John, Wexford.
Keir, William Ingram, Musselberg.
Kendall, John, Lancashire.
Mackay, John, Sutherlandshire.
M'Laughlin, Thomas, co. Derry.
Montgomery, Samuel, Ballynahinch.
Montgomery, Samuel, Straidarron, Derry.
Murray, Alexander Dalton, Edinburgh.
Nailer, Henry Augustus Fitzroy, Madras.
Oliver, John Fernis, Durham.
Page, Frederick Matthew, Corfu.
Perrier, William Deane, Cork.
Ramsden, Walter Thurmond, Yorkshire.
Rees, Frederick Musson, Bermuda.
Reid, Adam, Lisburn.
Rogers, Amos, Bradford, Canada.
Smith, John Percival, Great Yarmouth.
Spark, Sydney Walter, co. Cork.
Thomson, James Statt, Dalkeith.
Walker, Thomas Hatfield, York.

KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.—At monthly examination meetings of the College, held on Tuesday, Wednesday, and Thursday, May 11, 12, and 13, the licence to practise Medicine was granted to:—

Barker, Joseph Collin.
Butler, Arthur.
Ryan, William.
Thompson, William.
Williams, Thomas Edward Henry.
Wright, William Henry.

The licence to practise Midwifery was granted to:—

Barker, Joseph Collin.
Doyle, Bernard.
Nixon, George Michael.
Thompson, William.
Williams, Thomas Edward Henry.
Wright, William Henry.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having undergone the necessary examinations for the diploma, were admitted Members of the College at a meeting of the Court of Examiners on the 18th inst., viz.:—

Barrow, Arthur Haynes, L.S.A., Denbigh-place, S.W., student of St. Thomas's Hospital.
Barrow, John, L.S.A., Hildrop-crescent, Camden Town, of St. Bartholomew's Hospital.
Bell, Charles Edward Wallace, Exeter, of Guy's Hospital.
Bernays, Herbert Leopold, L.S.A., Chatham, of St. Thomas's Hospital.
Edwards, Arthur Elliott, Antigua, West Indies, of St. Bartholomew's Hospital.
Fenwick, Kenneth Neander, M.D. Kingston, Kingston, of St. Thomas's Hospital.
Harper, Robert Russell, Holbeach, Lincolnshire, of St. Thomas's Hospital.
Hayman, Frederick Dell, Sandown, Isle of Wight, of St. Bartholomew's Hospital.
Mallam, George Bessant, Oxford, of Guy's Hospital.
Molson, William Alexander, M.D. McGill College, Montreal, of St. Thomas's Hospital.
Piggot, Allen, L.R.C.P. Edin., Beckingham, Essex, of Guy's Hospital.
Ritchie, John Lichtenstein, M.D. McGill College, Halifax, Nova Scotia, of St. Thomas's Hospital.
Seward, William Joseph, L.S.A., Hereford, of University College.
Spark, John, Lee, Kent, of St. Bartholomew's Hospital.
Williams, Edward Hanbury, Brighton, of Guy's Hospital.

The following gentlemen were admitted Members on the 19th inst., viz. :—

Booth, John Bennion, Lancaster, student of Guy's Hospital.
Brown, Thomas, Kennington-park-road, of Guy's Hospital.
Burrows, William Seymour, B.A. Cantab., Brighton, of St. George's Hospital.
Ferrand, Edward, Granville-square, of St. Bartholomew's Hospital.
Hall, William Henry, Caterham, of Guy's Hospital.
Henderson, Edward Guy, M.D. McGill, Belleville, Canada, of St. Thomas's Hospital.
Miles, George Edward, Jamaica, of Guy's Hospital.
Newton, William Thomas, L.S.A., Lakenheath, Suffolk, of St. Bartholomew's Hospital.
Pepper, Augustus Joseph, Barrowden, Rutland, of University College.
Phelps, Arthur Martin, M.A. Cantab., Camden Town, of St. Thomas's Hospital.
Richards, Robert Crout, Portreath, Cornwall, of Guy's Hospital.
Shera, Henry Arthur, L.R.C.P. Edin., Sale-hill, Sheffield, of St. Bartholomew's Hospital.
Smith, Maurice Henry, Queen Anne-street, of St. Mary's Hospital.
Theed, William Cawood, L.S.A., Wokingham, of Guy's Hospital.
Thompson, Harold, L.S.A., Oxford, of St. Bartholomew's Hospital.
Walsh, Henry William Duffield, Watford, of St. Mary's Hospital.
Weakley, Samuel Joseph John, Upton, Essex, of St. Bartholomew's Hospital.
Wharton, Henry Thornton, M.A. Oxon., Boundary-road, N.W., of University College.

The following were the questions on Surgical Anatomy and the Principles and Practice of Surgery and Medicine submitted to the candidates, who were required to answer at least four, including one of the first two in the surgical paper:—*Surgery.*—1. Describe the course and relations of the internal pudic artery; and specify the operations in which any particular branch of it is liable to be wounded. 2. Describe the operation of resection of the elbow-joint; and enumerate, in their proper order, the parts divided. 3. What complications may accompany an apparently simple stab of the abdomen, two inches to the right of the umbilicus? and what would be the immediate appropriate treatment, according to circumstances, of the case? 4. How may the patella be fractured? Describe the principle of the treatment of this injury, and the various appliances used. How do these fractures unite? and on what does the subsequent efficiency of the limb depend? 5. Describe the structural changes which must precede completed bony anchylosis. 6. What is a hæmatocele? If subjected to incision, what are the pathological changes which precede the cure? *Medicine.*—1. You are called to a child acutely ill with sore throat; how would you distinguish between cynanche tonsillaris, scarlatina, and diphtheria? Give a short description of these three diseases. 2. Describe briefly a case of locomotor ataxy, of progressive muscular atrophy, of lead paralysis, and of general paralysis of the insane. Mention also briefly the different forms of electricity and galvanism used in medicine, and their mode of application. 3. Mention the medicines contained in the Pharmacopœia which are used as diuretics; and state the doses which you would give. Write two prescriptions in full for diuretic mixtures.

ROYAL COLLEGE OF SURGEONS, EDINBURGH.—The following gentlemen passed their first professional examination during the April and May sittings of the examiners :—

Blockley, W., Boughton, Gloucester.
Burgess, Edward, Kincardineshire.
Cowcher, Edward Roland, Bath.
Davies, Griffith H., Wisconsin.
Hanan, Thomas James, Cork.
Hueston, Jas. Lyle, co. Derry.
Jolly, Samuel Aird, Portarlington.
Mickle, Arthur W. T., Kirbywiske.

And the following gentlemen passed their final examination, and were admitted Licentiates of the College :—

Bankier, George Henry Seymour James, London.
Bond, William Jas., Londonderry.
Crichton, George, Perth.
Fearnley, Wm., West Hardwick.
Fenton, Henry Arthur, Doncaster.
Garson, John George, Orkney.
Gasett, Frederick C. Maitre, Toronto, Canada.
Lunan, Charles Smith, Blairgowrie.
M'Kechnie, Alexander, Jura.
Hamilton, John Rogerson, Dumfriesshire.
M'Lachlan, Andrew, Ayr.
Mickle, Adam F. John, Yorkshire.
Phillips, William Fleming, Glasgow.
Tunstall, Alfred Croudson, Bristol.
Vines, Edward Prince, Reading.
Wood, William Edward Ramsden, London.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, May 13 :—

Bradford, Peter, Hanley, Staffordshire.
Manders, Horace, The Green, Marlboro'.
Pitt, Richard Joseph, Willsbourne, Warwick.
Potter, Henry Percy, Denmark-hill.
Sandford, Horace Charles, Hereford.

The following gentlemen also on the same day passed their primary professional examination :—

Lewis, Edwin Alaric, University College Hospital.
Heard, Charles Goodridge, St. Bartholomew's Hospital.
Potts, Lawrence, Charing-cross Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that place.

ADAMS, EDWARD BURMAN, M.R.C.S. Eng., L.S.A.—Medical Officer for the Bungay District of Wangford Union.

LOWNE, B. THOMPSON, F.R.C.S.—Surgeon to the Great Northern Hospital.

MCCORMACK, M. P. C., L.R.C.P., L.R.C.S. Edin., L.A.H., Dub., L.M. Dub.—Government Medical Officer, Jamaica, West Indies.

RICHARDSON, JOHN B., L.R.C.P. Lond. and Edin., M.B., C.M., L.R.C.S., and L.M. Edin.—House-Surgeon at the Torbay Infirmary, Torquay.

VENN, ALBERT, M.D.—Senior Obstetric Assistant to St. Bartholomew's, Hospital, London, *vice* W. Hope, M.D.

WALKER, WILLIAM, M.R.C.S., L.S.A.—House-Physician to the Royal Infirmary, Manchester.

NAVAL APPOINTMENTS.

ADMIRALTY.—Leonard H. J. Hayne, M.D., Fleet Surgeon to the *Duke of Wellington*; Leonard Lucas, Staff-Surgeon to the *Royal Adelaide*, additional; W. H. Colahan, M.D., Surgeon, additional to the *Royal Adelaide*; John Wood, Surgeon, additional to the *Audacious*.

BIRTHS.

BARRACLOUGH.—On May 14, at Dulwich-road, S.E., the wife of R. W. Sutton Barraclough, L.R.C.P., M.R.C.S., L.S.A., of a daughter.

LARKIN.—On May 17, at 44, Trinity-square, Southwark, the wife of F. G. Larkin, M.R.C.S. Eng., of a son.

MORRIS.—On May 10, the wife of Henry Morris, Esq., late Staff-Surgeon 6th Royals, of a daughter.

PATERSON.—On May 14, the wife of Robert Haldane Paterson, L.R.C.P., M.R.C.S., of Scunthorpe, Lincolnshire, of a daughter.

ROWLAND.—On May 14, at Malvern Wells, the wife of H. Mortimer Rowland, M.D., of a daughter.

MARRIAGES.

GOODDAY—WINTERBOTTOM.—On May 15, at St. Saviour's, Aberdeen-park, Highbury, Augustus, second son of Horatio Goodday, M.D., of Bayswater, to Edith Maud Georgia, second daughter of the late W. C. Winterbottom, Esq.

MCANDREW—EYRE.—On May 12, at the Church of Our Lady, St. John's Wood, James John McAndrew, M.R.C.S., of Limehouse, to Teresa Mary Wilhelmina, third daughter of John Joseph Eyre, Esq., J.P., Clifden Castle, co. Galway, and 25, Abbey-road, N.W.

SMITH—COWDELL.—On May 18, at St. George's, Hanover-square, Henry Barton Liddell Smith, M.B., eldest son of T. Henry Smith, Esq., of 13, John-street, Berkeley-square, to Margaret Henrietta, second daughter of the late Charles Cowdell, M.D., of Doncaster.

DEATHS.

DOWN, JANE, wife of the late John Sommers Down, M.D., and third daughter of the late Rear-Admiral James Bowen, at Burrow Lodge, Ilfracombe, on May 8, in her 84th year.

MOORE, S.W., M.D., of St. George's Hospital, at his residence, 200, Brixton-road, S., on May 15, in his 28th year.

NAUCE, JAMES, F.R.C.S., at Eccleshall, Staffordshire, on May 15, in his 57th year.

SMALL, LILIAS CATHERINE, daughter of David Henry Small, Surgeon-Major Bengal Army (Retired List), of Colville-square, aged 18.

WOAKES, EDWARD, M.R.C.S. Eng., L.S.A., at Luton, Bedfordshire, on May 9, aged 73.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

BRADFORD INFIRMARY AND DISPENSARY.—Physician. Candidates must be duly qualified. Applications, with testimonials, to Mr. Charles Woodcock, Secretary, 65, Market-street, Bradford, on or before June 12.

BRISTOL GENERAL HOSPITAL.—Physician's Assistant. Candidates must possess a registered medical qualification. Applications to the Secretary, on or before June 4.

CHARING-CROSS HOSPITAL.—Resident Surgical Officer. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before May 26.

CHELTENHAM GENERAL HOSPITAL AND DISPENSARY.—Honorary Medical Officer. Candidates must be M.R.C.P. Applications, with testimonials, to the Board of Governors, on or before June 5.

LEICESTERSHIRE AND RUTLAND LUNATIC ASYLUM, LEICESTER.—Assistant Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to the Clerk to the Visitors, Mr. W. N. Reeve, New-street, Leicester, on or before June 4.

ROYAL FREE HOSPITAL, GRAY'S-INN-ROAD.—Honorary Surgeon. Candidates must be F.R.C.S. Eng. Applications, with testimonials, to the Secretary, at the Hospital, on or before May 24.

ROYSTON UNION.—Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to Mr. Henry Thurnall, Royston, on or before June 7.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY AND FEVER HOSPITAL.—House-Surgeon and Dispenser. • Candidates must be duly qualified. Applications, with testimonials, to the Honorary Secretary, on or before June 1.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Frome Union.—Mr. E. Bush has resigned the First District; area 9481; population 12,265; salary £144 per annum.

Honiton Union.—Mr. R. B. Morrell has resigned the Fourth District; area 14,040; population 4941; salary £112 per annum.

APPOINTMENTS.

Abingdon Union.—Charles Hemming, M.D. St. And., M.R.C.S. Eng., L.S.A. Lond., to the Second District and the Workhouse.

Ashbourne Union.—Thomas E. Shannon, M.D. Glasg., F.R.C.S. Edin., L.S.A., to the Longford District.

Houghton-le-Spring Union.—John R. Sutherland, L.R.C.S. Edin., to the Rainton District.

HEALTH OF LONDON.—In London, last week, 1427 deaths were registered, which exceeded by 3 the average number. The death-rate declined from 23 to 22 per 1000. 86 deaths occurred from whooping-cough, 59 from scarlet fever, and 24 from measles; not one from small-pox. The fatality from scarlet fever was greater than in any week since January, whilst that from whooping-cough was also above the previous week. To the seven principal diseases of the zymotic class 220 deaths were referred, against 194 and 181 in the two preceding weeks. These 220 deaths were 18 below the average number from the same diseases, and were equal to an annual death-rate of 3·3 per 1000. Diseases of the respiratory organs caused 267 deaths. In the two previous weeks the numbers were 354 and 534 respectively.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

Dr. Newbould, Gisborne.—Letter, with enclosure, received.

A Fellow.—The late Mr. William Webber, formerly of Norwich, was *not*, as stated a few days since in the obituary of the *Times*, a Fellow of the Royal College of Surgeons.

W. H. W., Great Yarmouth.—Yes; Lady Smith, the widow of the celebrated botanist, Sir Edward Smith, has just entered on the 103rd year of her age, and is remarkably well.

R. M. S. C., St. Thomas's.—Some time ago the county court judge at Sheffield nonsuited a licentiate of the Royal College of Physicians who sought to recover his charges for medicine which he had supplied to one of his own patients. The College thereupon caused another case to be taken before the same judge; and the Registrar of the College having attended and given evidence in the matter, the Licentiate obtained a decision in his favour.

Como.—The first evidence of the existence of phosphorus was obtained by the Saracens in the eighth century.

J. J.—*Journal of the Chemical Society*, second series, vol. x., p. 362.

W. J. S. A.—The fact of the composition of water was, we believe, first shown by Mr. Cavendish, who demonstrated it by *burning* oxygen and hydrogen gases in a dry glass vessel. A quantity of pure water was generated exactly equal in weight to that of the gases which had disappeared.

Inquirer.—The paper was read before the Medical Society of London in 1823.

Arthur E.—The words are Southey's, and are as follows:—

> "Go, little book, from this my solitude;
> I cast thee on the waters—go thy ways;
> And if, as I believe, thy vein be good,
> The world will find thee after many days."

O. O.—1. Yes. 2. Sugar, which has been used in Europe for several centuries as a condiment, was imperfectly known, and was not in common use among the Greeks and Romans. Chinese sugar in small quantities occasionally found its way into ancient Europe, and the Greek physicians who procured it from the Arabian merchants employed it as a medicine. From 1466 to 1580 sugar was rare in England, being procured from the Portuguese, Venetian, and Genoese, and was used only in the houses of the wealthy or in medicine.

M. W.— "His dissolute disease will scarce obey this medicine."
—*Merry Wives of Windsor.*

Rudolph.—Dr. John Murray, of Westgate-street, Newcastle-upon-Tyne, had been for thirty-three years prior to his death Surgeon to the Newcastle Dispensary. He died at the age of sixty-five on September 12, 1834.

A Fellow and J. W.—The annual election of Fellows into the Council of the College of Surgeons will take place on Thursday, July 1, of which you will receive timely notice from the Secretary. At present, we understand, there is only one vacancy, to which we allnded last week.

Mr. Simpson.—The City Coroner is Mr. W. J. Payne, with a salary of £885. The expenses of the office are represented by £1711.

R. A.—H.R.H. the Princess Louise, as one of the regularly enrolled art students, is a constant attendant at Kensington, and at the anatomical lectures given there by Mr. Bellamy.

L.R.C.P., Stockwell.—Sir Henry St. John Halford is the third baronet. The first baronet, long known as Dr. Vaughan, was physician to George III., George IV., William IV., and her present Majesty; and President of the Royal College of Physicians. He assumed the name of Halford, in lieu of his patronymic, on the extinction of the baronet's family of that name, to which he was distantly related through his mother.

The Fergusson Portrait.—A subscriber complains that, on calling at the College of Surgeons, to which institution the painting of Sir William Fergusson was presented, he was refused permission to see it; neither has he received the promised engraving. Write to Surgeon-Major Logie, Royal Horse Guards, or Mr. Trimmer at the College, both of whom, we believe, were the honorary secretaries to the fund.

M.D. Lond.—The examiners in physiology, comparative anatomy, and zoology, Drs. M. Foster and W. Rutherford, £175 each; in surgery, Messrs. J. Marshall and W. S. Savory, £150 each; in medicine, Drs. Bristowe and Wilson Fox, each £150; in anatomy, Messrs. Callender and Ellis, £100 each; materia medica, Drs. Brunton and Frazer, £75 each; obstetric medicine, Drs. Barnes and Hewitt, £75 each. The salary of Dr. Carpenter as Registrar is £1000 per annum.

Dr. Webster.—The temperature charts drawn up by the late Dr. Franklin Gould, for daily clinical use in the wards of hospitals, will answer the purpose very well. They can be obtained at Messrs. Wodderspoon and Shave, Serle-street, Lincoln's-inn-fields.

Corrigendum.—In the list of candidates who passed the Primary Examination at the Royal College of Surgeons on May 12, the name of Edmund Thurlow Prior was printed Edward Thurland Prior.

A QUERY.

TO THE EDITOR OF THE MEDICAL TIMES AND GAZETTE.

SIR,—I should feel much obliged if you or your readers will supply me with an account of the longest cases of pregnancy they know of. I have been asked if it be possible for a woman to carry her child eleven months.

I am, &c., T. F. H.

DO SONS THRIVE IN THEIR FATHERS' FOOTSTEPS?

TO THE EDITOR OF THE MEDICAL TIMES AND GAZETTE.

SIR,—There are two very opposite modes in which men of business look at the career of their sons. One need only talk with the first half-dozen people he meets in order to be assured of this. Out of the half-dozen, we shall meet with some who say, "Yes, sir, my boy is a very good, steady boy, my own business is increasing, and I shall soon be able to find him a stool in my office, and he will slip into my place when I am gone." But there will be others who are equally positive on the other side—"What, sir, to follow my line? Why, if I had fifty sons I would sooner make them chimney-sweepers than let them be —— whatever I am" (no matter whether doctor or parson). We must make allowance for the fact that the sons of some people won't follow their fathers' callings at any price; but so far as parents are concerned, we may divide them into two classes—those who wish their sons to follow them in their respective callings, and those who do not. It strikes me that the people who wish their sons to follow them are for the most part such as have been successful in life, of plodding methodical habits, and engaged in professions that depend on routine and custom more than on personal qualities alone. Such are the professions of a good thriving family solicitor, whose room is lined with tin boxes, marked with the names of important clients; of dentists, who keep models of their patients' mouths; of most old-fashioned family businesses. I know, for instance, people who boast of having had all their tea from ——'s for sixty years; and hence Messrs. —— need not hesitate to bring up their sons to a business that requires only steadiness, method, and probity to insure a continuance. But if the business is one purely personal—depending on those mental and bodily qualities which inspire confidence into the breasts of those who consult us; which requires invention, audacity, promptness; in fact, the characteristics of genius and poetry,—then the follower of such a business, if unsuccessful, will be too disgusted to bring up his sons to it; if successful, he will fear lest his son may damage his father's name by walking in his father's path with faltering and too distant footsteps.

I am led to trouble you with this short note from observing how seldom in our day the sons of the princes of physic follow their fathers' calling. And I meet, in Lord Lytton's "Parisians," vol. i., page 101, a passage which seems to me conclusive as to the reason why:—

> "Have you never remarked that authors, however absorbed in their own craft, do not wish their children to adopt it? . . . . . As for those engaged in the practical affairs of life, fathers mostly wish their sons to be as they have been. The politician, the lawyer, the merchant, each says to his children, 'Follow my steps.' All parents in practical life would at least agree in this—they would not wish their sons to be poets."

Any man whose life has not corresponded with his own ideal, who has formed castles in the air that time has dissipated, who imagines that his success has not been proportionate to his efforts and deserts, will warn his children from a barren and rocky path. Whilst he who is conscious of high ability, audacity, and power of compelling fortune, will shrink from engaging his sons in a contest for which their powers may be unequal. Besides, the spur of necessity is wanting.

Anyhow, it is curious to notice the quantity of grumblers in all the higher professions, who repudiate with scorn the notion that their sons shall follow them. "Sir, if I had fifty sons I would let them be shoemakers rather than ——" is a formula that I have heard from Deputy-Surgeons-General in the army, from barristers, from engineers, from naval men universally, and from private medical practitioners of all grades. Nay, it is curious to see how extremes meet, and how the wildest and most unbridled officers of the army or navy may be the sons of timid country parsons.

I am, &c., DELTA.

COMMUNICATIONS have been received from—

The Registrar of the Apothecaries' Hall, London; Dr. McCormack, Leicester; Mr. B. T. Lowne, London; Dr. A. Venn, London; Mr. A. Shaw, London; Mr. Stephenson, Hull; Professor Gabene, Cork; Mr. E. M. Sheldon, Liverpool; Messrs. Hogg and Co., London; Mr. Cullingworth, Manchester; Dr. Broadbent, London; Mr. Hopgood, Sunderland; Mr. A. Cooper, London; Mr. Morris, London; Mr. J. Hutchinson, London; Mr. O'Baign, London; Mr. E. T. Prior, London; Mr. T. P. Pick, London; Mr. A. H. Morrill, London; The Secretary of the London Anthropological Society; Mr. W. Walker, Manchester; Mr. Henry Morris, London; Dr. J. Hughlings-Jackson, London; Professor Huxley, Edinburgh; Mr. J. Chatto, London; Dr. Balmanno Squire, London; Dr. Edis, London.

BOOKS AND PAMPHLETS RECEIVED—

Vogel's Chemistry of Light, and Photography in its Application to Art, Science, and Industry—Jahresbericht der Allgemeinen Poliklinik in Wien für 1874—Melliss's The Sewage Question Solved: or, How to Purify our Rivers—Guy's Hospital Reports, vol. xx.—Bastian on Paralysis from Brain Disease—Rajpootana Dispensary, Vaccination, Gaol, and Sanitary Report for 1873—Vacher's Report on the Sanitary Condition of Birkenhead and Claughton-cum-Grange for the year 1874—Du Traitement des Varices et des Ulcères Variqueux par la Liqueur Iodotannique, par le Dr. J. Pétavel—Tilt's Health in India for British Women, fourth edition—May's British and Irish Press Guide for 1875—Cox on the Province of Psychology—Ransome on Graphical Representation of the Movements of the Chest-wall in Respiration—Ransome on the Position of the Heart's Impulse in different Postures of the Body—Annual Report of the State Lunatic Asylum, Utica, New York—Annual Report of the Newcastle-on-Tyne Borough Lunatic Asylum—Report of the County Lunatic Asylum at Prestwich—Census of Ireland, part ii., vol. ii.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Medecine—National Food and Fuel Reformer—Philadelphia Medical Times—Pharmaceutical Journal—Centralblatt für die Medicinischen Wissenschaften—La France Médicale—Iron—Wiener Medizinische Wochenschrift—Journal des Sages-Femmes—Brighton Guardian—Brighton Daily Mail—Scarborough Express—Melbourne Argus—Chicago Journal of Nervous and Mental Disease—Archives of Dermatology—Vierteljahresschrift für Dermatologie und Syphilis.

APPOINTMENTS FOR THE WEEK.

May 22. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

Royal Institution, 3 p.m. Mr. W. Herries Pollock, "On the Drama."

24. *Monday*.

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

25. *Tuesday*.

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Anthropological Institute, 8 p.m. Meeting.

Royal Institution, 3 p.m. Prof. Gladstone, "On Chemical Force."

Royal Medical and Chirurgical Society, 8½ p.m. Mr. Gay, "On the Treatment of Nasal Lupus by Excision." Dr. R. McDonnell, "On a Case of Double Facial Palsy." Mr. Lawson Tait, "On a Case of Congenital Deficiency of the Peritoneum, resulting in Intestinal Obstruction and simulating an Abdominal Tumour." Mr. E. Owen, "On so-called Dislocation of the Humerus."

26. *Wednesday*.

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

27. *Thursday*.

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.

Royal Institution, 3 p.m. Prof. Dewar, "On the Progress of Physico-Chemical Inquiry."

28. *Friday*.

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

Clinical Society, 8½ p.m. Mr. Barwell, "Hypertrophy of Lower Half of Face." Mr. C. F. Maunder, "Case of Double Fistula in Ano,—one treated by the Knife, the other by the Elastic Ligature." Mr. J. W. Hulke. "Arterio-Venous Aneurism in Thigh from a pistol-shot." Dr. Southey, "Acute Pemphigus."

Quekett Micaoscopical Club, 8 p.m. Mr. M. Hawkins Johnson, "On the Organic Structure of Flint and of Meerschaum."

Royal Institution (Weekly Evening Meeting, 8 p.m.), 9 p.m. Colonel Lane Fox, "On the Evolution of Culture."

VITAL STATISTICS OF LONDON.

Week ending Saturday, May 15.

BIRTHS.

Births of Boys, 1148; Girls, 1198; Total, 2346.
Average of 10 corresponding years 1865-74, 2135·3.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	730	697	1427
Average of the ten years 1865-74	690·2	640·7	1330·9
Average corrected to increased population	...	...	1424
Deaths of people aged 80 and upwards	...	...	56

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	3	11	2	8	...	2	2	2
North	751729	...	2	10	1	9	...	5	...	4
Central ...	334369	...	...	4	3	6	...	2	...	...
East	639111	...	4	12	1	27	...	1	4	4
South	967692	...	15	22	6	36	1	4	2	5
Total	3254260	...	24	59	13	86	1	14	8	15

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	30·053 in.
Mean temperature	59·3°
Highest point of thermometer	81·9°
Lowest point of thermometer	42·2°
Mean dew-point temperature	48·8°
General direction of wind	W.S.W.
Whole amount of rain in the week	0·01 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, May 15, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1875.)	Births Registered during the week ending May 15.	Deaths Registered during the week ending May 15.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3445160	45·7	2346	1427	81·9	42·2	59·3	15·17	0·01	0·03
Portsmouth ...	122632	27·3	83	35	...	...	...	...	...	...
Norwich	82842	11·1	55	28	80·8	40·2	57·5	14·17	0·21	0·53
Bristol	196186	44·1	145	97	77·0	43·0	54·8	12·67	0·56	1·42
Wolverhampton ...	71718	21·1	50	32	80·0	43·2	57·4	14·11	0·00	0·00
Birmingham ...	366325	43·6	326	185	75·6	44·8	57·3	14·06	0·13	0·33
Leicester	109830	34·3	81	52	77·5	41·2	57·1	13·95	0·01	0·03
Nottingham ...	92251	46·2	57	41	76·5	38·9	54·9	12·72	0·20	0·51
Liverpool	516063	99·1	401	257	74·0	46·9	54·1	12·28	0·02	0·05
Manchester ...	356626	83·1	248	193	...	...	...	...	...	...
Salford	135720	26·3	102	73	76·7	40·8	53·3	11·84	0·07	0·18
Oldham	87437	18·7	80	66	...	...	...	...	...	...
Bradford	168305	23·3	111	84	73·2	46·8	55·7	13·17	0·06	0·15
Leeds	285118	13·2	232	148	76·0	45·0	56·0	13·33	0·23	0·58
Sheffield	267881	13·6	195	121	78·0	44·0	56·5	13·61	0·02	0·05
Hull	133932	36·8	127	55	76·0	41·0	55·9	13·28	0·08	0·20
Sunderland ...	106342	32·2	83	35	...	...	...	...	...	...
Newcastle-on-Tyne	137665	25·6	93	60	...	...	...	...	...	...
Edinburgh	211626	50·5	137	82	...	...	...	...	...	...
Glasgow	534564	88·6	453	286	63·0	44·8	53·1	11·73	0·33	0·84
Dublin	314666	31·3	184	164	77·9	35·2	56·8	13·78	0·11	0·28
Total of 21 Towns in United Kingdm	7742889	37·0	5589	3521	81·9	35·2	56·0	13·33	0·14	0·36

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 30·05 in. The highest was 30·27 in. on Tuesday morning, and the lowest 29·65 in. at the beginning of the week.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

NOTES ON THE INVERTEBRATA

FOR THE

USE OF STUDENTS OF ZOOLOGY.

BEING AN OUTLINE OF A COURSE OF LECTURES DELIVERED FROM THE CHAIR OF NATURAL HISTORY IN THE UNIVERSITY OF EDINBURGH.

By THOMAS H. HUXLEY, LL.D., Sec. R.S.

(*Continued from page* 547.)

The Actinozoa.—The essential distinctions between the Actinozoa and the Hydrozoa are two. In the first place, the oral aperture leads into a gastric sac, which is not, like the hydranth of the Hydrozoon, free and projecting, but is sunk within the body; from the walls of which it is separated by a cavity, divided into chambers, by partitions which radiate from the wall of the gastric sac to that of the body. As the gastric sac is open at its inner end, however, its cavity is in free communication with that of the surrounding chambered space; and this space, often termed the "body cavity" or "perivisceral cavity," is, in reality, one with the digestive cavity, and may be termed an "*enterocœle*." Thus the Actinozoon may be compared to a Medusa, in which the outer face of the hydranth is united with the inner face of the umbrella; and the gastrovascular canals answer to the chambered enterocœle.

Secondly, in the Actinozoa, the reproductive elements are developed in the walls of the chambers or canals of the enterocœle, just as they so commonly are in the walls of the gastrovascular canals of the Hydrozoa, but they do not project outwardly nor discharge their contents directly outwards. On the contrary, the ova and spermatozoa are shed into the enterocœle, and eventually make their way out by the mouth.

In this respect, again, the Actinozoon, is comparable to a Medusa modified by the union of the hydranth with the ventral face of the umbrella, under which circumstances the reproductive elements which are developed, either in the walls of the hydranth or those of the umbrella, would be precluded from making their exit by any other route than through the gastrovascular canals and the mouth. In the fundamental composition of the body of an ectoderm and endoderm, with a more or less largely developed mesoderm, and in the abundance of thread-cells, the Actinozoa resemble the Hydrozoa.

The Actinozoa comprehend two groups—the *Coralligena* and the *Ctenophora*,—which are widely different in appearance, though fundamentally similar in structure. In the former, the mouth is always surrounded by one or more circlets of tentacles, which may be slender and conical, or short, broad, and fimbriated. The enterocœle is divided into six, eight, or more wide chambers, which communicate with the cavities of the tentacles, and sometimes directly with the exterior by apertures in the parietes of the body. The partitions between these wide chambers are thin and membranous, and are termed mesenteries. Each of these ends at its aboral extremity in a free edge, often provided with a thickened and folded margin; and these free edges look towards the centre of an axial cavity, into which the gastric sac and all the intermesenteric chambers open. In some cases, as in *Cerianthus*, there is a pore in the aboral wall of this chamber, by which it is directly placed in communication with the exterior.

The outer wall of the body in the Coralligena is not provided with bands of large paddle-like cilia. Most of them are fixed temporarily or permanently, and many give rise by gemmation to turf-like, or arborescent, composite bodies. The great majority possess a hard skeleton, composed of carbonate of lime, which may be deposited in permanently disconnected spicula in the walls of the body; or the spicula may run into one another, and form solid networks or dense plates of calcareous matter. When the latter is the case, the calcareous deposit may invade the base and lateral walls of the body of the Actinozoon, thus giving rise to a simple cup or *theca*. Processes termed *septa* may extend inwards in the planes of the mesenteries, dividing the theca into *loculi*; and, either by the union of these in the centre, or by an independent upgrowth from the base, a central pillar—the *columella*—may be formed. The skeleton thus formed, freed of its soft parts, is a "cup-coral," and receives the name of a *corallite*. The loculi may be subdivided by slender calcareous rods, termed *synapticulæ*, or by shelf-like processes, which gradually shut off the aboral from the oral part of each interseptal space; these are *dissepiments*.

In the compound forms, the various polypes formed by gemmation may be distinct, or their several enterocœles may communicate; in which last case, the common connecting mass of the body, or *cœnosare* may be traversed by a regular system of canals. And when such compound Actinozoa develope skeletons, the corallites may be distinct, and connected only by a branched stem, formed by the calcification of the cœnosarc, which is termed *cœnenchyma*, or the thecæ may be imperfectly developed, and the septa of adjacent corallites run into one another. There are cases, again, in which the calcareous deposit in the several polypes of a compound Actinozoon, and in the superficial parts of the cœnenchyma, remains loose and spicular, but the axial portion of the cœnosare is converted into a dense chitinous or calcified mass—the so-called *sclerobase*.

The mesoderm contains abundantly developed muscular fibres, and there is reason to suspect the existence of nervous elements. Brightly-coloured bead-like bodies, attached to the oral disc of some *Actiniæ*, contain strongly refracting spherules and cones, and are probably rudimentary eyes. The sexes are usually distinct, and the ovum is ordinarily, if not always, provided with a vitelline membrane. The impregnated ova undergo complete division, and the ciliated Morula may either be discharged or undergo further development within the enterocœle of the parent. The Morula becomes a Gastrula, but whether by true invagination or by delamination, as in most of the Hydrozoa, is not quite clear; and the Gastrula usually fixing itself by its closed end, acquires its enterocœle chambers, and begins to develope tentacles from its oral end. It is very probable that the enterocœle chambers are diverticula of the primitive digestive cavity, but this point needs further elucidation.

In one division of the Coralligena—the *Octocoralla*—eight enterocœle chambers are developed, and as many tentacles. Moreover, these tentacles are relatively broad, flattened, and serrated at the edges, or even pinnatifid. The Actinozoon developed from the egg never remains simple, but developes buds, which remain connected with it, and give rise to a compound organism.

It is in these *Octocoralla* that the form of skeleton which is termed a sclerobase occurs. It is an unattached simple rod in *Pennatula* and *Veretillum*, but fixed, tree-like, branched, and even reticulated, in the *Gorgoniæ* and the red coral of commerce (*Corallium*). In the *Alcyonia*, or "Dead men's fingers," of our own shores, there is no sclerobase, nor is there any in *Tubipora*, the organ coral. But, whereas in all the other Octocoralla the bodies of the polypes and the cœnosarc are beset with loose spicula of carbonate of lime, *Tubipora* is provided with solid tubiform thecæ, in which, however, there are no septa.

In the other chief division of the Coralligena—the *Hexacoralla*—the fundamental number of enterocœle chambers and of tentacles is six, and the tentacles are, as a rule, rounded and conical, or filiform. The Actinozoon developed from the egg in some of these remains simple, and attains a considerable size; but, in other large groups, compound organisms are produced by gemmation.

In some Hexacoralla, as the *Actinidæ*, or sea-anemones, there is no calcareous skeleton; in others, as the *Zoanthidæ*, it is merely spicular; in others, the *Antipathidæ*, there is a sclerobasic skeleton; but in the majority of the Hexacoralla, the polypes give rise to septate thecæ, and, by reason of the density of their skeleton, are often called "stone-corals." In some of these the skeleton is composed of a spongy calcareous network, the thecæ, at any rate, remaining porous, whence they are termed *Perforata*. This division contains the Madrepores. In the rest of the stone-corals the skeleton is solid, and the thecæ imperforate, whence they are termed *Aporosa*.

The septa in the adult cup-corals are often very numerous, but, in the young, the first cycle of simultaneously-formed septa always consists of six septa. As the coral grows, another cycle of six septa arises by the development of a new septum between each pair of the first cycle; and then a third cycle of twelve septa divides the previously existing twelve interseptal chambers into twenty-four. If we mark the septa of the first cycle A, those of the second B, and those of the third C, then the space between any two septa (A A) of the first cycle will be thus represented when the third cycle is formed—A C B C A.

When additional septa are developed, the fourth and follow-

ing cycles do not consist of more than twelve septa each; hence the septa of each new cycle appear in twelve of the previously existing interseptal spaces, and not in all of them, and the order of their appearance follows a definite law, which has been worked out by Milne Edwards and Haime. Thus, the septa of the fourth cycle of twelve (d) bisect the interseptal space A C, and those of the fifth cycle (e) the interseptal space B C; the septa of the sixth cycle (f), A d and d A; those of the seventh cycle (g), e B and B e; those of the eighth cycle (h), d C and C d; and those of the ninth cycle (i), C e and e C.

Hence, after the formation of nine cycles, the septa added between every pair of primary septa (A, A) will be thus arranged—A f d h C i e g B g e i C h d f A.

It is doubtful whether a group of stone-corals, the *Millepora*, which are usually referred to the Coralligena, belong to the Actinozoa or to the Hydrozoa. The tubular cavities in their massive skeletons, which have been considered to represent the thecæ of other Actinozoa, are devoid of septa, and subdivided by horizontal calcified partitions—the so-called *tabular* dissepiments. The polypes are more similar in external form to Hydrozoa than to Actinozoa, but we have no sufficient knowledge of their internal structure, and particularly of their reproductive organs.

The *Rugosa*, a group of extinct and mainly Palæozoic stone-corals, are also provided with tabular dissepiments. They resemble the Hexacoralla in having well-developed septa, but the fundamental number appears to be four, and not six.

There is nothing among the Actinozoa analogous to the development of free sexual zooids from an asexual stock, such as occurs so frequently among the Hydrozoa, unless something of the kind obtains in *Fungia*. This is one of the aporose Hexacoralla, with a flat and expanded cup, unattached to other bodies in the adult state. In some species of the genus, Semper has observed that the *Fungia* buds out from a fixed stem, and finally becomes detached and free. Dimorphism has been observed by Kölliker in the *Pennatulidæ* (Octocoralla). Each compound organism, or Polypary, presents two different kinds of polypes—one of which is tentaculiferous and provided with sexual organs, while the other has neither tentacles nor any sexual apparatus.

All the Actinozoa are marine. The *Actiniæ*, among the Hexacoralla, and various forms of Octocoralla, have an exceedingly wide distribution, while the latter are found at very great depths.

The stone-corals, again, have a very wide range, both as respects depth and temperature, but they are most abundant in hot seas, and many are confined to such regions. Some of these stone-corals are solitary in habit, while others are social, growing together in great fields, and forming what are called "coral reefs." The latter are restricted within that comparatively narrow zone of the earth's surface which lies between the isotherms of 60°, or, in other words, they do not extend for more than about 30° on either side of the equator. It is not conditions of temperature alone, however, which limit their distribution; for, within this zone, the reef-builders are not found alive at a greater depth than from fifteen to twenty fathoms, while, at the equator, an average temperature of 68° is not reached within a depth of 100 fathoms.

Not only heat, then, but light, and probably rapid and effectual aeration, are essential conditions for the activity of the reef-building Actinozoa. But, even within the coral zone, the distribution of these corals appears to be singularly capricious. None are found on the west coast of Africa, very few on the east coast of South America, none on the west coast of North America; while in the Indian Ocean, the Pacific, and the Caribbean Sea, they cover thousands of square miles. It is by no means certain, however, that any one species of West India reef coral is identical with any East Indian species, and the corals of the central Pacific differ very considerably from those of the Indian Ocean.

Different species of Corals exhibit great differences as to the rapidity of their growth, and the depth at which they flourish best; and no one must be taken as evidence for another in these respects. Certain species of *Perforata*, *Madreporidæ*, and *Poritidæ*, appear to be at once the fastest growers, and those which delight in the shallowest waters. The *Astræidæ* among the *Aporosa*, and *Seriatopora* among the *Tabulata*, live at greater depths, and are probably slower of increase.

Under the peculiar conditions of existence which have just been described, it would seem easy enough to comprehend, *à priori*, the necessary arrangement of coral reefs. As the reef-building *Actinozoa* cannot live at greater depths than twenty fathoms, or thereabouts, it is clear that no reef can be originally formed at a greater depth below the surface, and such a depth usually implies no very great distance from land. Furthermore, we should expect that the growth of the coral would fill up all the space between the shore and this furthest limit of its growth; so that the shores of all land in coral seas would be fringed by a sort of flat terrace of coral, covered, at most, by a very few feet of water; that this terrace would extend out until the shelving land upon which it had grown was covered by a depth of some twenty fathoms of sea, and that then it would suddenly end in a steep wall, the summit and upper parts of which would be crowned with overhanging ledges of living coral, while its base would be hidden by a talus of dead fragments, torn off and accumulated by the waves. Such a "fringing reef" as this, in fact, surrounds the island of the Mauritius. The beach here does not gradually shelve down into the depths of the sea, but passes into a flat, irregular bank, covered by a few feet of water, and terminating at a greater or less distance from the shore in a ridge, over which the sea constantly breaks, and the seaward face of which slopes at once sheer down into fifteen or twenty fathoms of water.

If we examine the structure of this reef, it will be found to vary at different distances from the land, and at different depths in its seaward face. The edge beaten by the surf will be found to be composed of living masses of *Porites* and of the coral-like plant the *Nullipore;* deeper than this is a zone of *Aporosa* (*Astræidæ*), and *Tabulata* (*Seriatopora*); while, deeper still, all living coral ceases; the lead bringing up either dead branches or showing the existence of a flat, gently sloping floor, the true sea-bottom, covered with fine coral-sand and mud. Passing from the edge of the reef landwards, the *Poritidæ* cease, and are replaced by a ridge of agglomerated dead branches and sand, coated with *Nullipore;* the floor of the shallow basin, or lagoon, is formed by a conglomerate, composed of fragments of coral cemented by mud; and on this *Meandrinæ* and *Fungiæ* rest and flourish, exhibiting the most gaudy colouration, and sometimes attaining a great size. During storms, masses of coral are hurled on to the floor of the reef, and there gradually increase the accumulation of rocky conglomerate; but in no other way can a fringing reef, which has once attained its limit in depth, increase in size, unless, indeed, the talus accumulating at the foot of its outer wall should ever rise sufficiently high to afford a footing for the corals within their prescribed limits of depth.

Such is the structure of a fringing reef; but the great majority of reefs in the Pacific are very different in their character. Along the north-eastern coasts of New Holland, for instance, a vast aggregation of reefs lies at a distance varying from a hundred to ten miles from the shore; forming a mighty wall or barrier against the waves of the Pacific. At a few hundred yards outside this "barrier reef" no bottom can be obtained with a sounding line of a thousand fathoms; between the reef and the main land, on the contrary, the sea is hardly ever more than thirty fathoms deep. Many of the islands of the Pacific, again, are encircled with reefs corresponding exactly in their character with the barrier reef; separated, that is, by a corresponding shallow channel or "lagoon" from the land, but facing the sea with an almost perpendicular wall sinking down into an enormous depth.

Finally, in many cases, especially among the single reefs which, taken together, constitute the great Australian barrier, there is no trace of any central island; but a circular reef, usually having an opening on its leeward side, stands out in the midst of the sea. These reefs, apparently unconnected with other land, are what are called Atolls.

How have these barrier reefs, and encircling reefs, and atolls been formed? It is certain that the fabricators of these reefs cannot live at a greater depth than in the fringing reefs. How can they have grown up, then, from one thousand fathoms or more? Why do they take so generally the circular form? What is the connexion, finally, between fringing reefs and atolls? The only thoroughly satisfactory answer to these questions has been given by Mr. Darwin, from whose beautiful work on Coral Reefs I have borrowed most of the foregoing details. Consider for a moment what would be the effect of a slow and gradual submergence of the island of Mauritius—a submergence, perhaps, of a few feet in a century (at any rate not greater than the rate of upward growth of coral) continued for age after age. As the edge of the fringing reef sank, new coral would grow up from it to the surface; and, as the most

active and important of the reef builders flourish best in the very surf of the breakers, so the margin of the reef would grow faster than its inner portion, and the discrepancy would increase as the latter, sinking deeper and deeper, became further removed from the region of active growth. Nevertheless, the sea-bottom within the reef would tend constantly to be raised by the accumulation of fragments, and by the deposit of fine mud, in its sheltered and comparatively dead waters. On the other hand, on the seaward face of the reef, no possible extension could take place by direct growth, and that by accumulation must be exceedingly slow, the incessant wash of tides, waves, and currents tending constantly to spread any talus over a wider and wider area.

Thus, then, the edge of the reef unceasingly compensates itself for the depression which it undergoes, while, inside the reef, only a partial compensation takes place, and, outside, hardly any at all. Continue the sinking process until its highest peak was but a few hundred feet above the surface, and all that would be left of Mauritius would be an island surrounded by an encircling reef; carry on the depression further still, and a circular reef or atoll alone would remain. But the region of the coral reefs is, for the most part, that of constant winds. During the whole process of growth of the reef, therefore, one of its sides—that to windward—has been exposed to more surf than that to leeward. Not only will the greater quantity of *débris*, therefore, have been heaped up by storms upon the windward side, but the coral builders themselves will here have been better fed, better aërated, and consequently more active. Hence it is that, other things being alike, there is a probability that the leeward side of the reef will grow more slowly, and repair any damages less easily, than the windward side; and hence, again, as a result, the known fact, that the practicable channels of entrance into encircling reefs or atolls are usually to leeward.

The winds and waves are singularly aided in grinding down the corals into mud and fragments by the *Scari* and *Holothuriæ* which haunt the reefs; the former browsing upon the living Actinozoa, with their hard and parrot-like jaws, and passing a fine calcareous mud in their excrements; the latter, more probably, swallowing only the smaller fragments and mud, and, having extracted from them such nourishment as they may contain, casting out a similar product. It is curious to reflect upon the similarity of action of these worm-like *Holothuriæ* upon these sea-meadows of coral, to that which the Earthworms, as Darwin has shown, exert upon our land meadows!

In the Palæozoic period, reefs like those which have just been described appear to have abounded in our own latitudes; and there is the most striking superficial resemblance between the masses of coral limestone, hard enough to clink with a hammer, which are now being formed in the Pacific, by the processes of accumulation of coral-mud and fragments, and their consolidation by percolating water, and these ancient beds of stone. Closer examination, however, shows an important difference in the nature of the corals which compose the two reefs. The modern limestones are made up of *Perforata*, *Tabulata*, and *Aporosa*. The ancient ones contain *Tabulata*, but usually neither *Perforata* nor *Aporosa*,—both these groups being replaced by the *Rugosa*, none of whose members (with a doubtful exception) have survived the Palæozoic period. On the other hand, *Palæocyclus* and *Pleurodictyon* are the only genera, belonging to the *Aporosa* or *Perforata*, which have yet been discovered in strata below the mesozoic.

(*To be continued.*)

THE LUMLEIAN LECTURES:

ON LIFE AND ON VITAL ACTION IN HEALTH AND DISEASE.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS, LONDON.

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LECTURE II.

(*Continued from page* 411.)

ABSOLUTE DISTINCTION BETWEEN THE LIVING AND THE NON-LIVING.

THE conclusion which is impressed upon my mind, with ever-increasing force, is, that the distinction between the living and the non-living is not of a gradational kind; but, on the contrary, that it is absolute. Whatever may be the difference between plant and animal, however deep and wide may be the gulf which intervenes between the lowest and the highest living, it will, as I believe, be shown to be as nothing compared with the chasm by which the lowest living is separated from every form of the non-living.

It has been contended that because the line supposed by our predecessors to mark off the vegetable from the animal kingdom has proved to be fallacious, the distinction held by some to exist between the living and the non-living will, some day, be broken down. But what analogy is there between the two cases? It would be as logical to insist that, as it can be shown that certain changes in a dog, in some particulars, somewhat resemble certain changes in an oak, it necessarily follows that at some future time it will be proved that dogs and oaks are not to be distinguished from crystals. It ought not to be necessary to point out that the proof that a distinction formerly believed to exist between different kinds of life could not be established, did not insure the further demonstration, at some future time, of an alliance between any life and no life. We may be, in some respects, like plants, without men and plants being like stones.

In this lecture I have adverted to many facts and arguments which seem to me to justify the conclusion that there are certain phenomena characteristic of all living matter, and which are included under the terms *nutrition*, *growth*, *formation*, *multiplication*,—which are not physical, and which cannot be in any degree explained by physical law. I propose, therefore, to call these *purely vital actions*, and I consider that they ought to be placed by themselves in a class or category distinct from that of physical phenomena.

I have never been able to discover in any non-living bodies whatever any phenomena which can be fairly said to correspond to, or to be compared with, the above. Nor can I discern the faintest analogy between the marvellous changes which affect every kind of living matter in nature, and any changes which have been proved to occur under any circumstances in matter which does not live. And if we believe with Grove that "man will never know the ultimate structure of matter or the minutiæ of molecular actions," must we not conclude, *à fortiori*, that man will never know the ultimate structure and arrangement of the atoms of living matter, and the minutiæ of those marvellous phenomena which proceed in the centre of every living particle?

Until the ultimate structure of non-living matter and the minutiæ of molecular actions, and the ultimate arrangement of the atoms, and the minutiæ of the actions of living matter shall have been made known, there can be no valid objection to our being influenced by facts that are actually known at this time, which justify the arrangement of phenomena in two distinct classes:—

1. Vital phenomena.
2. Physical phenomena.

The vital actions of living beings are exclusively confined to the bioplasm or living matter. When this becomes converted into any kind of formed material, or when it suddenly dies, physical and chemical changes ensue which we are able to investigate. The purely vital phenomena of the bioplasm continue only as long as this remains in its living state. If we endeavour to investigate the nature of vital actions, and attempt, in the first place, to ascertain the constitution of living matter, the first thing we do is to destroy its life. The substances we submit to examination are not really the actual materials that were alive, but only chemical compounds that were formed at and after death.

There is yet another consideration to be advanced in favour of the doctrine of the absolute difference between living and non-living matter. In the non-living world every change is dependent upon, or is a consequence of, anterior change; and must, in its turn, lead to consequential changes. Each antecedent has its consequent. A real cause is not conceivable in the physical world, but I do not know upon what data the same could be affirmed with respect to the living world.

Consider how the simplest vital action is to be accounted for. Such movement, for example, as may be seen to take place in the living matter of a common amœba. Let us inquire what was the condition of the moving matter at a given spot just before the visible movement occurred. Who shall prove the nature of the antecedent to which the movement of the particles is a consequent? And who will demonstrate that the movement immediately following was a direct

consequence of that which had been observed? It will, I know, be again most confidently asserted by physical authority that the movement in question, as well as other phenomena which puzzle us at this time, will, to a certainty, be proved to be due to physical change in the time that is to come. "To-morrow, and to-morrow, and to-morrow," has always been the refuge of the philosophers who have faith in the dogma that matter alone is competent to develope every form of life. But the "to-morrow" of Lucretius has not yet dawned; and how many thousand years, I would ask, may be expected to pass away before the prophecies of those who would now go along with Lucretius shall be fulfilled?

Let us now revert to the changes occurring during the nutrition and growth of the simplest living organism such as the yeast corpuscle. May we not conceive physico-chemical forces to be at work there to any extent imaginable, and yet fail to gain anything approaching to an adequate explanation of the facts discerned? Let it be admitted that in nutrition electro-chemical changes play an important, if you please, an absolutely essential, part. The internal surface of the cell-wall in contact with the bioplasm, and the external in contact with water, will, no doubt, be in opposite electrical states, and electrical currents will be constantly manifested. But will these or any other physical conditions account for the formation of the matter of the "cell-wall," or the increase of the bioplasm within?

As it were, behind all the physical and chemical actions in living beings are prior changes which are as essential as is the arrangement of the metals and solutions of a voltaic cell to the establishment of the current. Behind the osmose and the currents in the living cell are the changes in the bioplasm, by which alone the physical actions are rendered possible, and the continuance of these provided for. The phenomena of the bioplasm is their antecedent or cause. These phenomena have already been briefly adverted to under another head, but it is desirable I should recur to them here.

Observation has accompanied us throughout a long line of investigation which has been passed by, almost without notice, by physical philosophers. Let us now, however, proceed beyond this point, and stretch onwards in imagination, and see whether our notion concerning the absolute difference between the living and the non-living is supported or contradicted, neither swerving to the right nor to the left from that straight path which was pointed out from the first. We must again try to conceive the changes proceeding in those minute centres of living matter to which I have already adverted. Within every centre of every one of the thousands of minute molecules of which I conceive every particle of living matter is constituted, is a more central centre, in which the matter is a degree nearer the point where it began to live, and where new powers were first communicated to it. To bring the mind, as it were, face to face with the actual change that occurs, seems, at this time, hardly possible. But surely one is justified in concluding that the *cause* must be, so to say, very central, and that in living matter the direction of the action of the forces is from, and not towards, centres. All that goes on in the environment is necessary—essential if you please—but it is to the power acting from the centre within, and welling up, as it were, from a yet more central source of power which seems inexhaustible, that vital phenomena must be attributed. Having been carried so far, how am I to resist the conclusion that the power that influences must be more central than the matter that is influenced; and that, therefore, the central life-communicating power plays a far more important part in the phenomena of life than anything in the environment acting from without? That forces in the environment react upon the force or power acting from the centre may be fully admitted, but that these are the *cause* of central activity is clearly an untenable proposition. The central action is absolutely essential, and the difference between the matter in the centre, and the matter in the environment, is absolute. Neither can the conditions under which action occurs be regarded as the true cause of the action, since the conditions are conceivable without the action; and the action in question clearly must exist ere it can be influenced by conditions. It would surely be as unreasonable to regard the *power* by which the atoms of a mass of living matter are arranged and their forces guided as the same in nature as the atoms and forces themselves, as it would be to suggest that the mind of the artist is but another form or mode of the properties of the matter of the paints he blends, and disposes as he may determine upon his canvas.

The phenomena which I have described as characteristic of every kind of living matter in nature, and which are known only in connexion with living matter, I must ask you to regard as purely *vital actions* due to the operation of a force or power capable of controlling matter and its forces, but neither originating in them, nor formed by or from them, nor capable of being converted into them—a power which we cannot isolate or physically examine, but the effects of the action of which we may study. Thus we may learn much—and even, I think, form some dim conception of this wonderful power, which, stirring in every living particle, establishes between it and every non-living atom, or collection of atoms, a difference which is absolute.

(To be continued.)

LECTURES ON INJURIES TO THE HEAD.

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Lecture V.

TRAUMATIC INFLAMMATION IN THE SUB-ARACHNOID SPACES AT THE BASE OF THE BRAIN.

Distinction between Arachnitis and Inflammation of the Sub-arachnoid Spaces—Description of Conditions found in the Latter—Positions Usually Affected—Symptoms Produced—Chiefly occurs in connexion with Fracture of the Petrous Bone—Case in a Boy—Remarks on the Symptoms.

I described in our last lecture a form of meningitis in which lymph is freely effused into the arachnoid cavity, and lines, in a continuous layer of deposit, both its surfaces. We observed that this occurred chiefly in connexion with two forms of injury—first, wounds penetrating the arachnoid sac (compound fractures with laceration of dura mater); and secondly, as the result of extension from inflammation of contused bone. To the first we gave the name of direct or immediate arachnitis, and to the latter that of secondary or osteo-arachnitis. I told you that there was another and quite distinct form of meningitis not very infrequent after injuries to the head, in which the lymph is deposited, not in the arachnoid sac, but beneath the visceral layer of that membrane, and in what are known as the sub-arachnoid spaces. Now, beneath the arachnoid, as everyone knows, we have the pia mater, a structure which consists of cellular tissue and bloodvessels. We might, therefore, when we find inflammatory deposit in the sub-arachnoid spaces, presume that the pia mater is inflamed. Such is probably, to some extent, the fact. The appearances met with after death seem to imply that the posterior arachnoid surface is perhaps equally the source of the effusion. At any rate it is not unfrequently observed that the lymph just fills the spaces, but does not adhere to the cerebral structures. After you have peeled it off or washed it away, there still remains the vascular investment of the structures quite clean and not infiltrated. The deposit clearly prefers the spaces, and but rarely, I think, extends into deep sulci, the sides of which are in close apposition, and it rarely infiltrates the pia mater itself. It is almost always easy to remove it.

Now, gentlemen, I invite you at starting to be very incredulous as to the possibility of distinguishing between inflammation of the arachnoid and of the sub-arachnoid spaces; to believe, as has been often hinted to me, that to attempt to make such a diagnosis is an over-refinement. I will tell you simply what I have seen, and the like of which I have no doubt you may also see in the future. I have found cases so different from those which we discussed in the last lecture that there was not a single patch of lymph on the surface of the arachnoid, that membrane being everywhere bright and smooth; yet, beneath it, the brain structure was encased in a mould of lymph. I have seen the sulci between the convolutions full of inflammatory deposit which lifted up the arachnoid, whilst there was none on the arachnoid, and in most parts none on the convexities of the convolutions. In these cases the greater quantity of lymph is always found where the arachnoid bridges over the largest spaces, as, for instance, at the base of the brain and around the spinal cord. Here is a specimen in which the pons, medulla, and whole length of cord are thus encased in lymph, whilst the free surface of the arachnoid is, or rather was, everywhere beautifully smooth and polished.

You will find in some of these cases that the lymph follows the involutions of the pia mater, that it extends, for instance, with the choroid plexuses into the lateral ventricles. It is also often observed to follow nerve trunks, with which, as is well known, vascular investments from the pia constantly run, and which are invested also by tubular prolongations of arachnoid.

At the base of the brain about the pons and medulla it is very easy, if you make the examination hurriedly, to mistake the position of the lymph, and, having broken through the distended arachnoid, to imagine that the lymph was in the cavity of the latter. You may rectify your error, however, by observing that the lymph closely encases the medulla, which, of course, it could not do if it were in the arachnoid sac. The term "encases" is the only appropriate one, for you will find the lymph passing into every depression, and fitting itself to every furrow. It may be easily peeled off in a fairly tough, coherent layer, becoming much more firm when its watery parts have dried up by exposure.

I take it, then, that there can be no doubt that there is such a disease as inflammation beneath the arachnoid, and that it is quite distinct from arachnitis. Why the two should not oftener complicate each other is certainly a marvel; why so thin a layer of transparent serous membrane should suffice to limit the inflammatory process to one of its surfaces only. That the fact is so, however, I have no doubt.

Not only do the appearances presented by inflammation of this kind, as seen in the post-mortem-room, differ from those of arachnitis very definitely, but the symptoms and causes of the disease are also very different. In this form of meningitis we do not get the paralysis which is a symptom so prominent in true arachnitis. This is, I think, the chief difference, and it is perhaps to be explained by the fact that in this form of inflammation the convolutions are but seldom extensively involved. The effusion is most common at the base of the brain, and then comes in contact, not with grey cerebral matter, but with tubular structures. The former, being the originator of power, may, when implicated, easily cause paralysis; the latter being merely a conductor, the effect might be expected to be much less definite. I am not able to describe to you any symptoms which are pathognomonic of this form of meningitis. They appear to vary considerably in relation with the part of the brain involved, and with other causes less easily understood. Whenever a patient presents "head symptoms" after injury, those symptoms not having been present at first, and being anomalous in their character, no rigors having occurred, and there being no hemiplegia, then I should suspect inflammation beneath the arachnoid. I will relate presently some of the best examples of this form of inflammation which have come under my notice, and then we will speak further of the symptoms. Before doing so, I may remark, as to cause, that inflammation of the pia mater is liable to occur whenever a compound fracture involves a nerve trunk. Thus, in fractures of the temporal bone crossing the internal auditory canal, and communicating with the external ear or Eustachian tube, it is not infrequent for the inflammatory process to pass along the course of the nerve trunk in its sheath, and thus gain access to the large sub-arachnoid space in front of the medulla and pons. In injuries to the apex of the orbit it likewise sometimes travels along the optic trunk to the base of the brain. Thus, after injuries to the head in which drainage of serum from one ear has occurred, this is the form of inflammation to be dreaded. In rare exceptions, however, as in the case of the man Inch, which I have already detailed, arachnitis follows instead.

The first case that I will relate shall be one of the last under our notice, and one which is, I have no doubt, well in memory with most of you. A boy of fourteen was admitted about a fortnight ago, having fallen from some steps, and having at the same time received a blow on the head from the steps which fell with him. He was stunned, and there was a little bleeding from the right ear. When he had regained consciousness, Mr. Tay found that he was quite deaf in the right ear. There was, however, no appreciable paralysis of the portio dura.

On the next day he was in the usual state after concussion, sleepy and peevish when roused. He had no paralysis, either of face or of limbs, but was still quite deaf on the right side. His face was flushed; pulse slow and irregular.

On the third day I found him much more flushed, and the congestion of his cheeks, ears, etc., was dusky and patchy, like that of typhoid fever. His tongue was now thickly furred, creamy at the sides, in the middle dry. There was rather free discharge of serum from the right ear. He still had no paralysis. We now gave the diagnosis of inflammation of the sub-arachnoid spaces, and ordered mercury.

On the fourth day I saw him at ten o'clock; he was much more restless, and in every respect much worse. He had to be tied in bed by the sheet, and was constantly tossing about and moaning. He had passed a sleepless night. He could not be made to speak. His pupils, which had been active on the previous day, were now dilated and quite motionless. I tried to use the ophthalmoscope, but did not succeed on account of his restlessness. There had been no action of the bowels since his admission, although several doses of purgatives had been given. He gazed in a vacant manner, as if he could not see. The conjunctivæ were scarcely congested. The discharge from the ear was much less.

An hour and a half after my visit he had an attack of violent and general convulsions, which lasted about a quarter of an hour, and in which he died. At the time of his death the nurse reported that he was black in the face—a fact which you will see is of some importance in reference to the state of venous congestion which we found at the post-mortem.

At the autopsy, in removing the scalp, we found signs of bruising on the right side. There was a fissure extending downwards through the squamous part of the temporal bone into the auditory canal. On opening the skull, all the veins, sinuses, etc., were found turgid with dark blood, the state of venous congestion being as great as I ever recollect to have witnessed. At the base of the brain, beginning about the optic commissure, there was a greyish fluid beneath the arachnoid. This became more abundant as we passed backwards, and over the pons and medulla it formed an almost continuous layer, encasing those structures and the nerve trunks passing from them. It ceased gradually at the upper part of the spinal cord. We removed the entire cord, but beyond venous congestion it presented no traces of disease. There was no lymph whatever in the arachnoid cavity itself. A little blood-clot was observed in patches beneath the dura mater over the right petrous bone, but the membrane was nowhere torn. On stripping it up a fracture was disclosed crossing the bone about a quarter of an inch external to the internal auditory canal, and, of necessity, crossing the course of the nerves. This fracture could easily be made to gape, but there was no displacement. The membrana tympani was torn.

You will remember that he died in convulsions, and black in the face, and I have said that we found the venous system of his head much congested. No doubt this was in connexion, not with the inflammation, but only with the form of death. His lungs were not engorged, and the right side of his heart contained likewise very little blood; the left was firmly contracted.

The case, then, conforms very accurately to the description which I have given you of the usual symptoms in this form of inflammation. We were able to give a correct diagnosis during life. The knowledge that fracture of the petrous bone had probably occurred, the draining of fluid from the ear, the furred tongue, flushed face, and extreme restlessness, all indicated this disease. The absence of paralysis confirmed this conjecture, and the final occurrence of convulsions also in some degree favoured it.

You must note that he never had any degree of rigor. Let us recollect also, for use in any future case, the peculiar dusky congestion of cheeks, the creamy tongue, and the fixed dilated pupils in the last stage (symmetrical).(a)

The next case which I shall narrate to you is one equally definite and instructive.

(*To be continued.*)

(a) I append for the reader's convenience a diary of this case:—

CASE.—*Death from inflammation in sub-arachnoid spaces after fracture of petrous bone.*

14	W.	A boy fell from steps, was stunned, and bled from right ear, and was deaf on this side.
15	Th.	Conscious, but stupid; still deaf on right side.
16	F.	Pulse 80, irregular; feverish; peevish and restless; tongue coated; serous discharge from ear.
17	S.	Worse; very restless; no paralysis; pupils dilated and fixed. 11.30.: Violent convulsive seizure, in which he died.

Autopsy.—Fracture of petrous bone. Lymph in sub-arachnoid spaces at base of brain and around the pons and medulla.

ORIGINAL COMMUNICATIONS.

CLINICAL REMARKS ON UNREDUCED DISLOCATIONS.

By THOMAS ANNANDALE, F.R.S.E.,
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Before showing you, gentlemen, a patient suffering from an old-standing injury of the elbow-joint, I wish to make some general remarks on unreduced dislocations, as the case is a very illustrative example of this condition.

When a dislocation is not properly reduced within a few days or weeks after its occurrence, changes take place in the articular surfaces of the joint, the torn ligaments and other structures acquire new adhesions, and the surrounding muscles and tendons become altered in their relation and attachments. The time at which the most important of these changes take place, and the intensity of them, varies considerably in different instances, and consequently mere time, within the limits of a few weeks, cannot be considered a certain test as to the possibility of performing reduction. The exact condition of the particular case must guide us in determining this question. I would here remark that all the symptoms of an old-standing dislocation are usually not so marked as in a recent injury. The mobility of the joint frequently becomes gradually increased in the former case, so that after a time there is not the characteristic decided fixedness which is met with at an early period after the injury.

The agents likely to interfere with the reduction of an old-standing dislocation may be enumerated as follows:—

1. Alterations in the articular ends of the bones, or in the joint-cavities.
2. Displacement of ligaments, tendons, or muscles.
3. Unnatural adhesion of ruptured ligaments, tendons, muscles, or other textures, or contraction of the same.
4. The results of fractures or other complications in the neighbourhood of the injured joint.

One or more of these may constitute the *principal* obstacle to reduction, but most of them are present, to a greater or less degree, in all cases where the injury is of some standing.

The principles of treating these injuries consist—1. In making a careful examination of the condition of the affected joint and the surrounding textures, so as to discover the exact nature of the dislocation, and, if possible, the agent or agents which will interfere with reduction. 2. If there seems to be a possibility of overcoming such agents, then make cautious attempts, under chloroform, to perform reduction by the methods which have been found to be most successful in the various forms of dislocation. 3. Should these attempts fail, they may in some cases be usefully supplemented by the division of contracted ligaments, tendons, or other structures, provided the articular surfaces or cavities have not undergone much change; and if this additional treatment also fails, a partial or complete excision of the bones of the affected joint will give the best result when it is of consequence that the existing mobility of the articulation be increased, or its position improved.

The published experience of surgeons in the reduction of similar dislocations is valuable in connexion with the treatment of these injuries, and therefore a consideration of such experience should be included in the study of cases of the condition at present occupying our attention. Force must always be employed carefully in our endeavours to reduce old-standing dislocations, otherwise bones may be fractured, inflammation and suppuration of the joint excited, or important bloodvessels or nerves ruptured.

Before attempting to return the displaced bones to their natural position, it is often an assistance to reduction to move in several directions the injured joint, so as to break down adhesions which may have formed.

We will now consider the case of this girl, who is sixteen years of age, and who tells us that four months ago she fell from a cart and injured her right elbow. After the accident it was found that the arm was fixed in the extended position, and various attempts by both regular and irregular practitioners have since been made to bend the arm, but without success. You will observe that the arm still remains fixed in the extended position; and although there is some pronation and supination, the patient states that immediately after the injury the forearm was fixed in the prone position. An examination of the elbow distinctly shows us that the olecranon is altered in its relationship to the condyles of the humerus, and that it is displaced upwards and projects much above its natural position. The head of the radius is no longer in its proper relation to the external condyle, but is also displaced upwards and backwards. In front of the elbow is a hard swelling, which we recognise to be the lower end of the humerus and condyles. These facts teach us very clearly that the case is one of dislocation backwards of the radius and ulna. Having made our diagnosis, we have to determine the possibility or non-possibility of performing reduction, and in connexion with this question we may usefully inquire into the experience of surgeons in the treatment of old-standing examples of this special injury. I find(a) that cases of this dislocation have been reduced three, five, six, and even seven months after their occurrence, but that reduction has been found impossible at shorter intervals than these. I also find that, in several of the reported cases, reduction was only accomplished after a fracture of the olecranon process had been caused by the reducing force.

The examination of our case points to the contracted triceps tendon, and to the position of the olecranon as one of the principal agents which will interfere with the successful reduction of the displaced bones; and, therefore, if we fail to return the displaced bones, or if these obstacles are not overcome by carefully employed force, I will either divide subcutaneously the triceps tendon or saw through the olecranon, making use of the antiseptic precautions. The patient being thoroughly under the influence of chloroform, I first make extension and counter-extension of the arm, and move the joint laterally, so as to assist in breaking down adhesions. This proceeding has little influence on the displaced bones, so I now employ the method generally called Sir Astley Cooper's, which, you observe, consists in placing my knee in the bend of the injured elbow, so as to press against the upper ends of the bones of the forearm, and then forcibly flexing the elbow upon my knee, so as to bring the dislocated bones into their natural place. I am able by this means to flex the joint to a certain extent; but I feel the olecranon giving way, and now this bone has broken completely across. The dislocation still remains unreduced, and there is some further adhesion of the displaced bones to be overcome. I shall, however, do no more to-day, but in a few days will make an antiseptic incision, so as to discover and (if possible) remove the difficulty.

I propose, gentlemen, to resume to-day our consideration of the case of unreduced dislocation of the elbow, and I have also to bring under your notice a second case, admitted more recently.

Our first patient being again placed under the influence of chloroform, I make a free incision along the posterior aspect of the joint, so as to examine the parts, and, if necessary, remove any cause preventing reduction. The result of this proceeding is that we now find that there has been a fracture of the coronoid process at the time of the accident, which has been followed by a deposit of callus, and some consequent osseous adhesion of the humerus to the ulna. The olecranon is fractured through its centre, as has already been mentioned. Under these circumstances, it will be necessary to perform an excision of the joint, in order to afford the patient a useful and movable arm. I accordingly remove the heads of the radius and ulna, together with the fractured olecranon, knowing from experience that this operation will be the one most likely to give a good result. The case will now be treated as one of excision of the elbow-joint, care being taken to practise careful movements of the new joint during the progress of the case, so as to insure sufficient mobility.

The second case to which I wish to direct your attention is that of this woman, who is sixty-two years of age. About six weeks ago she fell and injured her right shoulder, but she did not apply for professional assistance until yesterday. Let me beg you to carefully observe the symptoms in this case. You will recognise the well-marked flattening of the shoulder, with prominence of the acromion process, the absence of the head of the humerus from its natural situation, the fixedness of the arm in an unnatural position with the elbow fully six inches from the side, the alteration of the axis of the arm, and the presence of the head of the humerus under the clavicle. In addition, the axillary artery is displaced inwards by, and is lying in close contact with, this bone, and is pulsating quite

(a) See Hamilton "On Fractures and Dislocations," fourth edition.

superficially for a distance of almost two inches under the clavicle. The patient is suffering from a constant and severe pain, the result of pressure on the nerves of the brachial plexus, and, as you see, the arm is perfectly useless, owing to its being fixed in this abnormal position. A consideration of these symptoms leads us to diagnose with confidence that the case is an example of unreduced "subclavicular" dislocation of the head of the humerus—a form of dislocation by no means very common.

Although our patient is no longer young, it is very necessary that we should, if possible, relieve her condition, for she tells us that the pain is wearing her life away, and that the arm is quite useless.

Let us consider the question of reduction in this case. The fixed condition of the head of the bone under the clavicle, the displacement of the axillary artery and its probable attachment to this bone or textures in close connexion with it, and the age of the patient, forbid the application of great force if we wish to avoid the risks of injury to the axillary artery or fracture of the bone; but it will certainly be right, in the first instance, to try the effects of force carefully employed, the patient being under the influence of chloroform. Should this attempt fail, I propose to cut down upon the head of the dislocated bone and excise it, with the hope that this proceeding will not only relieve the pressure on the nerve, but will also make the limb more movable and useful.

The patient being now under the influence of the chloroform, I endeavour to reduce the dislocated bone, but I find that the adhesions are so firm that no ordinary force has any effect in relieving the displacement. We must, therefore, resort to the proposed operation, as the patient has requested me to do everything I can for her relief. I first make an incision along the inner border of the deltoid muscle, so as to expose the neck of the dislocated humerus, and carefully separate the soft textures from this portion of the bone, and also as much as possible from its head, taking special care not to injure the axillary artery, which is lying closely adherent to it. The neck of the bone is now sawn through, so that the dislocated head may be laid hold of and removed. This latter proceeding is more difficult than I expected, for I find that the bone is firmly bound down to the ribs by fibrous adhesions, and also by some osseous material, showing that there has probably been some fracture of the neck in addition to the dislocation. I can only now try to remove the head of the bone piece by piece, as you see that it is very brittle, and breaks down when seized with the strong forceps. Before doing so, I must separate the adhesions as much as possible with the fingers. In doing this I have torn a small artery, which you see jets distinctly. I secure it, but the ligature cuts through it, and on examination the coats of the vessel are found to be atheromatous. I again tie it, but with the same result, and the artery jets more freely than ever. Pressure made on the subclavian artery stays the bleeding, and a further search shows us that the bleeding artery is the circumflex one, and that the last ligature has cut through the artery about an eighth of an inch from its origin from the axillary. Under these circumstances, we cannot hope to check the hæmorrhage from this vessel unless we ligature the axillary artery above and below its site of origin. This I do, and with the result of at once stopping the bleeding. I now complete the operation—complicated by this accidental occurrence—by removing as much as possible of the head of the bone, and find that the mobility of the limb is much improved by the division of the neck and removal of the bone; but the after-risk of the operation has been rendered very great, owing to the ligature of the axillary artery. What we have to fear in this case is either hæmorrhage from the seat of ligature, as the vessels are undoubtedly in a diseased condition, or gangrene of the limb. The antiseptic precautions which have been employed during the operation, lessen very much, in my opinion, the first of these risks, but I must confess that the latter risk is one very likely to follow our operation under the circumstances.(b)

This last case, gentlemen, is one very instructive in connexion with the subject which we have just been discussing. The condition met with proves that serious changes may take place in a dislocated joint and in the surrounding textures at a comparatively early period after the accident, and confirms my remark that mere time, within a certain limit, is no sure test of the possibility of reducing an old-standing dislocation.

The changes observed in this case also show that if any forcible attempts had been made to perform reduction, a fracture of the bone, with rupture of the axillary artery, would probably have resulted; and our study of all the points of this case will, I trust, impress upon you the necessity of employing force carefully in treating similar accidents. It is much to be regretted that the accidental rupture of the circumflex artery, necessitating ligature of the axillary vessel, complicated and added so much to the risk of the operation, but I feel convinced that the excision of the head of the bone, under the circumstances, was a justifiable and proper proceeding, and one which I would recommend for adoption in cases which fail to be relieved by ordinary means.

I would only, in conclusion, refer to the ligature of the axillary artery. A rupture or wound of even a small arterial branch, close to its site of origin from the main trunk, can only be satisfactorily treated as a wound of the trunk itself. Had the circumflex artery, when first ruptured with the finger (about one inch from its origin) been in a healthy state, it alone could have been securely tied, but the two attempts to ligature it only resulted in cutting away portions of it until there was no room for a third ligature. For this reason, ligature of the axillary artery above and below the origin of this branch was the only and sure means of staying the hæmorrhage.

(b) The operation was performed on this patient on February 16. On the 18th, symptoms of gangrene appeared in the hand and forearm, and she died exhausted on the 19th (the second day after the operation).

ON THE HYPODERMIC TREATMENT OF INDOLENT ENLARGEMENTS OF THE CERVICAL GLANDS.

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Indolent glandular enlargements should be either cured radically or left altogether untreated. Half-measures only give rise to disappointment and cause disfigurement. An enlarged gland may be a slight blemish, but when it has been blistered, poulticed, painted with iodine, incised, or subjected to any of the various modes of treatment recommended in such cases, it often becomes a deformity.

As a rule, parents and young ladies are very desirous to get rid of these glandular swellings, not only on account of the disfigurement which they occasion, but because they are regarded as blots on the family escutcheon. It becomes important, under these circumstances, not only to disperse the tumours, but to leave behind as slight traces of their previous existence as possible. For the last eighteen months I have been engaged in trying various remedies, hypodermically, with a view of curing indolent glandular swellings. I have tried solutions of pepsine with and without dilute hydrochloric acid, dilute hydrochloric acid alone, dilute acetic acid, tincture of iodine, alcohol, solution of nitrate of silver, solution of chloride of zinc, and several other remedies.

In carrying out hypodermic treatment the cure may be effected either by resolution or by destruction. In the former case absorption takes place; in the latter the injection is followed sooner or latter by suppuration. It is desirable, if possible, to cure by resolution. I have found acetic acid, as recommended by Dr. Broadbent for the treatment of certain kinds of cancer, the most useful remedy for this purpose. With this agent I have treated twenty-seven cases; of these fifteen were completely cured by resolution, four were greatly benefited, in five suppuration took place, and three patients discontinued treatment without any decided effect having been produced. I have used the ordinary dilute acetic acid of the British Pharmacopœia, and have generally injected from five to twenty drops, according to the size of the gland to be treated, seven or eight drops being an average dose. The injection should not be made more than once a week. The fluid should be injected well into the middle of the gland. Suppuration has generally resulted from the solution having been injected either too frequently or too superficially. If suppuration take place, the fluid should be drawn off with a hypodermic syringe or aspirator. The average duration of treatment by resolution is three months.

For treatment by destruction and suppuration, a solution of nitrate of silver answers best. The solution should be of the strength of one drachm to the ounce, and not more

than three to five drops should be used. Considerable interstitial destruction is generally produced after three or four injections, sometimes after a single injection. When pus forms, it should be drawn off as already directed. Treatment by destruction, if successful, is rather more rapid than that by resolution, but induration of the outer portion of the gland sometimes follows the treatment, and interferes with its success. I have treated five cases in this way; in three of them the cure was complete, in two incomplete. The treatment by pepsine and dilute hydrochloric acid was rapid, but was twice followed by superficial sloughs of the skin, and for that reason I abandoned it.

I publish these few remarks with a view of encouraging the profession to pursue plans of treatment which have proved successful in my hands, and hope soon to have the opportunity of giving my experience in greater detail. For fear of any misunderstanding, I may add, however, that the hygienic and medical treatment commonly considered suitable for scrofulous persons was adopted, as far as practicable, in the cases reported in this short communication.

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

LONDON HOSPITAL.

CASES OF PARTIAL CONVULSION FROM ORGANIC BRAIN DISEASE, BEARING ON THE EXPERIMENTS OF HITZIG AND FERRIER.

(By Dr. HUGHLINGS-JACKSON.)

I now publish, in this series,(a) more cases of convulsion from cerebral tumour which are the clinical counterparts of the valuable experiments of Hitzig and Ferrier. Such cases of disease may be looked upon as experiments on the brain; but they are very coarse experiments—scarcely deserving comparison with those of Hitzig and Ferrier. In some of the cases I have to narrate, the disease has been ill defined, coarse, and widespread. For this reason I have very little to say on the exact relation of the particular convulsive movements to the seat of disease. Yet the experiments of disease are the only ones we can observe in the case of Man. Convulsive seizures must, therefore, be studied as carefully as possible. They are of great value as illustrating the *order* of representation of movements—that is, their relation to one another (sequence of spasm). In a note in this journal headed "Localisation," August 15, 1868, I urge the study of convulsions as being developments of movements. At that time I believed the corpus striatum to be the centre discharged in unilaterally-beginning convulsions, although then, and for four years earlier, I held that the convolutions contain processes representing movements. Admirable reports of cases of convulsion from organic brain disease, in which one of the objects is the localisation of movements, are published by Dr. Ferrier (*West Riding Asylum Reports*, vol. iv.) and Dr. Gowers (*British Medical Journal*, September 26, 1874).

The cases, at any rate, seem to me to show that the convolutions contain processes representing movements. As numerous papers in this journal show, *I have for years urged that convolutions contain processes representing movements and impressions.* I have urged this with regard to the anatomical substrata of speech very many times. If the reader refers to a paper in this journal for June 23, 1866, p. 661, he will find that my conclusions as to the nature of the anatomical substrata of words are practically identical with those conclusions regarding their nature which Ferrier has deduced from certain of his experiments. In fact, I cannot conceive of what other materials the cerebral hemisphere can be composed than of nervous arrangements representing impressions and movements. I have long taken this for granted when considering what is commonly called the Physiology of Mind, especially with regard to speech, as well as when speaking of convulsions and chorea.

For more than ten years I have held that convolutions represent movements. In a paper (*Royal London Ophth. Hosp. Reports*, vol. v., part 4), published so far back as 1866, it is assumed throughout.(b) As I am anxious to show, for several reasons, that this notion had long ago become in my mind almost automatic, I will re-quote a footnote from a paper written five years ago. It had become so automatic, that although it is implied throughout that paper that the convolutions contain processes representing movements, my belief to that effect is only explicitly stated in the part here reproduced. I mention this to account for the statement appearing in a footnote. In fact, in every paper written during and since 1866, whether on chorea, convulsions, or on the physiology of language, I have *always* written on the assumption that the cerebral hemisphere is made up of processes representing impressions and movements. It seems to me to be a necessary implication of the doctrine of Nervous Evolution as this is stated by Spencer.

When speaking of convulsions (a mass of movements) as being owing to discharge of *convolutions* ("Study of Convolutions," *St. Andrews Medical Graduates' Transactions*, vol. iii. 1870), I say—"It is asserted by some that the cerebrum is the organ of mind, and that it is not a *motor* organ. Some think the cerebrum is to be likened to an instrumentalist, and the motor centres to the instrument—one part is for ideas, and the other for movements. It may, then, be asked, How can discharge of part of a *mental* organ produce *motor* symptoms only? I say motor symptoms only, because, to give sharpness to the argument, I will suppose a case in which there is unilateral spasm without loss of consciousness. *But of what 'substance' can the organ of mind be composed, unless of processes representing movements and impressions; and how can the convolutions differ from the inferior centres, except as parts representing more intricate co-ordinations of impressions and movements in time and space than they do?* Are we to believe that the hemisphere is built on a plan *fundamentally* different from that of the motor tract? What can [the anatomical substratum of] an 'idea'—say of a ball—be, except a process representing certain impressions of surface and particular *muscular adjustments?* What is recollection but a revivification of such processes, which, in the past, have become part of the organism itself? What is delirium, except the *disorderly* revival of sensori-*motor* processes received in the past? What is a mistake in a word, but a wrong *movement*—a chorea? Giddiness can be but the temporary loss or disorder of certain relations in space, chiefly made up of muscular feelings. Surely the conclusion is irresistible, that 'mental' symptoms from disease of the hemisphere are fundamentally like hemiplegia, chorea, and convulsions, however specially different. They must all be due to lack, or to disorderly development, of sensori-*motor* processes."

In innumerable places I have written to the same effect explicitly or implicitly. To have long believed this is no proof of its truth; but I think that, to say the least, it adds something of plausibility to the evidence in favour of the interpretation Hitzig and Ferrier give of the results of their experiments. I had been driven to the conclusion that the convolutions *must* represent movements and impressions long before their experiments were made. So far as I can imagine, there is nothing else they can represent. I cannot conceive what even the very highest nervous centres can possibly be, except developments out of lower nervous centres, which no one doubts to represent impressions and movements. These are audacious expressions, and therefore I am very anxious to show that my opinions are not mere after-thoughts. Let me give another quotation. In the *Medical Times and Gazette*, November 17, 1868, p. 526, I write (italics in original), "*The psychical, like the physical processes of the nervous system, can only be functions of complex combinations of motor and sensory nerves.*" I should not now use such vague phraseology, but this quotation, like the former one, shows that I have long had no doubt whatever that the cerebral hemispheres (the "organ of mind") represent an element of movement. I could give a score of quotations to the same general effect.

I found this conclusion, as I thought and as I still think, in-

(a) It is convenient, although the heading is altered, to number the cases in continuity with the former ones for ease of reference.

(b) One quotation from that paper will show this. "So far as we can know anything definite of mind [the actions of the anatomical substrata of mind, I should have said], it is made up of sensory and *motor* phenomena—the functions of a series of anatomical possibilities in the cerebrum in correspondence with its wide environment," etc. Again, page 290—"On the evolution of movements I have spoken several times, especially as regards the arm-nervous-system—*i.e.*, from nerve-trunks supplying muscles directly to the corpus striatum." As the observation of Hilton on the method of nerve supply to skin, muscles, and joints shows, there is in the ultimates of the body rudimentary or incipient co-ordination. The following is a further quotation referring to the sentence last quoted:—"If such an expression be permitted, there is a gradual increase in *intelligence* in movements from the lowest nerve trunks to *the highest centres.*"

entire harmony with the facts supplied by cases of choreal movements, convulsion, and aphasia. It is, then, something better than mere blind prejudice which leads me to accept the interpretation Hitzig and Ferrier have given of the phenomena observed in their experiments.

I am not forgetting the counter experiments of Dupuy, Carville, Duret, and Burdon-Sanderson. There are, on the other hand, the valuable observations of Putnam in reply, to say nothing of the rejoinders of Hitzig and Ferrier themselves. It is at any rate permissible to assume as an hypothesis that the cerebral hemispheres contain processes for movements, in order to investigate more methodically cases of chorea, convulsion, and also diseases of the mind—*i.e.*, diseases of nervous processes serving in Mentation.(c) As the use of the word "hypothesis" implies, the assumption may be taken as provisional; the facts of cases of disease may lead to disproof of it, although, I think, they are entirely in support of it, and will verify it.

To myself, who have for more than ten years been teaching that convolutions represent movements, it naturally comes easy to believe that the experiments of Hitzig and Ferrier are a demonstration that this is the anatomical constitution of certain of them. Those who have read the quotations above given, will not accuse me of affectation when I say that I was surprised that anyone hesitated to accept the conclusions of the recent experiments. My own opinion is that the prevalent confusion of Psychology with the Anatomy and Physiology of the Nervous System is much to blame for the incredulity. "Centres for ideas" are often spoken of, but nothing at all is said of the *anatomical* substrata of any class of ideas. I hold that the anatomical substrata of ideas are sensori-motor processes. It seems to me to be plain almost to demonstration that there *must* be a motor element in the substratum of a visual idea. How else could we possibly have ideas of the *shape* and *size* of an object? I beg the reader to take note that this is not an after-thought. I do not write this because Hitzig and Ferrier find that they develope movements of the eyes by electrical excitation of certain parts of the cerebral cortex. I believed that movements of the eyes must be represented in the cerebral hemispheres before their experiments were begun. Before it was surmised that movements could be produced by artificial excitation of the brains of healthy animals, I wrote as follows (*Medical Times and Gazette*, October 23, 1869) of the anatomical substrata of visual ideas:—"In the organised forms which serve as the mental representatives of objects when the objects are absent, there will therefore be comprised not only impressions of surface, *but residua of movements*. . . The speculation supposes that we have particular visual impressions in fixed association *with particular ocular movements*." A convulsion in which the eyes are strongly deviated is owing to an excessive discharge of a part where the motor elements of the substrata of visual ideas are largely represented.

There is one objection to the conclusion which must be mentioned. It has been recently asserted that the convolutions—let us say the convolutions near to the corpus striatum—cannot represent movements, because destruction of much of them produces no loss of movement. The theory of Evolution accounts for the two superficially discordant facts. I wish to point out that I have faced this difficulty long ago, and, if I may use such an expression, I considered the objection before it was made. I raised the objection(d) myself. For example, in the "Study of Convulsions" (1870), after adducing arguments to show that in convulsions beginning unilaterally the central discharge is of convolutions in the region of the middle cerebral artery, I write—"Although to me the above arguments seem sufficient, I will consider certain objections.

"If a small number, or let us say a square inch, of convolutions were cut away by the knife, there would be no loss of power, no paralysis. This is admitted. How, then, can discharge of this square inch produce violent convulsions? If lack of the part leads to no *loss* of function, how can discharge of that part lead to *excessive* function." I then considered the objection in detail. Whether I have succeeded in solving the problem is one thing. I wish to show by the quotation I have given that at any rate I did not shirk the difficulty.

(c) Convulsion and insanity are, however, equally symptoms of disease of the "organ of mind." The convenient word "Mentation" was introduced, I believe, by Metcalfe Johnson.

(d) I have had to consider it, as regards the question of recovery from hemiplegia when the damage causing that hemiplegia is not restored, with regard to the therapeutics of one form of syphilitic hemiplegia, with regard to chorea, epilepsies, etc.

Some time before I wrote the "Study of Convulsions" I had the objection to reply to. For as I held that choreal *movements* result from discharge of *convolutions* near to the corpus striatum, I was compelled to face the very obvious objection that parts of the cerebral hemisphere might, as I could not deny, be destroyed altogether without the production of any obvious symptoms of any sort. I stated what I now call the Principle or Hypothesis of Compensation as regards chorea in the *Edinburgh Medical Journal*, October, 1868. The year before (in this journal, December 21, 1867), I tried to show how it was that destruction of parts of the brain often did not cause symptoms. In all the statements I have made of this Principle, it is assumed that the cerebral hemisphere is made up of nervous arrangements representing impressions and movements.

The word "compensation" itself shows what is meant. A region of the body is not permanently paralysed when a part of the brain representing it is destroyed, because the neighbouring parts also represent the very same region. The principle applies, I believe, to partial lesions of all nervous centres, but more evidently the higher the centre. This is what we should expect on the Principle of Evolution; for the higher the centre, the greater the number of different movements and impressions represented in it. This implies a greater number both of nerve fibres and cells. Now, of course, the more fibres in a centre, the less loss of movement will result from destruction of part of it; and, of course, the more ganglion cells, the more over-movement from discharge of an unstable part of it. When we come to the highest centre, the cerebral hemisphere, it is notorious that destruction of much of it may occur without the production of any very obvious symptoms. This is a fact which is forced on every surgeon or physician. And then, on the other hand, the discharge of very limited parts of it produces considerable external movement. I suppose I have stated the Principle or Hypothesis of Compensation a score of times, and many times before the experiments of Hitzig and Ferrier were begun. I will not, therefore, state it again here, but will refer to an essentially similar hypothesis by M. Taine.

The Hypothesis of Compensation is the result of observation of cases of disease; but the facts of experiments on animals have a similar bearing. M. Taine has, chiefly from these facts, but also from cases of disease, come to a conclusion which is very like the one I have come to. He says—"The brain is a kind of polypus, whose elements have the same functions." I think the same general truth is contained in the statement I have made of a subordinate centre, "that the corpus striatum is a mass of small corpora striata" (*Medical Mirror*, Oct., 1869).

Referring to certain experiments by Vulpian, M. Taine says—"We see that, in the case of the frog, the *eighth part* of its brain supplied the place of the rest; a larger portion would be required in the case of a superior animal; and, when we come to the summit of the animal kingdom, the mutual dependence of the different parts of the brain is much greater. But the conclusion is the same; the brain is a kind of polypus whose elements have the same functions."

I do not think the Compensation is ever absolute (I speak of destruction of parts of the brain producing no *obvious* loss of movement). I think it probable that what is called loss of muscular sense in a limb is in some cases loss of the most special or, metaphorically speaking, "most delicate" *movements* in that limb. I say "movements," as I hold it to be as misleading an expression to say that the convolutions represent muscles, as it is to say that language is made up of letters.

(To be continued.)

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SATURDAY, MAY 29, 1875.

THE NATURE OF CONSUMPTION.

No. V.

In our last article we endeavoured to indicate the grounds of our belief in the accuracy of the views held by Addison, amongst others, that tubercle *per se* is not the active, dominant element in that pulmonary destruction which is the chief characteristic of consumption. We pointed out that in animal tuberculosis softening was of rare occurrence, and that in the most intense forms of human tuberculosis there was no pulmonary softening unless active inflammation were also present. At the same time, we did not express any doubt but that the acute eruption of pulmonary tubercle might in certain cases determine active inflammation, and thus occasion that form of acute pulmonary disease which might well be called acute tubercular phthisis. But, on the other hand, an equally acute form of phthisis, the lesions of which in their general dissemination through the lungs closely resembled those of tuberculosis, occasionally occurred in which no miliary tubercle was to be discovered, and in which alveolar thickening was either not present or only so scantily to be seen as obviously to take no essential part in the lung destruction.

The acute pulmonary diseases thus referred to proceed with fell intensity to their fatal termination; but the majority of the cases of phthisis which come before us differ from them in this respect, their course being usually one of intermittent, or rather of interrupted activity, so that, however acute and stormy the symptoms may be, and however intense the local disease, the patient rarely succumbs to the first, or even the second attack, and the intervals of pause or arrest are sometimes very prolonged. The disease, too, in these cases of which we now wish more particularly to speak, is at first limited to the lungs, and shows a more decided tendency to attack them at one portion, usually the apex, of one lung, and to spread thence downward, involving the opposite lung, however, in the same way before it has proceeded far.

Although it is true that the two factors, tubercle and catarrhal pneumonia, are usually present at those stages which come under our inspection, we do not think that they are both so from the very beginning; and the question is, which takes the initiative? Or, leaving out the terms which do not adequately represent the import of the question, is phthisis the result of an extension of disease from the alveolar surface to the deeper tissues of the lung? or does it commence in these deeper tissues and spread to the surface? Those who hold with Niemeyer, that phthisis begins with alveolar catarrh, adopt the first alternative; those who maintain with others that it begins with tubercle, adopt the second. We do not find it at all necessary, in adopting Niemeyer's view as being in this respect the more correct, or as at least applicable to a larger number of cases, to accept his exclusive limitation of tubercle to the grey granulations. As we shall see by-and-by, there does not necessarily arise any confusion from the adoption of Dr. Fox's more liberal definition of the term.

Admitting the difficulty of the question, we think several arguments of different kinds may be urged in favour of the first view. We cannot, in the first place, accept from experience, however much we might be tempted to do so from authority, Dr. Moxon's statement that perfect tubercles are to be found in all examples of early phthisis, and, the more pure and perfect, the earlier the stage of the disease. Cases of early phthisis are exceedingly rarely seen post-mortem, and early disease affecting the second lung might be expected, from the nature of the malady, to be more often tubercular from the first, secondary tuberculosis of the opposite lung being common. Yet, in a goodly proportion of cases which are cut off by sudden hæmoptysis, or by some other cause, whilst the second lung is as yet only incipiently affected, the lesion present is found to be pneumonia with scattered centres of commencing degeneration. It should also be remembered, in favour of the view for which we are contending, how strikingly the lung exceeds all other organs in having its internal surface in more active functional association with the external air. Now, there are few observers who would, we think, hesitate to admit that the great majority of the diseases of the skin, the stomach, and the intestines commence in their epithelial coverings, or in the ducts which open on to them, arising very often, indeed, from some morbid stimulation of these surfaces, and proceed and become ulcerative by secondary implication of the deeper parts; such extension being especially apt to ensue in enfeebled constitutions. Why should we, then, be so disposed to regard all the diseases of the lung except croupous pneumonia and the results of collapse, as commencing with some mysterious deposit in, or hyperplasia from constitutional irritation of, the deeper textures of that organ? The adoption of such a separate and exclusive pathology for phthisis is, we think, somewhat irrational, and has principally been caused by too hastily concluding that all tubercle has its origin in the one process—tuberculosis. This latter process always consists, as we have seen, either of an acute general eruption of *miliary* tubercle, usually of demonstrably secondary and infective origin, or of a more partial local appearance of tubercle in the same miliary form, and always of infective origin. Bearing in mind, then, this fact, which has been most insisted upon by Buhl—viz., that tuberculosis is a process most generally, if not always, of secondary origin,—we may admit that it may in rare instances originate one of the acutest forms of consumption, and that it may much more often arise as a complication in consumption; but it is most difficult for us to understand how it should originate the more ordinary forms of phthisis which commence as apex lesions. These forms are, as we shall presently endeavour to point out, of inflammatory origin, and their inveteracy is mainly due to the anatomical and physical peculiarities of the organ attacked.

The kinds of change which most importantly contribute to the pulmonary lesions of phthisis are—firstly, an accumula-

tion within the alveoli of large cellular elements which are the offspring of the alveolar epithelium; secondly, a thickening of the alveolar walls by a small-celled growth; thirdly, an increase in the interlobular connective tissue. These changes represent the catarrhal pneumonia, the tubercular, and the fibrotic elements respectively, which in their several degrees and forms of combination constitute the chief pathological varieties of consumption. Superadded to them we may have often miliary tuberculosis, almost always at some stage the common ulcerative process, sometimes the syphilitic gumma or the syphilitic ulceration of the bronchial tubes extending into the lung; sometimes ordinary exudative pneumonia, or collapse from pleurisy with effusion, or from pneumo-thorax. These several complications, however, but little change the general pathological aspect of the disease; they do not seriously affect the definite progressive consolidation, decay, and removal of the pulmonary tissue, and they but trivially add to the destructive process.

But in this latter respect Dr. Green attaches more importance than has been done hitherto to the exudative pneumonic processes characterised by "the presence of leucocytes and exudative matter within the alveoli," which Dr. Green enumerates as a fourth principal change contributing to the lesions of phthisis. Patches of croupous pneumonia are undoubtedly to be seen mingled with the other phthisical lesions in some of the acuter forms of consumption, but we had regarded them as complications rather than as strictly contributing to the phthisical process. We must admit, however, that in some of the more acute cases, in which, in the early stage, there is much and dense local consolidation, we have found such consolidation clear up in a way difficult to explain in an epithelial pneumonia of equal extent, and we gladly hail the comparatively innocent croupous pneumonia as possibly taking a larger share in the pulmonary consolidation of phthisis than is generally supposed. For the chief causes of the danger of catarrhal pneumonia are the large-formed and epithelial character of the cells with which the alveoli become stuffed, the comparatively invulnerable nature of the cell wall, and the absence of any considerable amount of exudative elements, leucocytes, and fibrin, which, being much more perishable, readily undergo degeneration and liquefaction, and become absorbed or expectorated. The catarrhal cells, on the contrary, with little or no intercellular substance, tend to adhere together in permanent masses, which cannot escape, but slowly degenerate *in situ*, and give rise to *secondary irritation of the alveolar walls*.

And now, if we can chronicle these insidiously consequent processes, arises what we term local tubercle—*i.e.*, an irritative hyperplasia of the glandular elements of the lung, which, if it occurs in a certain intensity or endures for a sufficient time, both conditions varying with the disposition of the individual, does not resolve, but proceeds to undergo the caseous change. Of course there are other elements in the lung stroma besides gland elements, but the latter predominate, and, from their intimate association with the alveoli, respond most readily to irritation.

It is with reference to some such pathology as this that Niemeyer contends with great force for the hereditary nature of phthisis consisting in a *vulnerability of lung*. There is no mystery in such an expression when used in this way, for is it not a matter of the commonest experience how individuals and families of individuals differ in the *vulnerability* of their gland tissues—*i.e.*, in the readiness with which their glands enlarge, and the difficulty with which such glands resolve? On the other hand, Niemeyer contends with Buhl and others (but in this he perhaps goes too far) that, save through the medium of phthisis or gland inflammation, tuberculosis is not hereditary.

The caseation, softening, and removal through the bronchial channels of the tubercular and pneumonic products is little more than a chemical and mechanical process. The consequent admission of air to the newly formed cavities, and the ulcerative process set up by its irritation and that of the decaying expectoration, are matters of course yet taken little heed of by those who concentrate their attention upon the newly depositing tubercle from a depraved blood. The ceaseless movements of the lung, and the tearing but on the whole salutary cough, add to the difficulties of healing, and favour the spread of the disease. And further, it is quite possible, and in accordance with post-mortem observation, that phthisical lesions also extend by contiguity, and especially of the tubercular element. It may be commonly observed, even with the naked eye or a lens, that thickened alveolar processes extend downward from the existing lesions.

Separate centres of disease may arise in distant parts of the same lung or in the opposite lung, by sympathy, by renewal of cause, by tuberculosis, by inhalation of irritating expectoration or of blood from hæmoptysis.

It is a plausible argument that may be urged by those who hold phthisis to be a blood disease, that the apex of the opposite lung becomes almost invariably affected before the disease has proceeded far. This will, however, be found to be the case with inflammatory affections of other symmetrical organs—as the eyes or the kidneys,—there being always a marked tendency to involvement of the second organ. Such a tendency exists also in the lungs; it has its origin unquestionably in nervous agency, and may very appropriately be regarded as sympathetic. A tuberculosis may often be observed to have supervened shortly before death in cases of advanced phthisis, and centres of fresh disease may sometimes be found scattered through the lower lobes, the result of a recent hæmoptysis, or, presumably, from inhalation of secretions from cavities.

In expressing the views respecting the nature of consumption which appear to us most supported by observation and experiment, we have abstained, as far as possible, from any clinical illustrations, upon which, however, the subject in its most important etiological relations may be usefully studied. Its due consideration in this respect, however, would require a separate series of articles.

"EARTH TO EARTH."

In resuming his letters to the *Times* on the disposal of the dead, Mr. Seymour Haden observes that in his former letters, arguing "in the spirit of an absolute belief in the sufficiency and perfection of all natural processes, and in the danger that must attend any systematic attempt to contravene them," he had pointed out that, "by our contrivances for preventing the necessary and salutary action of the earth upon the bodies of the dead, we had brought upon ourselves a penalty the onerous nature of which we were already abundantly sensible of, but which in time would certainly, as far as this and other populous cities were concerned, acquire the proportions and consequences of a plague." And he now proposes to reduce his former "general reflections and statements to a practical shape," to show how to do that which is right, and avoid that which is wrong, and to remove the fears and objections to which his former letters have given birth.

In the hope of effecting this, he first insists on the power and competency of the earth to so deal with bodies committed to it as to insure that during the process of decay they cannot poison it and the springs which have their rise in it. Our aim in burial should, he says, be to imitate and promote that form of decay which is brought about by the indirect access to the buried body, through porous soils, of air and water "winnowed of their putrescent elements by filtration, and chemically transformed by the force which is known as surface affinity," a form of decay which "gives rise to carbonic acid, water, and ammonia, the food of plants, and, through the agency of these

plants, the ultimate purifiers of the air." While undergoing this process of decay, the body, if buried in a sufficient quantity of earth to resolve it, does not, Mr. Seymour Haden observes, impart any impurity whatever to the adjacent soil or to the other elements around it,—"a fact," he says, "which anyone may ascertain for himself by digging down upon the body of an animal which has been buried, it matters not how long or how short a time, and finding (as he will do if he proceed cautiously) that the soil in contact with it has only been affected by it to about the eighth of an inch, and that, until this very last film of enveloping earth has been reached and removed, no smell whatever has been omitted from the excavation he is making. There have now been standing in my garden since January last three open flower-pots containing tainted meat—the first with a mere sprinkling, the second with an inch, and the third with about two inches of earth covering the meat. From none of these pots, not even the first, have I or others been able, at any time, to detect the slightest smell, though the cats in the neighbourhood (on whose independent testimony I counted) have, owing to a heavy shower which displaced the covering film of earth, at last found out the meat in the first pot and removed it." The remarkable power that "filtration through a few feet of common earth" possesses to remove almost all trace of organic matter from water charged with putrid animal matters, is taken as proved by Mr. Simon's well-known report of the water of the Bishopsgate pump, which derived its supply, in part at any rate, from an adjacent churchyard; and the water of which was reported as indeed exceedingly hard, yielding a large amount of chlorides, nitrates, and other salts, but containing "of organic matter none, or scarcely a trace." But this illustration is not, we fear, a fortunate one, for, in 1867, samples of water from this well were found to contain rather a large amount of albuminoid ammonia and of free ammonia—such an amount, indeed, that, unless we are much deceived, the water was condemned as unfit for domestic purposes, and the pump was closed and has remained closed ever since.

Mr. Haden then goes on to consider the signs of death, and our means of observing and verifying them, with the object of reassuring "those who may fear the effect of any change in our present practice of deferred interment"; and it is in reference to this part of his subject that he gives the note, which we published last week, from six of our most eminent physicians and surgeons, expressing their confident belief that the dread of the possible occurrence of burial during suspended animation or trance is "without support in the medical experience of this country," and "that the signs of death are as certain after a few hours' suspension of the vital functions as they can be after many days"; and they think that it would indicate "a low state of public intelligence" should a groundless fear of premature interment hinder for a moment the adoption of Mr. Seymour Haden's proposed curtailment of the interval now allowed between death and burial. Mr. Seymour Haden himself points to the absolute certainty with which the presence of death may be proved by our present means of recognising the perfect cessation of respiration and circulation—by auscultation and the action of the sphygmograph,—and by the fact that the dead body acquires an *equilibrium of temperature* with that of its inanimate surroundings—a condition which may be ascertained by anyone who can apply and read a thermometer. But he seems rather surprised that any doubt should really ever exist as to when true death is or is not present. He observes that the exclamation, "I saw in a moment he was dead," springs spontaneously and naturally "from even an inexperienced person who finds himself suddenly, and for the first time, in the presence of an unexpected death." There is no doubt or hesitation, no careful scrutiny is required; but the presence of death is at once recognised. "By how much the more may we be sure," then he says, "of his presence when his coming has been anticipated, looked for, possibly longed for!" We must venture to differ from Mr. Seymour Haden here. We think that in the one case it is the very suddenness of the contrast between the expected life and the unexpected death that carries conviction, and terror, to the observer; while, in the other case, strength and vitality have been slowly ebbing away, the surroundings of busy active life have been all removed or hushed, and to the lookers-on there is no sudden or violent contrast between the quiet and repose of prostration or of the sleep of exhaustion, and the repose and stillness of the sleep of death. The amount of knowledge of the vital processes possessed by even the educated public is, moreover, we suspect, very low, whatever their intelligence may be; and, still further, we have at such a time to meet not the questionings only of intelligence and knowledge, but the fears of unreasoning affection and grief; the fears of unreason lest true death be not yet present, and the wishes to gaze on the features, so lovely in repose, till the transformation wrought by "decay's effacing fingers" begins to destroy its lines of beauty. As, however, Mr. Seymour Haden holds that the presence of death, even in the most obvious cases, "should always be certified by those who are competent to pronounce with certainty upon the fact," we need not dwell any further on this part of his letter. Under a third division of his subject he gives a detailed account of the simple mode of burial which he wishes to see adopted "in the place of our present unnatural plan"; and explains how, by the use of "rather finely divided charcoal" to surround the body, all apprehension of any spread of infection may be dissipated. Into all this part of his subject he enters with rather extreme—as it seems to us—minuteness and fulness of detail. But the general plan—the early burial; the light wicker-basket, with herbs (or charcoal) and flowers, instead of the closed coffin; the abolition of funereal gloom about the house, and of funeral processions through the streets;—all this is already well known, and we need not dwell upon it. Mr. Seymour Haden proposes further, in another letter, to expose the abuses attending the management of our present cemeteries; to note "the defective state of the law in respect to the safe and proper burial of the dead"; and to give us suggestions for the formation and regulation of one or more new properly constituted burial-places east of London.

PAROXYSMAL HÆMATURIA.

So little is known of the curious disease variously styled paroxysmal hæmaturia, or intermittent hæmaturia, or hæmatinuria, that any addition to our knowledge of the malady is sure to be welcome. In the last number of the *St. Bartholomew's Hospital Reports* is a paper by Dr. Legg, with some pretence to be a more or less complete account of the disease; and in the most recent number of the *Edinburgh Journal* we have a sound contribution of two cases of the disease by Dr. Warburton Begbie. On this basis we propose to make a few remarks on a disease at once strange and enigmatical, and to give our views on a subject not yet passed beyond the range of discussion.

Briefly paroxysmal hæmaturia might be described as follows:—A man in the prime of life, with no other predisposing agency that we can make out than exposure to malaria after exposure to damp and cold, gets up in the morning as usual, but more or less speedily begins to feel langnor and lassitude, severe chills all over, sometimes pain in the back, with or without sickness, all lasting for various periods. If urine of the ordinary character and appearance was passed on getting out of bed, that is now no longer the case, for as these disagreeable symptoms begin to disperse, or even long before, any water passed presents a colour varying from a slight red

colour to something much more resembling porter or stout, coagulable by heat or acid, and depositing a dirty-looking mass. The deposit, if allowed to collect at the bottom of a vessel by standing merely, is found by the microscope to consist mainly of granular matter of a brownish-red tint, with casts of the uriniferous tubes, hyaline casts, and quantities of oxalates. The red matter is undoubtedly the colouring matter of blood; but in what state? In by far the greater number of cases no corpuscles are to be found; but in some few instances, when examined just when the urine was passed, these bodies have been found, though the same sample of urine, when examined later, contained nothing save their *débris*. In some cases the urea passed is increased, in most diminished, but in all we have this peculiar secretion of deeply coloured urine. This is the more remarkable inasmuch as that which is passed when the paroxysm has ceased is in all respects healthy, clear, transparent, and containing no albumen. This last appearance is constant if the patient is confined to bed, but the slightest exposure to cold will bring on the old attack. Even getting up out of bed may bring it back, and again the red or black urine appears with all its concomitant miseries. The presence of blood pigment in the urine is not a continuous, but an interrupted process; it comes on at certain periods only, or under the influence of certain agencies, of which cold is the chief. Between times the urine is healthy.

Coming next to consider the phenomena of the disease more closely, we soon see that the essential feature of it consists in the presence of the blood-colouring matter in the urine. No corpuscles are to be seen. They have been broken down—but where and how? The materials of the corpuscles alone remain. The zooid and the œkoid of the corpuscles are broken up, but the hæmoglobin, of which especially the zooid is composed, is there. This is not difficult to prove: the spectrum analysis of hæmoglobin, whether in its reduced or oxidised state, is quite different from that of hæmatin, and the absence of its proper absorption-bands show that no hæmatin is there. For this reason, then, no hæmatin being present, the term "hæmatinuria" is inaccurate, and such a term as that used above, involving as it does no theory, is better used than one apparently more scientific.

This brings us to the consideration of the origin of such an extraordinary separation of the colouring matter from the formed substance of the blood corpuscle. In what way can this be explained? More than one trial in this direction has been made, none of them very successful. Various symptoms point to the kidney as the source of the mischief; but this is only a half-truth. Undoubtedly the kidney must be more or less damaged or interfered with before such a quantity of blood-stuff, whether consisting of coloured matter or of simple albumen only, can pass away. The pain often complained of in the loins may thus be explained without having reference to any specific change in the organ. The idea of some, that it is in the kidney that the colouring matter of the blood is ordinarily changed into urine pigment, is quite untenable; no mere interference with the ordinary functions of the kidney will thus suffice for explanation. Moreover, this curious malady is often, if not invariably, accompanied by jaundice—an accident or coincidence quite inexplicable on the renal hypothesis, but abundantly explicable if we seek the true theory of the disease in the breaking-down of the red corpuscles of the blood, whether in the vessels of the liver or elsewhere. That such a change may take place is quite certain, but the conditions of the change are unknown. However produced, the remains of broken-down corpuscles may be driven round the body, and so give rise to jaundice, with the passage of blood pigment, in a more or less altered condition, by the kidneys.

Certain forms of jaundice teach us that mental or, at all events, nervous influences may in some way effect such a change, and the same theory will extend into the origin of paroxysmal hæmaturia. This is not very far to go, but it puts, as we think, the theory on a correct basis, and indicates the direction in which research is likely to give the best results. Broadly speaking, it may be said that there is but one pigment in the body; all others are derivatives from it. Thus, red bile-pigment is really derived from hæmoglobin, green bile from red bile, and so on through a numerous series, ending ordinarily in urinary and faecal pigment. The exact chemical history of this pigment would, we are convinced, illustrate many pathological matters of which we are now ignorant.

Finally, as to treatment. Only quinine with or without iron seems to do any good. In his article Dr. W. Begbie speaks of chloride of ammonium as having done good in one of his cases; at all events it should be tried. The great thing, however, is prevention of any return, and, as far as we know, only one thing will do that—viz., visiting a warm climate; but return to a cold one only brings back the mischief, so that the unfortunate patient must look forward to an almost permanent expatriation.

THE WEEK.

TOPICS OF THE DAY.

THE inquest on the case of "Apoplexy or Drunkenness?" published in our last number, was resumed on Friday last. The facts as given in our report were substantially confirmed in every particular at the adjourned inquiry. The coroner, in remarking upon the circumstances of the case, censured in strong terms the medical officers of the hospital. He also blamed the police for leaving this man for eight or ten hours without medical assistance, but said that they were by no means so bad as the medical men who had seen the poor fellow first, and sent him away in custody. The jury, after some consideration, returned the following special verdict:—"That the deceased died of apoplexy, or effusion of blood on the brain. The jury consider the medical officer at the hospital who first saw deceased highly reprehensible in allowing the deceased to be treated and charged with drunkenness and taken away by the police; and, further, they consider the medical officers at the police-station had not exercised sound judgment in allowing the deceased to remain several hours in the doubtful state in which they found him." Mr. T. C. Fox has written the following letter to the *Times* newspaper:—"In consequence of an omission in your report of the recent inquest at University College Hospital on the body of John Truby, an erroneous conclusion, and one likely to do me great injustice, is likely to be drawn therefrom. The report would seem to imply that when first the deceased was brought to the hospital I saw him, and allowed the police to take him away, but only to be re-admitted unconscious the next day. The fact is that I was not on duty on the first occasion, nor did I see the deceased until he was brought the second time by the police, when I at once recognised his condition, and ordered him into the hospital." In justice to all parties, we think the gentleman who first saw the deceased at University College Hospital should have been brought before the coroner, and we publish in another part of our columns an explanatory letter from him. His letter "explains" also the conduct of some of the students of the hospital during the inquiry, which drew upon them a severe rebuke from the jury and the coroner. A letter also appeared in the *Times* of the 26th inst., from "The Dean of the Faculty of Medicine, and Chairman of the Medical Committee of the Hospital," giving the same account of what happened as Dr. Houghton gives, and excusing (though he does not use that word) it on the ground that medical men "do not possess any mysterious power of divination; they judge of the existence of disease by evidence." And the evidence here was in favour of drunkenness. We

have no desire to be at all hard on the resident medical officers of our hospitals—their duties are onerous, and often require great judgment, skill, and promptness of decision,—but we cannot but think that Dr. Houghton's own letter shows that he made, what any medical man may make, an unhappy mistake.

The day following the adjourned inquest as recorded above, Dr. Hardwicke held an inquiry upon the body of Frederick F. Colley. This case is even of a more deplorable character than the preceding case, and demands the most thorough investigation. It appeared in evidence that the deceased was on the night of Saturday, the 15th inst., thrown from the carriage which he was driving, by a collision with a cab. He remounted, after his head, which was severely cut, had been bound up, and drove to his destination, to the Olympic Theatre. He was here observed by a policeman, who, noticing blood on his face and coat, asked him to get off the box. This he did. He smelt of liquor, due, no doubt, to the fact that after the accident a gentleman gave him nearly half a quartern of brandy. The officer asked him about the blood, and he replied "That is nothing," whereupon the constable took him to Bow-street and charged him with being drunk. On the following Monday the policeman went to King's College Hospital, where the man had been sent by the divisional surgeon, saw the house-surgeon, who said he was fit to come out, and thereupon took him back to Bow-street, when he was fined 40s. or a month for being drunk and incapable of taking care of a pair of horses. Being unable to pay the fine, he was taken to the Coldbath-fields Prison, where he remained till the next day, when the fine was paid for him, and he was let out. During the whole of the time until his death, which occurred the day after he left the prison, this poor fellow is believed by the doctor who last attended him to have been suffering from a fracture of the skull, and of course the constant moving about was the very means to kill him. It was eventually decided, as the case was one of so much importance, that the inquiry should be adjourned until such time as the whole of the witnesses could be brought before the court, and the entire facts elicited.

And yet another case of, let us say till an inquest has been held, misadventure was reported in the *Times* of the 25th inst. Ellen Hill was charged with being drunk and incapable, but when the case was called on the poor woman was dead. A police-sergeant stated that she had been "turned out of several publichouses in Westminster, and was at length picked up in the street with her head cut. The wound was dressed at the hospital, after which she was charged. Having been taken ill in the cells, she was removed to the workhouse, where she died on Sunday morning, at four o'clock, from debility." All these three cases appear to be, at least, extremely unfortunate ones; and hospital authorities must, we think, very seriously consider whether more care must not be taken to detain "drunken" casualty cases, whose condition admits of the least doubt, for some time under observation before committing them to the tender and skilled care of the police.

The Hampstead Hospital question was brought forward again last week, at the meeting of the Metropolitan Asylum Board; and, on the proposal of Mr. Currie, it was resolved to postpone for a month a motion which had previously been before the Board, to the effect that the plans for the permanent reconstruction of the Hampstead Hospital be approved and transmitted to the Local Government Board for their sanction, with a request that the managers be authorised to proceed with the erection of the administrative block only, during the present year, at an estimated cost of £7000.

Notice has been given by the Senate of the University of Oxford of a statute, brought forward for discussion in congregation on the 27th inst., which proposes to institute an examination in subjects bearing upon preventive medicine and public health, and to grant certificates for proficiency therein; the examination to be held every year in Michaelmas Term, and to be open only to persons who shall have obtained the degree of Bachelor of Medicine in the University. The subjects of the proposed examination will be hygiene, sanitary law, sanitary engineering, and vital statistics. The statute makes provision for a board of examiners, five in number, with the Regius Professor of Medicine presiding, who would also be chairman of the Board of Studies constituted to regulate the examination. A further provision is made that the fee paid by each candidate before the examination shall be £5, and for the certificate £10. It will be remembered that at the sister University of Cambridge the examinations on public medicine are open to all qualified medical men of twenty-four years of age.

A public conference, influentially attended, convened under the auspices of the Fisheries Preservation Society, and presided over by the Duke of Northumberland, was held at Adelphi-terrace on Monday, to discuss the provisions of the Government Bill on the pollution of rivers. A resolution was unanimously adopted that the Government Bill would, with certain important amendments, be of considerable assistance in purifying the rivers of the country. A deputation was appointed to wait on the Marquis of Salisbury, to lay before him certain amendments suggested by the meeting, with the view of his taking such steps as may insure their insertion in the Bill.

After a short preliminary discussion, during which nothing new was said, the House of Commons went into Committee on the Public Health Bill at the morning sitting of the 25th inst., when, out of the 371 clauses of the Bill, 198 were agreed to with the exception only of Clause 168. This, which proposed to empower urban sanitary authorities to construct a hall for public meetings and to let it for hire, was negatived on the motion of Mr. Pell.

Mr. Henry Lee's lectures on Syphilis and on some Local Diseases affecting principally the Organs of Generation, at the Royal College of Surgeons, will commence on Monday next, the 31st inst., at 4 p.m., and will be continued on Mondays, Wednesdays, and Fridays at the same hour.

VIVISECTION.

The Home Secretary having stated that it is the intention of Government to issue a small Royal Commission to make inquiries about vivisection, so called, "in order that they may have full information before they attempt to legislate on the subject," Dr. Lyon Playfair has given notice of motion to discharge the order for the second reading of the Bill which he has introduced, and no doubt Lord Henniker's Bill will also be withdrawn. This is undoubtedly the best course that could be taken by the Government to insure any likelihood of satisfactory legislation on a subject for which it will be very difficult to legislate wisely and well. The report of a competent Royal Commission will sweep away the mass of misconceptions, exaggerations, and sentimentalism that have gathered round the subject, and will instruct our legislators and the public as to the extent to which experiments on animals for scientific purposes are really practised in this country, on the manner in which such experiments are carried out, and on the purposes and aims with which they are instituted. The *Times* published, on the 25th inst., a leading article on the subject, the plan of which was certainly cleverly conceived, if we are to suppose that its chief object was to impress as strongly as possible on the public the great value and importance of scientific experiments on animals; but the idea has been carried out with such boldness of declaration and absoluteness of assertion, that we suspect very few of the numerous medical

men who will certainly be questioned about the article will be able to support some of its statements without large qualification. Dr. William Budd's belief that consumption is essentially an infectious self-propagating disease is alluded to; and the earnest and searching inquiries and experiments that have of late years been made by Villemin, and other eminent men at home and abroad, into the nature and causes of the disease are, justly, pointed to as of great importance to the well-being of the human race; but how many medical men are prepared to agree with such a statement as the following?—"Already, before the lapse of seven years from M. Villemin's discovery, the veil of mystery which previously hung over the causes and nature of consumption has been removed. It is ascertained that the disease belongs, as Dr. Budd conjectured, to the zymotic class; that tubercle may either originate in the body, under the influence of the ferment generated by organic decomposition, or that it may be communicated by contagion. . . . . The conclusions already reached point to the high probability that other zymotic diseases may in like manner originate spontaneously under given conditions; and they also point to a near future—near, at least, if we measure time by the ordinary rate of the growth of knowledge—in which it will be within the power of medical science to banish consumption as utterly as it has already banished some of the diseases by which our forefathers were afflicted." May it not be fairly suspected that the object of the writer is quite as much to put forward a theory as to justify vivisection? We trust that the public will not be seized with any sudden dread of the contagiousness of consumption.

RECRUITING FROM A MEDICAL POINT OF VIEW.

If any proof were necessary to establish the importance of the question as to whether the British Army of the present day is or is not in a satisfactory condition, it would be found in the very strongly expressed opinions enunciated in the House of Commons last week on this subject. We have before now explained that the portion of the question which more particularly interests us is the *medical*, not the *military*; and with this view we cordially endorse the sentiments which Lord Elcho thought it his duty to lay before the House. He said "medical authorities, civilians, and physiologists all agreed that boys under twenty years of age were not full-grown men, and could not make effective soldiers; that, in fact, was the principle upon which foreign armies were constituted; twenty and twenty-one years was the minimum age at which soldiers were enlisted who were supposed to be effective." He had asked the opinion of Sir William Fergusson on this subject, and he had told him, and had said there was good sense in the old English law which fixed the age of maturity at twenty-one. Lord Raglan, again, writing in despatches to the Duke of Newcastle after our first losses in the Crimea, said that the boys that were being sent out to recruit the ranks died like flies. Even Mr. Gleig, the late Chaplain-General of the Forces—than whom a higher authority could not be got,—had written a letter on his sick-bed to him (Lord Elcho), in which he said—"It is nonsense to talk of enlisting boys, otherwise we shall have no army at all. Better have no army at all than to be involved in war with a force which will melt away at the time of need." Evidence of this nature is irrefutable, the more so that it is corroborated by common sense. The carefully prepared tables in the annual reports on the health of the army, submitted to Parliament, show how much greater the mortality at foreign stations is amongst the young recruits than amongst the older soldiers. Undoubtedly Great Britain is on the horns of a dilemma—more pay, or compulsory service; the question is, which shall it be? The pay of the soldier and the contingent advantages to be derived from serving in the army no longer bear comparison with the wages to be earned in civil life; and if the stalwart, seasoned man of former years is to be attracted to the standards, the public purse-strings must be sufficiently relaxed to enable him to reap advantages, at least equal, if not superior, to those held out in all directions by trade. But, in the event of the opposition likely to arise on the part of the ratepayer proving decisive, there is nothing for the authorities to adopt but compulsory service—to begin with—in its mildest form. Although some of the leading journals of the country would endeavour to show that the army was never on a more satisfactory footing, and the Commander-in-Chief expresses a species of limited confidence in the pluck of the country's defenders at present under arms, it is notorious that the recruits now collected do *not* come up to the standard of those presenting themselves for service in bygone years, and, from a medical point of view, we hold with Lord Elcho, that in the event of war it would be absurd to pit our youthful recruits, with any prospect of success, against the manhood of foreign countries.

THE ANTISEPTIC TREATMENT AT MUNICH.

From the Continent we are continually hearing of the employment of the antiseptic treatment. In some quarters, indeed, it does not appear to contrast favourably with rival methods, but from many others the reports are more favourable than those which we are accustomed to hear at home. We have recorded on another page the results obtained by Thiersch at Leipzig, and we take the following short but remarkable paragraph from the *Centralblatt für Chirurgie*, April 24. It is headed "Lister's Great Discovery," and is placed amongst several interesting accounts of other forms of dressing, including one from Ollier on cotton-wool, and one on the plan of continuous irrigation with alcohol. "In a clinical report (*Aerztl. Intelligenzblatt*, 1875, No. 5), von Nussbaum describes Lister's method of treatment, and praises the good results it has achieved since its introduction into the surgical wards at Munich, especially in the way of protection from pyæmia and hospital gangrene. Whilst, during the last three years, hospital gangrene has affected the patients admitted with wounds, or the subjects of operation, in the increasing proportion of 20, 50, and 80 per cent., there is not at present a single case of hospital gangrene or pyæmia in the department. On the strength of these facts he also rejects one accusation that is brought against the treatment—*i.e.*, that its employment entails a greater expense,—for the duration of each case is materially shortened by the prevention of those complications to which wounds are otherwise liable." How is it that continental surgeons arrive at better results in this particular matter than those in this country? Perhaps they bring to bear greater method and patience in carrying out those details without which Mr. Lister has shown that his treatment must fail according to theory, as it certainly does in practice.

GRANULAR EFFERVESCENT CITRATE OF MAGNESIA.

A discussion of some interest took place at the meeting of the American Pharmaceutical Association last autumn on granular effervescent salts. Mr. Mattison, who is a maker of them, read a paper with the object of showing how much superior are those of American to the originals of English manufacture. According to him, his house and one or two other firms really put citrate of magnesium in their articles; while Bishop, Bell and Co., Savory, Squire, Morson, and other eminent English firms were accused of adding Epsom salts only. Our contemporary the *Chemist and Druggist*, in noting this, remarks that the addition of a little citrate of magnesium does not justify the title any more than the other; it does not make of the total product anything more than a granular effervescent citrate of soda with a fraction of citrate of magnesia in it; and they ask, How would Mr. Mattison account for the fact that at least one English preparation—

Bishop's—is sold throughout the United States, although handicapped with a 40 per cent. import duty, while, so far as we know, not an ounce of this very superior American product ever finds its way to English markets, though not a penny a ton would be levied on it in the shape of Customs duty? We understand that, in fact, most if not all of the best English houses add to the compound a small proportion of the citrate of magnesium; and by the double interchange that goes on during effervescence between the salts, the sulphate of magnesium also is converted into the citrate.

TRAVELLING HAMMOCKS FOR INVALIDS.

A NOVEL method for the conveyance of invalids by railway was tried last week with very great success. The patient, who had been treated in the Westminster Hospital for a severe burn, was conveyed by rail from the Victoria Station to Margate in one of Seydel's hammocks. The hammock was slung in a parcel van, which, on application, had been considerately lent by the managers of the London, Chatham, and Dover Railway, and although the journey occupied nearly three hours, it proved perfectly painless, the patient experiencing neither jar nor jolt in the transit. This hammock-travelling possesses so many advantages for invalids that its further development may be fairly expected. The railway companies would find it to their interest to provide the necessary accommodation for slinging; and there would be many worse methods of accomplishing a long night journey to Scotland, for instance, both for healthy persons and invalids, than swinging comfortably in a hammock exempt from all the jerks and twists and jolts inseparable from a journey by railway at express pace.

ERGOT AS AN ANTIDOTE FOR EXCESSIVE SECRETION OF MILK AND INFLAMMATION OF THE BREAST.

A GENTLEMAN rejoicing in the unpronounceable name of J. Schtscherbinenkoff has made the interesting observation (*Centralblatt für Chirurgie*, May 8, 1875) during an epidemic of secale cornutum in the district of Simbirski, that amongst the symptoms of ergot-poisoning is the diminution or complete arrest of the secretion of milk in lactating women. The same result was found to occur in cows that had been fed on meal which contained ergot, or that had been littered with carelessly threshed straw which still contained some affected ears. Schtscherbinenkoff conceived the idea of employing it as a remedy in cases of threatened abscess of the breast, and carried it out in many cases with great advantage. Two multiparæ who had suffered at each previous confinement from abscess of the breast, took some of the drug with the happiest result, as soon as swelling began to appear, accompanied by congestion of the gland with milk. He has also administered ergot and quinine, in doses of three grammes of each, twice or thrice a day in cases of so-called milk-fever, and has found the drug useful in cases of swelling of the breast accompanied by fever in other than puerperal women, as well as in those where it is required to wean the child either at the normal or at an earlier period. He has exhibited as much as a drachm of ergot daily for a week without observing any unpleasant result.

TREATMENT OF INTESTINAL HÆMORRHAGE IN TYPHOID FEVER BY ARTERIAL TRANSFUSION.

PROFESSOR MOSLER, of Greifswald, publishes a remarkable case, in which transfusion of blood into the radial artery of a woman dying from intestinal hæmorrhage in typhoid fever proved immediately successful (*Berliner Klinische Wochenschrift*, May 17). The patient, who was thirty-seven years old, lost so much blood by the bowel that she lay for a whole night pulseless and unconscious. Professor Hüter performed the operation of transfusion, the blood being taken from the vein of a strong healthy man, and injected, after defibrination, into the radial artery. The hand and the arm immediately became red and fuller, and the cardiac impulse more distinct, and the pulse returned at the other wrist. Half an hour after, there was a most severe rigor, but this was successfully treated, and the patient recovered perfectly in due course. This is the fourth occasion on which transfusion is known to have been performed in the hæmorrhage of typhoid fever: one only of the three previous cases was successful. Professor Mosler was careful to practise transfusion into an artery instead of a vein, in order to avoid the risk of distending the right ventricle, which was excessively weak, and might have been instantaneously paralysed, as has been observed in at least one previous instance. He also insists upon the imperative necessity of employing the blood of man, and not of animals, the latter having been abundantly proved by the observations and experiments of Landois to be highly dangerous.

ROYAL MEDICAL COLLEGE.

THE report of the Royal Medical Benevolent College, Epsom, presented to the twenty-second annual meeting last week, states that the last year had been more financially prosperous than any since the foundation of the institution. There are now forty-eight pensioners upon the fund, and forty-six foundation scholars. Two pensioners and four foundation scholars would be elected on the 26th inst., raising the number in each case to fifty, the full number allowed by the rules. The full number of 200 resident pupils are in the schools, and there are thirty-six boarders and day scholars. The educational state of the school was highly satisfactory, and several of the pupils had obtained scholarships and prizes at various examinations. The Council have been urged to alter the mode of electing the pensioners and foundation scholars, but at present they do not see their way to making any material change in the system, which, upon the whole, has, they consider, worked satisfactorily.

GARCIA TESTIMONIAL FUND.

THE committee who are raising the testimonial to Señor Garcia have appointed Dr. Elsberg, of New York, honorary secretary for the United States; Dr. Smyly, of Dublin, for Ireland; Dr. McCall Anderson for Scotland; and Dr. Simpson, of Manchester, for the North of England.

THE DISCOVERER OF CHLOROFORM.

IF we consult the history of anæsthetics contained in any of the popular surgical treatises, we shall find to the following effect: That on November 4, 1847, Sir James Simpson, in the course of a deliberate series of experiments, in company with Dr. Keith and Dr. Matthews Duncan, tried, for the first time, a "heavyish liquid"—chloroform,—which he found to be a better and more pleasant anæsthetic than ether or any other that he had tried. Further, that the chemical properties of chloroform had been investigated by Flourens and by Dr. Glover, and that it had been recommended to Simpson's notice by Mr. Waldie, of Liverpool. But, besides that, the solution of chloroform in alcohol, commonly known as "chloric ether," had been already used for inhalation by Mr. Jacob Bell, the well-known member of the firm of John Bell, of Oxford-street.

It is thus evidently stated, as a matter of fact, that chloroform in a state of combination had been used as an anæsthetic by Mr. Jacob Bell some time before Simpson tried it in his experiments of November 4, 1847. But we are not told any of the details of the use of it by Mr. Jacob Bell, nor how he came to use it, or when or where; nor how (having used it) he ceased to prosecute the discovery, and left the laurels to be gathered, as they justly were, by Simpson.

This missing link has been supplied by the researches of Sir R. Christison. It is now incontestable that the first discoverer, and the first person who administered chloroform

anæsthetically (in its combination as chloric ether), was Michael Cudmore Furnell, now Surgeon-Major Madras Army, and Superintendent of the Medical College and Hospital; that the first surgeons in whose practice it was tried were Sir W. Lawrence and Mr. Holmes Coote; and that the time was in the summer of 1847—some months before Simpson's experiments. The following correspondence will make this clear:—

(*From Sir R. Christison to James Sanderson, Esq., Retired Deputy Surgeon-General, Her Majesty's Indian Army.*)

40, Moray-place, December 23, 1874.

My dear Mr. Sanderson,—I have been trying to meet the "tedium" of convalescence from a severe influenza, by putting together some notes from which I gave, in 1870, a true and particular history of "anæsthesia" in its several forms. You will see from the enclosed excerpt that a medical officer in your old service is closely connected with the discovery of "chloroform anæsthesia," and I think he should be made to put in appearance, and get what he has a right to. In 1870 I found no Furnell on the Bengal Medical Establishment; but in the India List for 1870 I found "Michael Cudmore Furnell, Surgeon, Madras Army; entered 1855, on furlough." Having no address to direct me, I did not write to him at the time, and afterwards, I fear, forgot the matter till now, when my search after truth has revived.

There is no doubt whatever that Lawrence in the summer of 1847, four or five months before Simpson, used, at Furnell's suggestion, chloroform disguised, in the impure state, under the misnomer of "chloric ether." There never was, and there is not now, any such substance. The names put Lawrence and Holmes Coote on a wrong scent. Had it been called "spirit of chloroform," which it really was, they would have got at its "base" in a moment. Now, I want you to find out Mr. Furnell for me, and to learn from him where he got his information, and whether he had himself used this miscalled "chloric ether." Simpson's investigations were in November of the same year, 1847.

I am, yours most truly,
(Signed) R. Christison.

Should you wish to see me, call any time after eleven. I dare not go out for some days.

To James Sanderson, Esq.

(*Excerpt from Materia Medica Lecture by Sir R. Christison, December*, 1870.)

Having often heard vaguely of Lawrence's trials, I wrote for information to Mr. Holmes Coote, who had been his assistant at the time, and I received from him the following reply:—

"(November 8, 1870.) In the summer of 1847, Sir Wm. Lawrence operated on a lady in Essex for scirrhus in the breast, and I accompanied him, to assist him, and to give the patient sulphuric ether. She coughed so violently, that I had great difficulty in obtaining the necessary anæsthetic effect. Some week or so afterwards I was talking about this inconvenience in the hospital (St. Bartholomew's), when a Mr. Furnell, now in the Bengal(a) Army, told me he had a milder anæsthetic, commonly called *chloric ether*, which he advised me to try. With Sir Wm. Lawrence's assent, I used it several times in his private practice, and once upon the very lady who had such trouble with sulphuric ether; and we invariably found that the effect, though slow, was free from other inconveniences. Sir William and I were endeavouring to reduce the amount of spirit and water, so as to condense the preparation, when Sir James Simpson made known his important discovery.

"I cannot say that we knew the word 'chloroform,' but we knew that *chloric ether* consisted of spirit, water, and a base."

So far Mr. Holmes Coote. Sir James Paget, at that time Warden of the Medical College of St. Bartholomew's, informs me further that Sir William Lawrence repeatedly used this chloric ether in his hospital operations also.

(*From Surgeon-Major Furnell.*)

My dear ——,—In 1847 I was at John Bell and Co.'s, putting in a vein of pharmacy, to enable me to go up to the College of Surgeons, inasmuch as I had never been apprenticed to anyone. Whilst doing this I was also a perpetual student at St. Bartholomew's. Sulphuric ether was, as you may remember, just then creating great sensation in London, and numbers of instruments for its administration used to be sent to Bell's for sale. I was very much my own master there, and I used to amuse myself trying these various instruments, taking sulphuric ether, and producing insensibility. Jacob Bell became alarmed at last, and gave orders I was not to be allowed any more ether. Finding this, I went one day down to a store-room they had below to look for ether, as no one would give me any, and found, away on a back shelf, a neglected dusty bottle labelled 'chloric ether.' I took the cork out and smelt it: it seemed very nice, so I took it upstairs and put some into the instrument I wanted to try, and inhaled it. I found it sweet and very pleasant, and it soon produced a certain degree of insensibility. I was much struck with its not producing the suffocating irritation and choking feeling sulphuric ether did. I took it down to Bartholomew's, and introduced it to the notice of Holmes Coote. The rest you know. I have often jocularly remarked that I first used chloroform, but until this note of Christison it had almost passed out of my mind. Holmes Coote remembered the circumstance very well, I found when I was at home on sick leave, 1869-70.

March 2. Yours sincerely, M. C. Furnell.

This is a good illustration of the progress of discovery. It is seldom that a great invention has arisen in the mind of one man only. The time is come, the flower is there to be gathered, many grasp at it, and let it go when within their reach; at last one seizes it, gains entire possession, knows what he has got, and shows it and establishes his claim to it, as Simpson did to the discovery of chloroform; whilst the zealous young student, like Furnell, who first catches a glimpse, unable to follow up a discovery, of which he scarcely sees the full value, must be content with a secondary, though still with a definite, niche in the temple of fame.

(a) A mistake of Coote's: it should have been "Madras Army."

ANTISEPTIC SURGERY, AND THE USE OF SALICYLIC ACID.(a)

By PROFESSOR THIERSCH, of Leipzig.

These two numbers of Volkmann's excellent collection are of very great value and interest. They contain the experience and results which the eminent surgeon of Leipzig obtained in his clinic by a methodical application of antiseptic treatment on very different kinds of wounds. In the first part of the work, the author gives a very interesting historical review of the treatment of wounds from the time of Ambroise Paré to our own day. In the second he relates his first experience of the effect of salicylic acid as a substitute for carbolic acid. The third part contains a very accurate tabular view of all antiseptically-treated cases during ten months, with critical remarks. The author concludes with notices on the manufacture and tests of the different kinds of preparations containing salicylic acid which he has used, and gives a short description of the manner of their application.

In the historical part we learn that the view is a very old one, that the influence of the atmosphere on wounds creates fermentative and septic processes, and that the application of a great number of different substances to the wounds was intended to hinder those processes. But it is only in our own day that we have become acquainted with the conditions of the development of septic processes and infection. The comparison between the healing process of subcutaneous and open injuries has led to this. Lister's experiments and deductions first showed that this difference was a result of the septic influence of the germs contained in the air on wounds. The object of the treatment of wounds is therefore to destroy first the germs which may have penetrated to the wound at the moment of the injury, and to dress the wound afterwards so that only pure and germless air can meet it and its secretion. Thiersch states his view as to the influence of bacteria in septic processes as follows:—He considers it impossible as yet to decide whether the generators of sepsis are exclusively organisms or

(a) "Klinische Ergebnisse der Lister'schen Wundbehandlung und über den Ersatz der Carbolsœure durch Salicylsœure," von C. Thiersch. Volkmann, *Sammlung klinischer Vorträge*, Nr. 84 & 85.—"On the Clinical Results obtained by Lister's Treatment of Wounds, and on the Substitution of Carbolic Acid by Salicylic Acid," by Professor C. Thiersch, of Leipzig. Volkmann's *Collection of Clinical Lectures*, Nos. 84 and 85.

not, because the separation of bacteria and its nutrient fluid has never been successful. The principal conditions of a suitable treatment of wounds are—perfect rest of the wounded part, free secretion, and prevention or annihilation of septic processes. The many different methods of treatment of wounds may be arranged in two groups—the *open* treatment of wounds; and the dressings which produce a *perfect occlusion* of the wounds from the air. The first proceeding has its great advantage in allowing perfect rest to the wound as well as free escape of the fluids. It acts also antiseptically, because a slight degree of disintegration can exist only on the surface of the wound, whilst the penetration of septic material by pressure from without into the internal parts, so often produced by dressings, is totally avoided. The great practical value of this method is already sufficiently elucidated by exact statistics.(b) To quite the opposite method of treatment belong two proceedings, which in our time have been more frequently used—viz., the process of healing under a scab without suppuration, and the occlusive dressing by cotton-wool (*pansement ouatté*), instituted by M. Alph. Guérin. The first of these two proceedings has its place only in a very limited number of cases—that is, in small and superficial wounds as well as in those cases of compound fracture where the external wound is a very small one. In all other cases it exposes the patient to the danger of retention of pus, because there is no certainty at all that no pus will be formed. It is the same danger that accompanies Guérin's treatment, if the dressing does not consist of antiseptic material. All other methods of dressing that have hitherto been in common use prevent the access of atmospheric air to the wound in a greater or less degree, but there is neither free access nor absolute occlusion of it, as in the former. Such are partial suture, with or without drainage, dressings with lint, cotton-wool in thin layers, etc. Lister's treatment belongs also to this group, because there is partial access of air to the wound, but it has its perfectly special character from a different point of view. In Lister's treatment the indication of antisepsis or asepsis prevails entirely, whilst the principles of absolute rest and free secretion are not so strictly observed. Thiersch has found by his own experience that the practical results of Lister's treatment are so satisfactory, and based on such rational principles, that, without sharing in all the theoretical views of Lister, he believes it should be followed by every surgeon who takes interest in avoiding pyæmia and septicæmia, because all other methods of treatment have their objections, and are far less successful in this respect. But he must object to the general use of carbolic acid as a strong irritant; and there he follows Lister himself, who perpetually endeavours to avoid the irritant properties of the drug. As we had occasion to notice at length a few weeks ago (*vide* April 24, p. 444), it has been shown by recent researches that salicylic acid is a no less powerful disinfectant than carbolic acid. According to Professor Kolbe's method, salicylic acid is now produced artificially in large quantities from phenylic and carbonic acids, and is sold already at a very moderate price. There are some properties of this new disinfectant which give it a considerable advantage over carbolic acid. Internally taken, it has no toxic effect whatever, even in quantities of 1·5 grammes. It has no smell, and is almost tasteless. It is soluble only in 300 parts of water, but easily in alcohol. The watery solution, although very weak, is nevertheless a powerful disinfectant and antiseptic—as strong as a solution of carbolic acid, one to fifty parts. It hinders decomposition of urine, blood, and pus for a long time. Applied to wounds, it prevents the decomposition of the discharges, and has no irritating effect whatever on their surface. On account of the last-mentioned quality Thiersch substituted it for carbolic acid in almost every instance of Lister's method. For the use of the spray, for disinfection of the operating field and of the operating hands, he employed the watery solution. Instead of the carbolic gauze, he used cotton-wool, impregnated with a strong alcoholic solution of the acid, and afterwards dried, in two different sorts, one containing 10 per cent., the other 3 per cent., of the crystallised acid. But, of course, the use of this agent has also its drawbacks. One is, that the solution decomposes metal, and is, therefore, not to be used for disinfection of the instruments, and that it irritates the skin of the operating hand; another, that the impregnated cotton-wool proved less porous than the antiseptic gauze. In cases, therefore, where an abundant secretion takes place, only the deepest layers of the wool become impregnated with it, and their disinfecting power is soon exhausted, whilst the secretion continues; so that the rest is liable to decomposition and stagnation. For these cases Thiersch used continual irrigation of the bandage with watery solution of salicylic acid, or he took off the bandage and irrigated the open wound from time to time with the solution. We see, then, that the method of Thiersch differs essentially in some points from Lister's, and also that the use of this new agent requires some modifications, according to the individual nature of the case. As to the presence of bacteria in the fluids of the wounds so treated, Thiersch never could detect them in any considerable quantity, but he does not go so far as to deny their existence entirely. But he finds that the chemical changes undergone by the fluids of the wounds are modified by the presence of salicylic acid, for there is development of ammonia and sulphur-containing gases. The characteristic reaction of salicylic acid is no longer observable in the impregnated dressings.

Thiersch gives a more detailed account of the first twelve cases consecutively treated with salicylic acid. They are all amputations, with one exception—a case of large subcutaneous abscess. Of the amputations, six are of the thigh, four of them for disease, two secondary after previous amputation of the leg for trauma; five of the leg, two of them for disease, one primary on each side, one secondary after gangrene; one secondary of the humerus after gangrene; one of the forearm; and one of the hand. Amongst those cases there are only three deaths—one amputation of the thigh on the twenty-fourth day, with suppurative inflammation of one shoulder-joint; two others from exhaustion. Some of the cases, including one amputation of the thigh, healed in a fortnight, the dressing being changed only twice; in some others there was a considerable secretion behind the sutures, with tension, but without rise of temperature. The sutures were taken away in those cases, and in some of them open treatment substituted. Generally the secretion of the wounds was considerable, so that there may still have been some irritation by the acid. Because the cotton-wool was not sufficiently porous, Thiersch afterwards employed another very cheap material, the so-called "jute," or Arracanian hemp, the fibres of some species of Corchorus (*Corchorus capsularis*), cultivated in Bengal. This proved to be a far better material as to porosity, and sufficiently soft.

Thiersch also gives a detailed tabular account of all cases which he treated antiseptically during a period of ten months. Altogether there are 160 cases of wounds, with only one case of embolic pyæmia, three cases of acute secondary suppuration, and thirteen of erysipelas. It therefore would appear that the antiseptic treatment had the great advantage of preventing pyæmia, but not erysipelas; and Thiersch is inclined to look for the cause of erysipelas in another direction. As regards the antiseptic healing process, Thiersch believes Lister's proceeding and his own equally efficacious, but he prefers salicylic acid because the irritation is less, and it does not evaporate; the dressing can also remain longer without being changed, and can contain a larger quantity of the disinfectant.

We must leave the details of the tables, as well as those of the method itself, to our readers. We have considered it a matter of great importance to direct attention to this very interesting and circumstantial report, which proves that all true progress in practical science must be followed by everyone who is not indifferent to the welfare of his patients.

(b) *Vide* Krönlein, "Die offene Wundbehandlung nach Erfahrungen aus der chirurg. Klinik in Zürich," and *Medical Times and Gazette*, March 28, 1874, page 345.

FROM ABROAD.

Treatment of Suspended Animation in Infants.

In the *Boston Medical and Surgical Journal*, February 18, Dr. Buckingham, Professor of Obstetrics in the Harvard Medical School, makes the following practical observations on this subject:—

"The child may come into the world blue and flabby, and without a visible sign of life. If there be beating of the umbilical cord, however, there will almost certainly be a gasp, and that gasp may be repeated; or, if not repeated unaided, your assistance may restore the child to life. Even if there be no pulsation to be seen or felt, you may in some cases hear it by putting your ear over the heart. You need not trouble

yourselves about a ligature on the cord: make the child breathe. And for this end it is not worth while to spend time in trying the Marshall Hall method. You have a chest to deal with that has never been expanded, and a pair of lungs that have never been inflated. Send for a couple of pails of water —one cold, and the other rather warmer than it would be comfortable to take an entire bath in. A child who has never breathed, if rapidly dipped in these alternately a few times, will often cry audibly. But you must not wait for the pails before trying other measures to make the child breathe. With a dry rag over your little finger, thoroughly wipe the mucus from the fauces, and that operation alone will make some children cry. Take the child up in a dry towel, or a pocket-handkerchief, or in anything that will keep it from slipping from your grasp, and hold it with the scapulæ in the palm of your left hand, the thumb and finger embracing the occiput, which should be firmly pressed backwards, the finger and thumb of the right hand closing the nostrils. Apply your mouth to that of the child, and try to inflate its lungs. You need not fear that you will blow too hard; and unless you place a moderately dry cloth between the child's mouth and your own, you will find it difficult to inflate at all. But why press the head forcibly backwards? Because in so doing you close the passage of the œsophagus; and should you neglect that precaution, you will find the stomach inflated instead of the lungs, and a new obstacle placed in the way of the child's breathing by your own carelessness. You should inflate the lungs ten or fifteen times in a minute, and the process should be continued as long as there is the slightest possibility of life. The occasional alternate dipping will help your efforts. In some cases, a rapid and more forced pulsation of the heart is felt by you on your very first insufflation, and this, as a rule, will be repeated and increased in strength with every succeeding attempt, until, as you take your lips away, you will each time see the child gasp, open its eyes, heave its chest, and at last cry. Its colour, which has been leaden and dull, becomes of a positive red. The points upon which you placed your fingers before the operation became white, and remained so long enough for you to count twenty and more; but now the colour returns more and more rapidly, and you will find, as the child's respirations become independent of your aid, that the colour returns almost immediately on the removal of the pressure.

"Be sure that all chance of life is gone before you stop your exertions. So long as the breathless child is cool, if pulsation exists, even to a slight degree, life is still possible. Excess of heat in such a child will diminish its chances of life. Why then do I dip it in hot water, as well as in cold, to make it breathe? Simply as a stimulant to the skin. It is not to be left in the hot water an instant. It is dipped in hot water for the same reason that I would spank it, or slap it with a wet towel,—the object being to irritate its nervous system and make it cry. If you will now simply wrap the resuscitated infant in a blanket, and leave him without washing or dressing or food for a few hours, he will be better off than if you weary him with further attention."

In the number of the same journal for March 18, Dr. Fifield recommends the following postural treatment, devised, he says, by a London physician, and employed by himself many times with success:—

"Place the child flat on his back; then, putting one hand to support its back and shoulders, apply the other to the belly firmly enough to force the intestines backwards and the diaphragm upwards. Just as you are ready to do this, raise the child by the hand, or by the neck and shoulders, *sur son seant*—thus creating an opportunity for a vacuum—and then, removing the hand from the belly, lower the child on to its back again. Continue these movements alternately until respiration is established. With this rocking to and fro, with the hand first on the belly and then off it, air is heard to enter and leave the chest. It can be continued longer than other methods, with less fatigue to the operator, as he sits by the side of the child, and need not vary his position."

The Elastic Ligature.

This procedure, which a while since was announced as one of the great surgical improvements of the age, and gave rise to a battle for priority in its discovery, is finding a level of more moderate pretensions. M. Duplay announces that he is preparing a comprehensive work on the subject, in which, we doubt not, its position will be ably and fairly stated. In the meantime we may notice a not very encouraging case in which it was used, related recently by M. Périer at the Société de Chirurgie. A woman, eighty-four years of age, had been suffering four years from a tumour of the breast, which, at the end of that time, had acquired the size of a fist, which was easily "pediculisable." To the question whether a woman of that age ought to be operated upon at all, M. Périer replies that the pain had become intolerable, all means in ordinary use having failed in assuaging them. It was therefore determined to remove the breast; and as, on account of the debility of the subject, it was necessary to avoid the loss of blood, while the existence of pulmonary emphysema prohibited the use of chloroform, it was determined to employ the elastic ligature instead of the bistoury or galvano-cauterisation. A double elastic ligature was passed through the base of the tumour, and constriction of each of the two halves was made without producing much suffering. Pain was not aroused until after twenty-four hours, but continued until next day, in spite of the administration of three grammes of chloral. A repetition of the constriction was required on the eighteenth day, and again on the twenty-fourth day. On the twenty-eighth day one half of the tumour was detached, the other only holding on by a very small pedicle, which was divided without any hæmorrhage being produced. Cicatrisation, which went on in proportion as the separation was accomplished, was completed fifteen days later. The patient died three months later from another affection. M. Périer believes that the delay in the separation may be explained by his having employed too thick a ligature. On the next occasion he intends using two ligatures of different diameters, so that the influence of their size on the rapidity of the division may be compared.

At the discussion which ensued, M. Verneuil stated that he had twice operated for small fistulæ in ano with ligatures two millimetres in diameter. The pain produced was very great, and the division occupied three days in one case and four days in the other. He regarded it as a very painful procedure. It is also a dangerous one, for he had nearly lost a patient through it. He had passed an elastic ligature for the purpose of destroying the track of a fistula traversing the great toe, and all seemed at first to go on very well. But when, two days afterwards, the ligature was tightened a little, the patient was seized with shivering and violent fever, with all the signs of lymphangitis, and only recovered after great risks for several days. He called to mind that long ago Clémot, of Rochefort, used to treat fistula in ano by means of a thread loosely tied, the continued friction produced sufficing to divide the soft parts, cicatrisation following as the division took place. M. Desprès observed that there were cases for which this ligature was well suited, and others for which it was not so. Very painful when applied to the skin, it is far less so for the mucous membranes. He has himself employed it for the removal of an epithelioma of the end of the tongue. The tumour was traversed at its base with two pins, and the ligature tightened, with a completely successful result, the cure being completed at the end of seven days. The patient suffered much pain during six hours. M. Pollaillon endeavoured to remove a small spina bifida, which seemed to communicate with the arachnoid by a very small orifice. The pains were severe, and being soon followed by convulsions, the attempt had to be abandoned. M. Le Fort was of opinion that if foreign surgeons were better acquainted with the utility of the écraseur, there would not prevail among them such a rage for the elastic ligature.

REVIEWS.

Researches in the Phenomena of Spiritualism. By William Crookes, F.R.S. Reprinted from the *Quarterly Journal of Science*. London: J. Burns, 15, Southampton-row, Holborn, W.C. 1874. Pp. 112.

On Miracles and Modern Spiritualism. Three Essays. By Alfred Russel Wallace, author of "The Malay Archipelago," "Contributions to the Theory of Natural Selection," etc. London: James Burns, 15, Southampton-row. 1875. Pp. 236.

When men of scientific eminence quit, even for a time, the special field of action on which their spurs were won, and venture the perilous attempt to pass the mystic portals of the "spirit world," a feeling akin to regret steals over us lest their own science might lose by their absence, and one, also, of fear lest the treasures expected to be brought to light might ill

reward the time and attention expended in the search. *Est natura hominum novitatis avida*, and philosophers are but men, and many among them have a "heel of Achilles." We do not doubt that the authors of the works before us are most thoroughly sincere in their "profession of faith." Indeed, it demands at all times strong—nay, the very strongest—convictions to enable us to brave scientific opinion; and immense faith in a mission, when, as a duty, we undertake at all risks—even loss of golden opinion—to promulgate and to defend it. History furnishes multiplied instances of such militants being not only as enthusiastic, but as numerous as the varied forms of faith engendered by the progress of the ages.

Modern spiritualism has hardly existed, at least in any dogmatic form, much longer than thirty years, or thereabouts. From near the time of the "Poughkeepsie seer and clairvoyant," the floating traditions and current tales of witchcraft, apparitions, dreams, second-sight, strange and inexplicable noises, luminous appearances, bell-ringing, etc., were by degrees collected, classified, and systematised, and then connected with the accredited phenomena of "Od"-force, bio-mesmerism and magnetism, and clairvoyance. These phenomena, with the recent immense additions and daring inferences, form a tolerably comprehensive body of doctrine. It is the object of the authors of the works at the head of our page to obtain for this doctrine an impartial hearing, additionally strengthened as it is supposed to be by the results of their own proper experience.

The little work of Mr. Crookes, mostly controversial, is confessedly a reprint, and therefore need not specially occupy us, inasmuch as the actual phenomena detailed are common to both works—indeed, to all the works hitherto published on the subject. And as all the theory is based thereon, they form the most fitting subject for investigation.

The work of Mr. Wallace is larger, more ambitious, embodying a much fuller amount of general spiritualistic *matériel*. A considerable portion is devoted to the subject of miracles. He states, however, that spiritualism "abolishes the terms 'supernatural' and 'miracle' by an extension of the sphere of law and the realm of nature." His own immediate object is to contravene the force of Hume's argument. So far as our ability permits us to discern, Hume's "withers are unwrung." When Mr. Wallace, in all seriousness, narrates "that Lord Orrery and Mr. Valentine Greatrak both informed Dr. Henry More and Mr. Glanvil that at Lord Conway's house, at Ragley, in Ireland, a gentleman's butler, in their presence and in broad daylight, rose into the air and floated about the room above their heads," we would ask our readers which they consider the more probable, the truth of the miracle, or the falsity of the testimony? When we remember, moreover, that Mr. Valentine Greatrak was a reputed miracle-worker, we might, perhaps, appositely quote Hume's own remarks, "The many instances of forged miracles and prophecies, and supernatural events, which, in all ages, have either been detected by contrary evidence, or which detect themselves by their absurdity, prove sufficiently the strong propensity of mankind to the extraordinary and the marvellous, and ought reasonably to beget a suspicion against all relations of this kind." But the question as to what really constitutes a miracle has been so ably and sufficiently treated in the first volume of the work on "Supernatural Religion," and in the posthumous "Essays" of John Stuart Mill, that it is quite superfluous to reopen the discussion.

The eventful history just detailed excepted, we had always thought (sceptics that we were) that the earlier recorded doings of the "spirits" were by no means of an imposing, much more of a proselytising, character. There seemed a good deal that the denizens of earth might have achieved, so far as mere outward manifestation was concerned; for what can be said of such prosaic doings as scratching, rapping, table-lifting, bell-ringing, accordion-playing, and the like—the veriest drudgery for those untrammeled spirits who, from their attributed power to control and direct the indestructible forces of the universe, may be called upon to set this poor machinery in action? Our astonishment, however, fairly sets in when we hear of what, in Spiritualistic terminology, is termed "levitation"—*i.e.*, of persons lifted from their seats by unseen hands, and floated around high above the entranced gazers below, or resting, like the fabled tomb of the "Prophet," unsuspended in mid-space, or even borne bodily many miles away. These are feats, indeed, rivalling those recorded of the Genii in the "Arabian Nights Entertainments"—alike the wonder and delight of our, at times, too credulous boyhood. But the land of wonder must now, it seems (judging numerically of the "faithful"), be transferred from Arabia to America. Phantom-forms even appear, though these are considered a sort of *rara avis*.

The first President of Cleveland University, Asa Mahan ("Modern Mysteries Explained and Exposed," Boston, 1855, p. 294), records the experience of a well-known American convert:—"Judge Edmonds, for example, affirms that the spirits which he has seen are from three inches to twenty feet in height—the largest that he has seen being a majestic and well-proportioned female, twenty feet high; that he has seen spirits who have been 18,000 years in the celestial spheres, and yet retain the form of monkeys, while others have hoofs and horns, such as he has seen in pictures." This remarkable experience is not included by our authors in their historical summary of phenomena. Perchance they may have thought that the brains of the learned judge at the time he penned it might have been somewhat muddled by the too laborious discharge of his judicial functions, or they may have remembered the old line beginning "Quem Deus," etc.

Greatly more has been heard of late of spirit-photographs. It has struck us as singular that in the numberless impressions of "mediums" taken in former years the spirits made no earlier sign. One point, however, seems tolerably clear: that in such impressions there could have been no psychical disturbance on the part of the observer—no subjective illusion, whatever else might be concerned in their production. But, what need of photographic pictures, when spiritually-manufactured hands, visible and palpable, hearing Flora's gifts, so often move among the "assistants at the *séance*"; or when, according to Mr. Crookes, the lovely form and indescribable charm of manner of "Katie King" grace the scene? To read his glowing description is to excite our envy and regret that such sweet visitants, of supernal mould, will be so exclusive, and not visit outside the charmed circle. What losses do we not sustain from feeble faith!

But, *au sérieux*, let us again endeavour critically to seize the thread of this strange narrative of phenomena, at once so novel, startling, and impressive. When it is indubitably affirmed that mental questionings are correctly answered by a real though invisible agent; that we can hold direct communion with the spirits of departed friends; that spirit-forms appear in photographs, and phantom forms without such need; that "Katie King" is an incarnate reality; that not inanimate bodies alone, but even human bodies, may float in space unsuspended, or even be transported to far distant localities,—in short, that the laws of nature (as we are accustomed to conceive them) may be not only modified, but even completely violated, almost at our bidding, by invisible intelligent power, "disembodied spirit,"—and all this not on the actual testimony of one, but on that of numerous witnesses, both in this country and abroad—may we not mentally exclaim,

> "Can such things be,
> And overcome us like a summer's cloud,
> Without our special wonder!"

May we not inquire in what category such assertions are to be included—in that of sober fact, or in that of illusion? If in the former, we have, indeed, much to unlearn, and unreservedly to confess that there are more things on earth than are dreamt of in our philosophy. And it may be so. We are willing to admit the reality of some of the phenomena included under the head of "Spiritualism"; willing even to admit that they may be produced by some "odylic" or "psychic" force (call it as we will) developed and intensified in a circle of persons under some peculiar psychical condition. It is mainly with the conclusion drawn, with the *ab extra* hypothesis, that we join issue.

If in the category of illusion, Time but repeats its old errors. As, in barbarous ages, every unusual phenomenon was attributed to the direct agency of some deity, and almost every inanimate object made his supposed abode (fetichism), so even in our day certain occult phenomena, probably dependent on some heretofore ill-recognised natural force, reproduce the belief in the "supernatural," and are, in like manner, attributed to the direct operation of the invisible intelligence postulated by "spiritualism." But increasing knowledge may in this department bring eventual enlightenment.

Disembodied spirit! *Viewed simply from our actual scientific stand-point*, it is a pseud-term, one of mere word-jugglery. At the very name we instinctively turn to the most available and trustworthy sources for our secular guidance and information. Ask of physiology—ask of the sister-science, psychology,—

even at this moment that we write, if they have one tittle of *positive* evidence to offer in support of the existence of conscious mind or spirit apart from a material substrate? If not altogether silent, the probable confession would be that the answer to such a question came not within the palo of their teaching. And—apart from our Faith—within the pale of what teaching is the reassuring answer to be found?

Some—many—unsatisfied by orthodox doctrine, have found this answer so needed for their unrest in the teaching of Spiritualism. For the theory of "disembodied spirit" is its theory *par excellence*. Confident in its power at such a juncture, it offers a remedy for at least our scientific impotence. Hear Mr. Wallace ("Theory of Spiritualism," p. 102)—"Under certain conditions disembodied spirit is ablo to form for itself a visible body out of the emanation of living bodies in a proper magnetic relation to itself; and under certain still more favourable conditions the body can he made tangible. Thus all the phenomena of 'mediumship' take place. Gravity is overcome by a form of life-magnetism, induced between the spirit and the medium; visible hands or visible bodies are produced, which sometimes write, or draw, or even speak." In some such manner ("Historical Teachings") he would explain the nature of the intelligent spiritual being (dæmon) which Socrates believed attended him through life. Without raising the question anew as to whether such belief were of a truly sane character or partook of that of hallucination, we may hazard the remark *en passant* that the cursory allusion made hardly aids the cause of "Spiritualism." It is not even clear that the "dæmon" might not have been the "inner voice" intensified. On the other hand, our author leaves entirely unnoticed what history further records as to the real religious attitude of the son of Sophroniscus and Phœnarete.

But let Mr. Wallace proceed ("Moral Teachings," etc., p. 213): —"1. Man is a duality, consisting of an organised spiritual form evolved coincidently with and permeating the physical body, and having corresponding organs and development. 2. Death is the separation of this duality, and effects no change in the spirit morally or intellectually. 3. Spirits can communicate through properly endowed mediums. . . ."

Should these views be accepted, of course the entire ground as to the agency of the phenomena is covered. We demand, and with instance, that crucial test which shall lay the ghost of our distrust, and compel even an unwilling allegiance to a creed now professed by many millions, and believed as destined more or less rapidly to supplant our old one. But let us not forget that this latter, too, teaches us to believe in an unseen universe, where, also, spirits dwell; to believe, also, in an immortal destiny, not by means of waltzing tables, or of rapping mediums, but by the solemnity of its appeal to our reason and our conscience. Which shall we choose? Whatever our choice, whatever our convictions, one thing is certain—they confer no possible right to quarrel with the conscientious belief of other people; enough that we maintain our own inviolate. But we are quite entitled to inquire as to how far the ground for any new form of belief is valid. While claiming this right we may once again state (and it is just to do so) that we are persuaded the authors hold a perfectly honest belief as to the preterhuman character of the phenomena they have witnessed, and that neither self-deception nor complicity had any share in their production. Messrs. Crookes and Wallace have done quite enough of good and original work in their own particular departments to entitle them to our respect, however widely we may dissent from their later views on the subject of Spiritualism.

They imagine that, by cumulative proof, they have brought their argument to its logical culmination, and that the fact of a constant preterhuman communication with this nether world is the legitimate outcome. But we may hint that that awkward material fallacy of the *non causa pro causâ* still looms in its background; and until the subject-matter the premises of the argument affirm is placed upon a much less doubtful and assailable basis, we opine that the conclusion attempted to be drawn will not be accepted by those accustomed to sift and to weigh the evidence which is to enforce conviction in such grave matters as those submitted for our consideration.

A Practical Treatise on the Diseases of the Ear, including the Anatomy of the Organ. By D. B. St. John Roosa, M.A., M.D., etc. New York: W. Wood and Co.

We regret that pressure of more urgent matters has prevented our noticing this excellent work sooner, but now that some leisure is afforded us, we hasten, with pleasure, to do justice to the claims of one so long and favourably known in the domains of otology and ophthalmology.

In his preface, Professor Roosa says—"Considerable space has been given to illustrative cases, with a view of showing the actual symptoms of aural diseases and the results of treatment. I have also added historical sketches upon all points of practice that are new and still under discussion, in order that the successive steps by which our present position has been reached might be distinctly traced, believing that thereby the practitioner will often be saved needless labour in re-investigating and re-experimenting." These constitute very valuable sections of the book.

Part I. commences with a condensed and accurate *résumé* of the progress and history of otology to 1869, the time from that date to the present being incorporated in the body of the work. These historical portions cannot fail to be interesting and instructive to practitioners and students. One naturally desires to know who were the pioneers in any branch of study, and how they reached their conclusions; and this, as regards aural surgery, is fairly done by Professor Roosa. The remainder of Part I. is taken up with the discussion of the affections of the external ear. Chapter 2 is devoted to the anatomy of the auricle and external auditory meatus, and is illustrated by excellent woodcuts, taken from Henle's Anatomy. Chapter 3 deals with the examination of aural patients; and it is this portion of the work which we strongly recommend students thoroughly to master, and to test their knowledge by the actual examination of cases. Chapter 4 deals with the diseases of the auricle; but here Dr. Roosa's experience, with regard to new growths, seems to be very limited, as he has only observed one case of epithelioma, and even mentions not rodent ulcer or cancrum auris. We have seen several cases of epithelioma, and three at least of rodent ulcer; and have had, within the last fourteen months, two cases of phagedæna or cancrum auris—an affection not described by any writer on otology, or in any surgical or medical work that we wot of—under our care. Injuries to the external ear are not at all dealt with. We presume that such would go to a general hospital, and thus Dr. Roosa's opportunities for witnessing them would he reduced to a minimum. We do not see any mention of the gouty deposits or tophi of the auricle, or of the gangrene of frost-bite, or of that rare form due to embolism, of which we have seen one case. Syphilitic ulcers, which are rare in this region, are spoken of; but warts, which are, to say the least, not less frequent, are omitted. In Chapter 8 the subject of foreign bodies in the external meatus and Eustachian tube, and the proper mode of removing them, are fully dealt with, and deserve thoughtful perusal from the practitioner. It is only a few months since that we saw the post-mortem on a case in which improper attempts had been made to remove a foreign body, the inflammation consequent on them having spread to the meninges.

Part II. begins with an account of the anatomy of the middle ear; and here Rüdinger and Henle are laid under contribution for the excellent figures. In speaking of affections of the membrana tympani, Dr. Roosa holds that myringitis—*i.e.*, an independent inflammation of the membrane—probably does not exist, because anatomy teaches "that it has no independent nourishment, and strengthens the view that the inflammations that attack it must be of a secondary character." On the same ground might we not deny a circumscribed cerebritis, pneumonia, and peritonitis? And does not experience—while admitting the rarity of myringitis proper—tend to contra-indicate the use of the imperative mood here? Aural surgeons know how difficult it is to tell where the inflammation originated, as it rapidly spreads inwards, outwards, or even in both directions, when the membrane is primarily affected. The effects of high atmospheric pressure are dealt with. Now that scientific balloon ascents are to be made, how interesting it would be to get accurate accounts of the phenomena produced in a more rarefied medium. Dr. Roosa in four lines dismisses injuries to the membrane due to fractured base, and relegates the subject to the domain of general surgery. It is just here that no information can be gained from works on surgery, and we cannot but regret that Dr. Roosa has not been able to give us any experience on this head. We might mournfully moralise on the unnatural separation of the practice of specialities from the general body of medical science, but what Dr. Roosa has given us is so good, that to complain over-much of omissions would be a task as unthankful as it would be ungraceful. Tho

remainder of Part II., dealing with the diseases of the middle ear—which are by far the most common,—must be of deep interest to aural surgeons. The sections on treatment are admirable, and testify not only to Professor Roosa's great practical experience, but also to his extensive and recent reading. We may draw attention to his statements respecting the use of Weber's nasal douche, and to the table (page 296) of sixteen cases in which serious mischief was done to the middle ear by its injudicious use. At page 295 he writes—"Of course it is not believed by the author that the use of the nasal douche will *necessarily* cause aural disease, but that it is a dangerous means of treatment, which should be carefully watched by the practitioner."

Part III. commences with a full account of the anatomy and histology of the internal ear, and for the engravings Henle and Rüdinger are again laid under contribution. Nervous deafness, Menière's disease, injuries, hæmorrhages, inflammations, and syphilitic affections of the internal ear, all receive a fair amount of attention; but we note the absence of even the mention of senile deafness, and of that extremely interesting but rare form in which old people occasionally wake up quite deaf, and remain so for a varying time—in two instances of which we are cognisant, from three to ten days,—and then gradually become restored. Vertigo and a feeling as if the patient would fall to one side were present in one case. Deaf-mutism is discussed in the concluding chapter, but no mention is made of the system of instruction by lip-reading which Mr. Van Praagh has re-introduced among us.

The excellence of what Professor Roosa has done makes us the more regret that which he has omitted; but his work may, withal, be correctly termed the best and most complete in any language. It certainly should be read and digested by all interested in aural surgery.

GENERAL CORRESPONDENCE.

DRUNK OR DYING?

Letter from Dr. W. B. Houghton.

[To the Editor of the Medical Times and Gazette.]

Sir,—In the last number of your paper you made some remarks on the following case; I trust that you will find space to insert the following explanation:—

On Monday, the 10th inst., at 2.15 p.m., I was called to see a man who had been brought in by the police. They had found him lying in the Hampstead-road. When I saw him, he was sitting on a couch in the casualty room, leaning on one arm. The man was breathing quietly, without stertor. There was no duskiness of the face. The pupils were equal, and of average size; the arcus senilis was well marked. The pulse was moderately strong, and the arteries were rigid. There was no paralysis anywhere. The breath smelt of spirits. The man was drowsy, but answered questions when spoken to in a rather loud voice; and there was no thickness of speech. He gave his name, and said he had been drinking whisky. I was told by the police that some person had given him a little brandy; they knew nothing more about him. There being no signs of any serious disease, I gave the man a mustard emetic, which he swallowed without difficulty. As this did not act at the end of five minutes, I went away to get some ipecacuanha wine. On my return, the man was standing, partially supported, and vomiting, without any undue straining. After being sick, the patient seemed clearer; he answered questions, and could stand and walk with slight assistance. I then directed the police to take charge of him, and he walked out of the hospital with them.

The next morning I was informed that the man had been re-admitted with well-marked symptoms of apoplexy. Further evidence transpired at the inquest to show that the man could not have had much to drink.

This is a plain statement of the treatment which Dr. Hardwicke denounced as "simply atrocious," and "almost criminal."

Further, he considered that emetics were not the proper treatment for drunkenness, and thought rest in bed with careful watching to be the proper procedure in such cases.

Being dissatisfied with the medical evidence, Dr. Hardwicke had the hall-porter sworn, and allowed members of the jury to question him on the diagnosis of disease from drunkenness. This led to the "disgracefully unbecoming levity of the medical student" referred to in the papers.

In conclusion, I beg to point out that the patient was seen late in the evening by two medical men, and that even then they did not consider him to be suffering from apoplexy.

I am, &c., Walter B. Houghton,
M.B., B.S. Lond., M.R.C.S., L.R.C.P.,
Senior House-Physician.

University College Hospital, May 24.

CELLS IN OVARIAN FLUIDS.

Letter from Mr. J. Knowsley Thornton.

[To the Editor of the Medical Times and Gazette.]

Sir,—In his letter in your journal of May 15, Mr. Tait says that I take it for granted certain cells, or groups of cells, escaping from an ovarian sac, may become disseminated over the general peritoneal surface. I do not take it for granted, but I have seen several cases in which such dissemination has occurred, and from these cases I have learnt certain useful lessons as to diagnosis and treatment, and I have found them of such practical value that I thought them worth placing before the profession, and I do not regret having done so.

I have never ventured to draw any such conclusions as Mr. Tait attributes to me with regard to the local origin of malignancy or the certainty of its arrest by early operation. The growths I spoke of are merely malignant in so far as their spread over a large surface and the nature of their attachments render their removal by the surgeon impossible; and in the same way a simple ovarian tumour, or any tumour of continuous growth, may, from the nature and extent of its attachments, be clinically malignant.

I by no means either believe or assert that I have discovered a typical malignant cell, or group of cells, but I do assert once again that anyone of ordinary microscopic experience in the examination of ovarian and other fluids will have little difficulty in distinguishing the peculiar little cell-groups which break off from these papillomata.

I do not see how Mr. Tait having allowed large quantities of the fluid to escape into the peritoneum in "his case" affects my statements. I have never said that all ovarian fluids contain these groups of cells, and I should not think it at all *certain* that fluid which did contain them would cause mischief when rapidly sponged away during an operation.

The methods of preparing specimens, including the silver process, were too well known to the profession for me to presume to detail them in my paper. I merely gave the method used for those special preparations which I chose as illustrations.

The woodcuts, which Mr. Tait criticises, may not be quite so good as I could wish them to be; but I trust they may be as clear to the professional eye as the following sentence in Mr. Tait's letter can be to the professional mind:—"Follicular growths are practically serous cavities." To my mind this aphorism is not Hippocratic. I am, &c.,

J. Knowsley Thornton.

83, Park-street, Grosvenor-square, May 19.

REPORTS OF SOCIETIES.

OBSTETRICAL SOCIETY OF LONDON.

Wednesday, May 5.

W. O. Priestley, M.D., F.R.C.P., President, in the Chair.

The President: It will be in the recollection of the Society that the discussion commenced by Mr. Spencer Wells was adjourned at the last meeting, on the motion of Dr. Barnes, seconded by Dr. Squire; and it will, therefore, be continued this evening. Before the discussion commences, I may state that Dr. Matthews Duncan has forwarded a letter of explanation in reference to a letter read at the last meeting. He understood that adverse comments had been made on his published letter, and he is very desirous of making some explanation regarding it, which I am sure will be interesting to the meeting. The letter was as follows:—"To the Secretary of the Obstetrical Society of London.—Edinburgh, May 3, 1875. My dear Sir,—As I think my former note to you was too short, I beg now to supplement it to a small extent. One of

the most important points for discussion by the Obstetrical Society at the present juncture is the conduct proper to midwifery practitioners, with a view to avoid disaster to patients from puerperal infection; and I expect much advantage from our great Society taking up this difficult question. At the same time I feel called upon to deprecate premature decision; for the matter, in both its scientific and practical aspects, is not ripe for more than intelligent, prudent, and fearless discussion. Observing recent trials of our humble and unlicensed female fellow-practitioners, I think there have been precipitancy and rashness, believing, as I do, that Mrs. Dymond and Mrs. Marsden have been severely, and probably also unfairly, dealt with. I judge from the meagre reports regarding the cases of these midwives in the weekly medical journals. The charge of homicide by infection is, I believe, a new one in the history of the law; and I am further of opinion that, in the present state of science and practice, such a charge cannot be substantiated. I know that Mrs. Marsden is now in prison, enduring penalty for homicide by infection, and that this is an example of the charge being sustained; but, while I grieve for this sufferer, I feel sure that the case would have broken down had it been tried in a proper manner. The public, and to some extent, also, the professional mind, is not well informed on the subject of puerperal mortality and puerperal infection; and there is much excitement abroad regarding the prevention of disease generally. Under these circumstances, error is easily fallen into, even by authorities, when brought face to face with the terrible facts, probably for the first time. I shall say nothing about the amount of puerperal mortality, presuming that many of the members of our Society have read some remarks on the subject in my last year's address at the Norwich meeting of the British Medical Association. But I may remind you that such high and justly respected authorities as Miss Nightingale and Dr. Wm. Farr have promulgated far too favourable views as to the smallness of this amount; and that exaggerated notions of the innocuousness of childbearing are fostered by the careless talk of many experienced medical men, asserting, as they are often heard to do, that they never lose a case. If it be believed, as these would have it, that there are very few deaths, it is easy to understand the panic excited by the actual facts. On another point there seems to be still greater misunderstanding on the part of the public and of the profession—namely, the precautions taken or considered necessary by the profession to avoid communicating disease to patients. For the prevalence of this error, I can cite the evidence of the *Times* newspaper, whose utterly erroneous statement I now give as I find it in a leading article of that great organ of public opinion:—'It is the invariable practice of medical men (says the *Times*), if they attend a case of this (puerperal) fever, to hand over the whole of their midwifery practice to other persons for at least two or three months; and it has been shown, by ample experience, that this course is absolutely necessary to preserve the lives of their patients.' Anything more inconsistent with truth it would be difficult to find. It is this error, thus widely promulgated, and no doubt entertained, that I wish to point out; but I may be allowed to add that, were this true, I would never have a chance of being in practice. I would be perennially on the shelf, and so would everyone who had a large practice, especially if that practice involved hospital duty and private consultations. The difficulties of determining the proper conduct of obstetricians are not to be solved by officious coroners foolishly sending threatening messages to practitioners, nor by judges giving decisions without due consideration; but by discussion in such a Society as ours, and by matured professional opinion. Were the conduct of the coroner in Mrs. Dymond's case, and of the judge in Mrs. Marsden's, to be held as good precedents, there is not one among us who would be secure for a day against the most terrible charges. No surgeon having a case of pyæmia or of erysipelas could go safely to any other patient. No physician having a case of scarlatina could go elsewhere. The lying-in woman, no doubt, requires special care; but such care does not differ in kind from the care of other patients. Homicide by infection may be as easily brought home to the surgeon or physician as to the midwife. I regard the recent prosecutions of midwives as injudicious, because I believe it would be difficult to find a physician or surgeon who might not, on the same kind of grounds, be cast into prison. The crime—so called—of Mrs. Marsden is to be found almost every week, lately, confessed by ingenuous practitioners writing in our journals. Moreover, I would have preferred that some *man* should have been first charged with this crime, and not a poor and comparatively defenceless woman; and, as I have said, it will be easy for the authorities to find a criminal man. Where is the physician or surgeon who has not many, many times exposed his patients to some risk of infection with dangerous disease? Is a physician to be found guilty of homicide who exposes his patients to no greater risk than is that of those dearest to him at his home? The medical profession, with one voice, proclaims the necessity of extreme care and prudence on the part of medical men, and the utter abnegation of selfish views in their conduct of practice. But there is danger of the public, and of many professional men, being now led to seek for and expect a degree of safety which can in no ordinary circumstances be reached, and to entertain views as to the conduct of practice which are based on error, and lead astray from the line of expediency and prudence. Absolute safety can in no way be attained. As practice is at present conducted by careful practitioners, I believe it is nearly as safe as it can be. Among the necessary precautions in ordinary circumstances, I do not place giving up practice for a time; and I may say, for myself, that in nearly thirty years of obstetric experience in private, in hospital, and in consultation, I have not, as a precaution, given up work for a single day. And I venture to say that it would not astonish me were it demonstrated that as much disease and death come from patients to practitioners and nurses as go from practitioners and nurses, ordinarily and duly careful, to patients. I must draw to a close without having said nearly all I wish to say, and merely name the following grand precautionary measures for obstetric practitioners:—1. Avoidance of the duties of nurses. 2. Avoidance of using the hands in post-mortem investigation. 3. Antiseptic cleanliness of the hands and of the dress. One case of infection by a practitioner is as heinous as a series of cases. One homicide is as bad as four. The chapter of accidents may bring a series of cases to one practitioner, who is really careful and innocent; and the series may appear to be the result of infection. I have never had a series of cases, not even two near one another, in my private experience; and I believe such an occurrence would drive me away from my practice, whatever my theoretical views might be. Many practitioners have, in such circumstances, persisted in practice, and do so now, just as Mrs. Marsden did, in my opinion, foolishly, though not criminally persist. If homicide by infection be a good charge of manslaughter, it is as good in a case of one infection as in a case of four, however appalling the latter may be. There are few practitioners in any department of medicine against whom such a charge might not be set up. Allow me to express my regret at forced absence from your meeting, and believe me, dear Sir, yours faithfully, J. Matthews Duncan."

Dr. Barnes: I shall be quite willing to cede my right of priority to any visitor who may be willing to address us. We, who are in the habit of attending here, have spoken so often that I think we must be almost tired of hearing our own voices; and one great advantage of this particular discussion, I take to be, that it brings into our Society the views entertained by persons who do not usually come here, especially of men practising in different departments of medicine. I have been in the habit of saying that in obstetric practice we may see at least the germs or the illustrations of almost every problem in medicine and surgery. We want, nevertheless, to have the advantage of the additional light thrown upon these problems from all sources. Of late years, owing to the enormous growth of the metropolis, and the enormous number of medical men practising in different departments, the tendency to cut up medicine into sections is attended with this disadvantage, that we cannot, except on rare occasions like this, get the benefit of the varied experience of men bearing upon one particular department. We should be glad to have the advantage of hearing those who practise surgery and medicine; at the same time, I think that these problems of pyæmia and fever may receive some of the most valuable illustrations in the practice of obstetric medicine. I heard the letter of Dr. Duncan with considerable satisfaction. I think it places the grave and great difficulty which oppresses medical practice before us in a most striking manner. If prosecutions are to go on as they are now doing, I do not know how it will be safe for anyone to practise at all. It is becoming a most serious matter. We are governed by the ignorance of the law and the ignorance of the judges. The public are taught improperly. Instruction upon this matter, as Dr. Duncan rightly suggests, ought to come from us; and that is one of the advantages, I hope, of a discussion of this kind. The

lawyers and the public must receive, or ought to receive, medical opinions from the medical profession, from experts, those who are skilled and know what they are talking about. It will be dangerous to the public at large, unless this principle is carried out more fully than it is. With regard to the great question of puerperal fever, of course for many years as an old teacher I have had to consider this question; and I have been trying and struggling to put my ideas into a definite form, capable of being understood and taken up by others. I have felt the difficulty expressed by Dr. Leishman at the last meeting; still, after debating the subject in my own mind, I have come to something like an outline of definite ideas, which, of course, I am ready to change to-morrow, or even to-night, from what I may hear, as I quite admit the propriety of holding the mind perfectly free and untrammeled, ready to receive any kind of opinion, from whatever source it may come, and especially to study facts and the bearing of those facts. The leading idea, which tends to simplify the investigation of the subject, is one which I took some pains to illustrate some years ago in a series of lectures published in the *Lancet*, but never finished; that is, that we may at any rate divide the cases of puerperal fever into two great classes, and, having got as far as that, we can proceed a little further with the analysis, and perhaps pursue each series of cases ultimately to their true source. I think we may lay down this proposition, that we cannot discard the term "puerperal fever." Notwithstanding the respect I have for my friend Mr. Hutchinson, whom I look upon as one of the most enlightened authorities of the day, I cannot see my way to discard the term. The meaning attached to it is simply this—fever in a lying-in woman,—the general term expressing a number of perfectly different conditions. Having admitted that it simply means fever in lying-in women, we may proceed to analyse it, and to trace the different varieties. I think we may here divide it in this way. We must all of us see examples of it every day. There is the form of fever in the lying-in woman which is the direct result of infection or contagion produced by some zymotic poison, as scarlet fever (perhaps the most common of all), or erysipelas, or measles, or typhoid. All those things we see and know, and we cannot for a moment dispute them. Well, then, we have a large class of cases, perhaps the most numerous, which we may call heterogenetic, which has arisen outside the patient's body, and been put into her. Then there is another class of cases, which may perhaps admit of more dispute—a class of cases which I should call autogenetic,—in which all the conditions of the fever exist or arise in the patient's system, with which infection or contagion from without has nothing to do. That class of cases I am as convinced about as I am about the cases of scarlet fever; they are manifest to everyone. But the objection has been raised, and has occurred to most of us: How is it that lying-in women are especially prone to scarlet fever? Like other persons, the great majority of them have had scarlet fever at some previous period of their lives, and may be supposed to be more or less protected; and how is it that their protection all of a sudden breaks down under the trial of childbirth? It is said, again, that scarlet fever can give nothing but scarlet fever, just as an acorn can give nothing but an oak. That may be true to a certain extent. I have seen cases traced to scarlatinal poison in which the usual symptoms of scarlet fever were absent; no particular sore throat, no swelling of the glands, no rash, and yet the cases have gone on to a fatal issue. Then, if we go a little further, we see what was alluded to by Dr. Richardson, who was, I think, the only speaker at the last meeting who hit upon the right key. If we look at what a lying-in woman is, we there see a peculiar constitution, ready to receive poisons, and ready for those poisons to ferment and go on to a disastrous issue, while in another case the poison has no such effect. Then there is a peculiar condition following labour, where the system has been loaded with matter. There is the involution of the uterus, the discharge of superfluous blood, the milk process coming on—a state which is just treading on the verge of fever; at any moment, the slightest excitement or the slightest noxious matter carried into the blood is ready to ferment and set up a fever. It does not matter what the poison is. I think that one observer in his investigation showed that even a case of cancer in a ward was the starting point of a series of puerperal cases. It may be said that a cancer-germ will produce nothing but cancer. It will produce fever in a lying-in woman; so will scarlet fever always manifest itself in the usual way which we see in non-pregnant and puerperal women. This peculiar constitution is one which we may recognise in the range of surgery and medicine as well as obstetrics, although in obstetrics we get the most striking illustrations of this, as in many other pathological forms. In surgical practice, for example, we may see sometimes that there are persons, adults especially, who cannot be vaccinated with impunity; we all know cases of that kind; the blood is in a ferment at once. This simple, mild, laudable poison, which we may call vaccine lymph, will set up a ferment, and the patient may die. Sir Benjamin Brodie used to tell us of a man who was killed by the sting of a bee, so great was the irritation set up by the poison; but that argued a peculiar state of the system. We know there are persons who cannot scratch themselves without a fester; all going wrong in a moment. Well, all that condition exists in an exaggerated degree in the lying-in woman,—no matter what the poison is, whether you call it scarlet fever, or measles, or anything else. This is more especially observed in cases where the symptoms are manifested earlier than they are in the other class of cases where the poison arises in the patient's own system. The fever breaks out in twenty-four hours, or in two or three days, whereas in the other cases it comes on later. With regard to scarlet fever, it is enough to set up any mischief in a lying-in woman, and produces all the mischiefs of any other form of poison. We all know that scarlet fever poison, whatever pathological change it produces in the woman herself, can propagate scarlet fever. Then I would pass to the autogenetic cases. These cases are as distinct in their origin as many cases of infection. For example, you see a woman in the country, away from all sources of infection; a little bit of the placenta is retained, a clot of blood is there, or some change takes place in the uterus, and there is an element of infection; it runs along the veins or the lymphatics, is absorbed in the mucous membrane; then you get the blood tainted, and the slightest matter will set it going; the whole system is in ferment, just as it was from the poison of scarlet fever or anything else; you may call it pyæmia or septicæmia, the result is about the same. These cases come on a little later than those which have zymotic origin, and they can often be arrested by washing out the uterus and bringing away any superfluous matter there. Many women will succumb at once, or rapidly, to a single dose, no matter how small it may be; but others can resist to a certain extent; their excretory organs may be in good working order, and they may throw off a moderate dose, or two moderate doses; they cannot go on surviving repeated doses. If you can wash out the uterus you may prevent its going on, and stop the disease. That principle has recently come into vogue again. It was practised and taught with success by Harley, who, if he had not been the greatest physiologist living, would have been, perhaps, the foremost obstetrician in the world. This mode of infection is one of very great importance for us to consider. There was a case referred to by Dr. Wilson, a gentleman in the country, who believed that infection was due to the skin. I believe it may be propagated by the breath of a medical attendant or a nurse; we must all be conscious sometimes of taking in poisons, by coming in contact with poisonous patients. I have gone away from a craniotomy case with a foul brain, stinking of it; my breath smelling for a day or two. So with other diseases. In a case of dysentery I had shivering, diarrhœa, and foul breath from the odour of dysentery stools two or three days after being in contact with a patient of that kind. So with other diseases. A man may walk about charged with infectious disease, and those who are susceptible with whom he comes in contact may catch it; those who are not, may perhaps have a little dose, which they can throw off, the system being in good working order, and there is an end of it; but if a patient be in a lying-in state, with the blood ready to ferment, such a person would be ready to be attacked. There is the secret of the difference. A medical man, who has seen a case of scarlet fever, comes in contact, in the course of the day, with twenty or thirty patients, and it is perhaps only the lying-in woman who takes the disease; not that he is necessarily longer in contact with her, but there is a greater liability on her part. I had a letter this morning from the son of an old member of the Society, a former vice-president, who calls my attention to a work by his late father, Dr. U. West. He gives one example which is instructive, and I thought you would like to hear it. He had an outbreak of puerperal fever in his practice. He had to deliver a woman, to whom he went straight from a case of erysipelas, and this woman had erysipelas the next day. He went afterwards to another patient whom he did not

examine, and that woman escaped. The next day he went to another case, and the woman died. That is the history of a great many of the epidemics in the German lying-in hospitals, where they have the faculty, as it seems to me, of manufacturing puerperal fever on a large scale. Those women who are lucky enough (one would consider the most unfortunate) to be confined in the streets on their way to the hospital, escape puerperal fever. It is only those who are examined repeatedly that catch it. That has been observed over and over again. If I might be permitted a moment or two longer, I could give you the history of a series of cases occurring in the practice of one midwife in a short time, while all the surrounding neighbourhood was at the time pretty free. I will now only sum up my conclusions in reference to the questions submitted by Mr. Spencer Wells. "Did you ever see a case of puerperal fever which is not really a case of scarlatina or rubelia or erysipelas or traumatic fever caused by the bruising or tearing of parts?" I do not think there is any fever caused by bruising the parts. If there be a little scratch, no matter how small, and the poison is conveyed in that way, that is a different case. That is the way that wounds act so badly, no doubt. We are not to suppose that there is a puerperal fever which runs a definite course like scarlet fever. We get a fever which is fatal, and that is serious enough to be considered as a case of puerperal fever. As to the question whether there is a real form of puerperal fever which is not scarlatina or any of those conditions specified, I will say that there is, and I have called it excretory puerperal fever. We have albuminuria at the end of pregnancy, and those cases are extremely apt to go into puerperal fever: the blood is peculiarly overcharged, the liver and the kidneys cannot act, excretion is at an end, and then the poison runs in without any further injection of poisonous matter from without. That is pure puerperal fever which the patient herself can generate. Then, as to how the spread of the disease can be prevented? I can only say, by careful isolation of the patient. The conditions of practice are sometimes incompatible with that. There was a case that I met with Dr. West; he was on the point of going away, and there was no one to take his place. The patient sent for him, and would have him, and she fell a victim. That happens to everyone in the country; he cannot get away when he likes. With regard to the question of bacteria, as I know nothing about it, I had better say nothing; but I may reserve my doubt with Dr. Richardson, and wait till the bacteria doctrine is proved by those who understand it. With regard to the value of antiseptics, in order to keep hospitals free, I think that to keep hospitals free from puerperal fever is an extremely difficult matter,—more difficult than it is in a surgical hospital to keep it free from pyæmia. You cannot keep a series of patients in a hospital isolated, in the proper sense of the word. You have the same nurses going in to them. You have a variety of poisons acting upon one or two patients, and the consequences may be radiated to others. There is only one secret for safety, and that is to have the woman confined at her own home, where she can have her own nurse, who has not been anywhere in the way of infection, and her own medical man, who is free from infection. Then, the chances are that she will go on favourably and happily. Without that, there is no security. A lying-in hospital is not now, by any means, so serious a matter as it used to be; still, it is always like sitting on a volcano, which will explode at any moment.

Dr. Squire: I am sorry that the limitation of time has made the valuable observations of Dr. Barnes a little hurried. I must say that, agreeing with him so much, I was a little surprised to hear him support a statement of Dr. Richardson's as to the very febrile condition of lying-in women, an idea which I thought was derived from the depths of his inner conscience, and not as the result of bedside experience. In the course of a very large inquiry, I have failed to find that febrile disturbance in the majority of women in well-to-do circumstances. This important subject was ably brought before us for discussion under two divisions. It is to the queries under the first of these divisions that I wish to reply; and it is to the second question that I intend to confine myself more particularly. I presume that there *is* a fever after childbirth, caused by a morbid poison communicable by infection; and, while admitting a large class of infection associated with puerperal fever, I hope to show that the whole class of acute specific diseases may be set aside. It may be one extreme of error to deny the existence of puerperal fever; it is certainly the other extreme to call every post-partum illness by that name. Almost any febrile attack in the puerperal state will cause suppression of the lochia, arrest of the lacteal secretion, and other common symptoms, so that we have to separate many febrile ailments, as well as what may happen from retained placenta or other causes of metritis and phlebitis, from the disease under consideration. Our first duty in meeting with such cases is not to call them by the name of puerperal fever, but to diagnose their nature. Many of them we can soon relieve, and in all be sure of carrying no infection to others; while no case of puerperal fever is without this risk. Question 2 deals with the relations of puerperal fever: first, to the specific infective diseases; and second, to the traumatic fevers and septicæmia. Clear as was the introductory statement, I noticed that, in repeating the question, Mr. Wells transposed erysipelas from the second category to the first. I do not mean to deny it a place there; but, for the present purpose, prefer to keep to the terms of the original proposition. I am then able to answer the second part in the affirmative; and to give to the first part a denial as precise and distinct as possible. I go beyond this, and say that no form of puerperal fever is to be referred to attacks of the specific infective fevers. The *Transactions* of our Society, abounding in excellent materials for the subject in debate, furnish more commentaries against the view I take than in its support. In the very carefully prepared paper in vol. iii., I find it stated from the chair that "any of the agents which produce zymotic maladies might cause puerperal fever"; and, again, in vol. x., the President, among remarks of high value, says "it can be caused by the contagion of typhus, measles, and scarlet fever." At the last meeting, this opinion seemed general. This view has led some to look upon this disease as merely the puerperal form of scarlet fever, or to consider it typhus. This view I controvert, and assert that not only is puerperal fever not typhus, typhoid, small-pox, measles, diphtheria, nor even scarlatina, but that these diseases are little modified by the puerperal state, and retain their distinctive characters, so as to be recognisable; they ought to be diagnosed under this, as under other conditions, and called by their own names, and not by that of puerperal fever. Moreover, though pregnancy and puerperal fever may prejudice the prognosis in such complications, and abortion happens in some of them, yet the puerperal accidents are not always so grave as is supposed. I will first take typhus. Of 1000 typhus patients admitted to the London Fever Hospital, sixteen were far advanced in pregnancy; they miscarried, and the majority made good recoveries. This is very different from the results of abortion in typhoid, where, however, the fatal result is owing to the serious importance of this accident to the fever, and not to the development of puerperal mischief—though it is quite possible for puerperal fever or purulent infection to occur after abortion, even in the earlier months; so we see nothing in typhus to cause puerperal fever. Yet I have a good authority against me. Sir Henry Marsh, in the fourth volume of the *Dublin Hospital Reports*, says, "The true character of epidemic puerperal fever seems to be typhus." This is founded on the experience of Dr. Johnson, Professor of Midwifery to the College of Surgeons of Ireland, who states that the wardmaids of the Dublin Lying-in Hospital caught typhus from patients received there. Typhus was prevalent at Dublin, and this shows how typhus may find its way into a lying-in hospital. Twenty years ago there was typhus in Leeds. A friend of mine attending to midwifery in the Leeds School of Medicine met with a case of typhus at childbirth; the fever was well marked, it commenced before delivery, and the characteristic mulberry rash occurred. It was not communicated to any other of the numerous patients consigned to his care, though some cases of puerperal fever were met with in the practice of other students. It is not contended that small-pox is modified by the puerperal state. Vaccination saves us from meeting with it in the severe form; but I have one instance where it was easily recognised, and did not produce puerperal fever. When I saw the patient she was in severe pain; she had gone her full time; she looked ill, and the temperature was 104°, that being utterly different from anything I had found in an ordinary case of labour; and, being what occurs in no other ailment besides, I was led to question what happened. I found that a young man, sickening with small-pox, had been removed from a house in which she was. The next day labour pains came on, and in the night she was delivered. The spots of small-pox came out on the following day. The child was removed, and vaccinated at the same time. The woman made a good recovery,

without any puerperal symptoms whatever. Now, if a poison of small-pox can produce puerperal fever, that was a case in which it ought to have occurred. In measles it is rare to find parturient women unprotected by a previous attack; but when so protected, I have seen a mother nurse her child in measles without the least injury up to the time of delivery. Lately, I saw such an instance where the poison must have been concentrated in the room, for the baby had a rash a fortnight after birth, the mother keeping quite well. Therefore, the statement that measles will convey contagion to parturient women seems doubtful. I will quote one instance from the Sydney papers of measles at parturition in a woman. Lady Sidney was sickening for measles when, on the third day, with severe cough and full rash, "she is brought to bed of a goodly fat son"; the child was also full of the measles, mostly in the face, yet it sucked the nurse as well as any child could. Both did well. With respect to scarlet fever, no one has a more wholesome dread of it than I. Every means of isolation should be used to keep it out of families. Once it happened to me to see in the family of a physician who devotes his time to the study of how to prevent disease, scarlet fever in a little girl, whose mother had just been delivered. Not only were there no ill symptoms, but not a trace of puerperal disease; but the progress was favourable. The mother had never had scarlet fever before, yet it is quite certain the infant took the disease and did well. Dr. Braxton Hicks, in his admirable paper in vol. xii. of our *Transactions*, gives the most valuable support by his cases, though we differ in the conclusions to be drawn from them. Of his eighty-nine cases, but one is entered as truly puerperal fever; and of the thirty-nine cases of scarlet fever, there was no difficulty in the diagnosis, twenty of them having well-marked rash. The great point demonstrated by these cases is the special liability of puerperal women to scarlet fever: infection is resisted up to the time of delivery: then they succumb to three or four doses. Diphtheria has given me much anxiety, and, to my surprise, soon after delivery, the exudation, instead of extending, had cleared off, and an obstinate ulceration was healed. On turning to our *Transactions* for a case of post-partum diphtheria, I find it headed "Mild Puerperal Fever." When we come to erysipelas, the case is very different. Dr. Rigby noticed that the children born during an epidemic of puerperal fever had erysipelas. I do not mean to say that puerperal fever is erysipelas, but this shows its connexion with that and hospitalism and purulent infection, and probably cancer. I believe we can connect this closely with that class of infectious diseases which the investigations of Billroth and Lister have not only enabled us to understand, but to control. I believe there is danger in those dissecting attending midwifery cases. I have seen a dissector suffer from peritonitis after operating on a bad part: and I believe he might have been the means of conveying infection to those whom he attended.

Dr. Braxton Hicks: A remark fell from Dr. Squire with respect to the rash accompanying local cases of scarlatina. I think he will find a large number of such cases. Certainly my observations have gone to show that there is no rash, and that there are none of the permanent symptoms of scarlatina where scarlatina has been unquestionably mixed up with the case.

(To be continued.)

MEDICAL NEWS.

Royal College of Surgeons of England.—The following gentlemen, having undergone the necessary examinations for the diploma, were admitted Members of the College at a meeting of the Court of Examiners on the 20th inst., viz.:—

Bevan, Adolphus, L.S.A., Peckham, student of Guy's Hospital.
Cotton, Herbert, L.S.A., Ipswich, of Guy's Hospital.
Dixon, Thomas Arthur, Upleatham, Yorkshire, of St. Bartholomew's Hospital.
Evans, David Thomas, L.S.A., Carmarthen, of Guy's Hospital.
Fisher, Stephen Henry, Tiverton, of the London Hospital.
Garlike, James Percie, Tulse-hill, of St. George's Hospital.
Hemming, William Douglas, Notting-hill-terrace, of King's College.
Hitchins, Thomas Johns, L.S.A., Plymouth, of St. Mary's Hospital.
Hutchinson, Walter, Leominster, of King's College.
Kelly, Augustin Bernard, Camden-road, of University College.
Massiah, Benjamin Jones, Clifton, Bristol, of the Bristol School.
Matthews, Charles Edwin, Bristol, of University College.
Murrell, William, L.S.A., York-street, St. James's, of University College.
Palmer, Thomas Hurlston, Warwick, of the Birmingham School.
Prince, James Perrot, M.D. New York, Boston, United States, of the New York School.
Sibbald, Thomas Martyn, Ontario, of King's College.
Voelcker, George Henry, Kensington, of University College.
Young, Edward William, Henley-on-Thames, of St. George's Hospital.
Williams, Austin Edward, L.K. & Q.C.P.I., Liverpool, of the Liverpool School.

Out of the seventy-eight candidates examined, twenty-four having failed to acquit themselves to the satisfaction of the Court of Examiners, were referred to their professional studies for six months; and seven having passed in Surgery, will be admitted Members of the College when qualified in Medicine.

The Fellowship.—The half-yearly examination of candidates for the Fellowship of the Royal College of Surgeons was commenced on Friday last, when fifty-six candidates offered themselves for the primary or anatomical and physiological written portion, to whom the following questions, all of which were required to be answered, were submitted, viz.: —1. Give the dissection required to display the sacral plexus of nerves; and describe the course and relations of its several branches within the pelvis. 2. What arteries supply branches to the vertebral column, the spinal cord, and its membranes? How are these destributed? Describe the position and arrangement of the veins in the vertebral canal. 3. When a person is at once and completely deprived of food, describe the mode of death; and state the circumstances which, in such a case, influence the duration of life. 4. Describe the mucous membrane of the genito-urinary apparatus in the male, stating precisely the structural peculiarities, and the sources of vascular and nervous supply of each part. Of the fifty-six candidates ten were seniors—viz., Members of the College from April, 1854, to April, 1867. Of the remainder, eight were Members from January, 1868, to January, 1875; thirty-three had passed the primary for membership, and eight had not passed any examination.

The following gentlemen passed their primary examination for the Fellowship on the 25th inst., viz.:—

Atkinson, Richard, student of the London Hospital.
Clutton, Henry Hugh, B.A. Cantab., diploma of Membership dated January 26, 1875, of St. Thomas's Hospital.
Eve, Frederic Samuel, of St. Bartholomew's Hospital.
Fisher, Frederick Richard, April 26, 1867, of St. George's Hospital.
Griffith, Griffith, January 24, 1865, of the University College and Liverpool Schools.
Kay-Shuttleworth, Lionel Edward, M.A. Cantab., of St. George's Hospital.
Macnamara, Nottidge Charles, April 17, 1854, of King's College.
May, Bennett, L.S.A., January 23, 1868, of the Birmingham and Edinburgh Schools.
Robinson, Ernest Laurie, of St. George's Hospital.
Stevenson, Leader Henry, of Guy's Hospital.
Todd, Howard James McChleary, of St. Thomas's Hospital.

Apothecaries' Hall.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, May 20:—

Bruce, Peter, Colville-square, Notting-hill.
Cundell, George Richard, Lock Hospital, Harrow-road.
Lory, William Manley, Exeter.
Massingham, John Payne, Ripley, near Derby.

The following gentlemen also on the same day passed their primary professional examination:—

Anderson, Charles Mortem, University College.
Martin, John Michael Harding, University of Edinburgh and Liverpool Royal Infirmary.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that place.

Eaton, James William, M.R.C.S., M.R.C.P.—Medical Officer for the Workhouse of Bingham Union.

Lowndes, Frederick Walter, M.R.C.S. Eng., L.S.A.—Honorary Surgeon to the Lock Hospital, Liverpool, *vice* Mr. Chauncy Puzey, appointed Surgeon to the Northern Hospital, Liverpool.

Rew, James, M.R.C.S., L.S.A.—Medical Officer for the Workhouse, Luton.

NAVAL APPOINTMENTS.

Admiralty.—A. Fisher, Fleet Surgeon to the *Fisguard*; J. Thompson, Staff Surgeon to the *Jumna*; Charles Feltham, Surgeon to the *Duncan*.

BIRTHS.

Bradshaw.—On May 21, at 43, Welbeck-street, Cavendish-square, the wife of Watson Bradshaw, L.R.C.P. Edin., M.R.C.S. Eng., L.S.A., of a son.

Graves.—On May 22, at 14, Chichester-road, W., the wife of F. G. Graves, M.D., of a daughter.

Henderson.—On April 5, at Lahore, the wife of Surgeon-Major George Henderson, M.D., Indian Medical Service, of a son.

RABY.—On April 25, at Belgaum, the wife of J. Raby, L.R.C.P., L.M., Bombay Army, of a daughter.

WEATHERHEAD.—On May 18, at 2, Claremont-villas, Kew-bridge, the wife of J. Fraser Weatherhead, L.F.P.S., M.R.C.S. Eng., L.S.A., of a son.

WARD.—On May 20, at Northbourne, Chobham, Surrey, the wife of S. M. Ward, M.B., B.A., M.R.C.S. Eng., of a daughter.

WIGMORE.—On May 25, at 31, Inverness-terrace, Bayswater, W., the wife of Wm. Wigmore, M.R.C.S. Eng., of a son.

MARRIAGES.

JACKSON—EVANS.—On February 11, at All Souls, Langham-place, W., George Henry, eldest son of George Henry Jackson, M.D., of Tottenham, to Alice, only daughter of Edward Prichard Evans, Esq., of Primrose-hill-road, Regent's-park, N.W.

LYONS—CORMACK.—On Tuesday, May 25, at the British Embassy, Paris, R. T. Lyons, Surgeon-Major 28th Regiment, Bengal Infantry, to Eliza Grace, third daughter of Sir John Rose Cormack, M.D.

TURNER—BACON.—On May 19, at the Chapel Royal, Savoy, Harry, eldest son of Charles Turner, Esq., of Slough, Bucks, to Elizabeth Poole, only daughter of the late Samuel Bacon, M.D., of Camden Town.

WILLETT—GRIMSDALE.—On May 24, at St. George's Cathedral, Southwark, Archibald Edward Willett, of Bromley, Kent, second surviving son of the late Edward Willett, Esq., of Norwich, to Jane Mary, eldest daughter of T. F. Grimsdale, M.D., of Liverpool.

DEATHS.

BELL, CHARLES NEWTON, M.R.C.S., son of William Bell, Esq., of Rochester, at sea, between Borabora and Tahiti, suddenly (from rupture of a bloodvessel), on February 9, in his 30th year.

BRIGHT, HENRY EUSTACE, son of the late Richard Bright, M.D., at 24, Norfolk-crescent, Hyde-park, W., on May 22, aged 36.

FURNIVAL, WM. HENRY, M.R.C.S., L.S.A., at Hill House, Great Bentley, Essex, and late of 16, Grafton-square, Clapham, on May 21, aged 87.

JACOB, JOHN, eldest son of Henry Long Jacob, M.R.C.S. Eng., L.S.A., at 23, Hamilton-square, Birkenhead, of pulmonary consumption, on May 18, aged 21.

SMITH, JOHN, M.D., late of Torquay and Calcutta, at Talbot-road, W., on May 24, in his 70th year.

WHITE, EMMA CATHARINE, wife of J. L. White, M.A., F.R.C.S., at Graigola, Canterbury-road, Oxford, on May 18, aged 42.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

BRADFORD INFIRMARY AND DISPENSARY.—Physician. Candidates must be duly qualified. Applications, with testimonials, to Mr. Charles Woodcock, Secretary, 65, Market-street, Bradford, on or before June 12.

BRISTOL GENERAL HOSPITAL.—Physician's Assistant. Candidates must possess a registered medical qualification. Applications to the Secretary, on or before June 4.

CHELTENHAM GENERAL HOSPITAL AND DISPENSARY.—Honorary Medical Officer. Candidates must be M.R.C.P. Applications, with testimonials, to the Board of Governors, on or before June 5.

DURHAM COUNTY ASYLUM, SEDGEFIELD, FERRY-HILL.—Assistant Medical Officer. Candidates must be registered and unmarried. Applications, with testimonials, to Dr. Smith, on or before June 1.

LEICESTERSHIRE AND RUTLAND LUNATIC ASYLUM, LEICESTER.—Assistant Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to the Clerk to the Visitors, Mr. W. N. Reeve, New-street, Leicester, on or before June 4.

ROYSTON UNION.—Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to Mr. Henry Thurnall, Royston, on or before June 7.

STOW-ON-THE-WOLD UNION.—Medical Officer for the District of Longborough and for the Union Workhouse. Candidates must be duly qualified, and registered under the Medical Act. Applications, with testimonials, to R. G. Francis, Clerk, on or before June 2.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY AND FEVER HOSPITAL.—House-Surgeon and Dispenser. Candidates must be duly qualified. Applications, with testimonials, to the Honorary Secretary, on or before June 1.

DR. RICHARDSON, F.R.S., has accepted the presidency of the Health Department of the Social Science Congress, to be held at Brighton in October next.

A MEMBER of the Leeds Town Council, after repeatedly having been fined for a similar offence, was last week again amerced in 20s. and costs for refusing to obey a magistrate's order to vaccinate his child.

SCARLATINA AT ENNISKILLEN.—An outbreak of scarlatina is reported amongst the troops at Enniskillen. In consequence, the removal of the troops to the Curragh has for the present been deferred.

INOCULATION OF VARICELLA.—Professor Steiner, of Prague, reports in the *Wiener Med. Woch.* of April 17 the results of ten inoculations which he has performed. He terminates his paper with the following conclusions:—1. The contents of the varicella pustule are decidedly inoculable, as of ten inoculations eight were successful and only two negative. 2. As the result of inoculation, varicella always gives rise to varicella, and never to variola. 3. The incubation period in all the successful cases extended to eight days. 4. In four of the cases the condition of the children remained quite unaltered during the incubation period, the eruption appearing suddenly, without any preliminary symptoms. 5. In the other four there was a marked prodromic stage, which lasted four days, and was marked by increase of temperature and pulse, evening exacerbations, restless sleep, heaviness, and loss of appetite, with redness of the mouth and fauces. 6. The increased temperature, when present, diminished on the appearance of the eruption. 7. The fever usually disappeared rapidly and completely, intercurrent increase of temperature occurring only rarely on the appearance of fresh vesicles. 8. Vaccination exerted no influence on the form of the eruption. Of the eight children, five had been and three had not been vaccinated. 9. Varicella does not protect from variola, for a child, fourteen days after varicella, died of confluent variola.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—Bacon.

Cecil N.—It was a remark of the celebrated Dr. Sydenham that "Everybody some time or other would be the better or worse for having but spoken to a good or bad man."

Aubrey.—Dr. Echeverria, a Cuban physician, is well known in connexion with the New York City Lunatic Asylum.

Junius.—Dr. Tommasini died at Parma, November 26, 1816, aged sixty-eight. He attended Queen Caroline, and gave his evidence at her trial before the Court of Peers.

Dr. M., Birmingham.—The notorious quack recently executed was not a member of any university or college. The confession has not been published.

L.S.A.—Dr. Baly, Physician to her Majesty, was killed on the South Western Railway, near Wimbledon, January 28, 1851.

Mark.—Pitard, in 1271, established the College of Surgeons in France; but the father of improved French surgery was Ambroise Paré, a man of great genius, and on that account saved by the King himself, Charles IX., from the Massacre of St. Bartholomew.

D. D.—The tea plant was not known in China until about the fourth century, and it was not introduced into general use before the early part of the ninth, when the Government recommended the infusion of the leaf with boiling water as a means of preventing the numerous diseases which were created by the excessively bad quality of the unmixed water ordinarily drunk. From then—if we except the occasional use of the spirit distilled from rice—it has been the only beverage drunk in all households throughout the empire.

Kinglake.—Dr. David Bennett, a physician, was born in England on December 1, 1615, and died at Rowley, Mass., February 4, 1719, aged 103 years. It is recorded he never lost a tooth, and that his senses were good to the last.

Launcelot.—The Medical College of Georgia, America, was founded in 1833.

C. C. H.—Celsus said of the operative surgeon—"He must not be too old, his hand must not shake, he must be ambidexter, his sight must be clear and penetrating, his mind pitiless (*immisericors*), and he must be heedless of the screams of his patient."

Q.—The next metropolitan Hospital Saturday is appointed for July 31.

Ralph S.—In the Report of the Commissioners in Lunacy for the year 1847, the total number of private patients of the middle and upper classes then under confinement in private asylums amounted to 4619.

G. N., Southsea.—

"No pulse shall keep
His natural progress, but surcease to beat;
No warmth, no breath shall testify thou livest;
The roses on thy lips and cheeks shall fade
To paly ashes; thy eyes' windows fall,
Like Death, when he shuts up the day of life;
Each part, deprived of supple government,
Shall stiff, and stark, and cold appear, like Death."
—*Shakespeare.*

The Fergusson Portrait.—Judging from the number of letters addressed to us on the subject of the engraving from the painting of Sir William Fergusson, to which so many subscribers appear to think they are entitled, we think it only due to the committee who organised and so successfully carried out all the details of it to state that no stipulation was originally made of an engraving being given to subscribers. It was, however, found that so many additional subscriptions came in, showing the great popularity of the distinguished original, that the committee decided on an engraving. The commission was entrusted to Mr. Joubert, who has produced an admirable work of art. A copy of this engraving will be presented to each subscriber on calling or sending to Mr. Palmer, of 30, Golden-square, where they will also see some admirably designed and most suitable frames for the engraving.

Egbert.—Dr. Philip Sing Physick died at Philadelphia, December 15, 1837, aged 69. He was an eminent physician and surgeon, and Professor of Anatomy and Surgery in the University of Pennsylvania. His father, an Englishman, had the charge of the estates of the Penn family. He graduated at the University of Pennsylvania in 1785. In 1789 he studied with John Hunter in London, and in 1790 was appointed for one year Surgeon to St. George's Hospital. In 1792 he took his medical degree at Edinburgh. He soon rose to distinction in his profession. He has been called the Father of American Surgery.

COMMUNICATIONS have been received from—

The Registrar of the Apothecaries' Hall, London; Professor Humphry, Cambridge; Dr. W. B. Houghton, London; Mr. Lowndes, Liverpool; Mr. Jabez Hogg, London; Professor Huxley, Edinburgh; Mr. H. Godlee, London; Dr. Cockle, London; Mr. J. Knowsley Thornton, London; Mr. Barton Shaw, London; Mr. T. Annandale, Edinburgh; Dr. Morell-Mackenzie, London; Mr. H. A. Reeves, London; Mr. J. Chatto, London; Mr. Jonathan Hutchinson, London; The Professors of University College, London; Dr. T. Pease, Plymouth; M. W. A. Reeves, Londoo; Mr. E. Jones, Hereford; Dr. P. Fostea, Leeds; Mr. Stone, London; Surgeon-Major De Chaumont, London.

BOOKS AND PAMPHLETS RECEIVED—

Annual Report of the Royal Edinburgh Asylum for the Insane—Plea for Mercy to Animals, by Dr. Macaulay—Report of the Metropolitan Board of Works for 1874—Annual Report of the Charing-cross Hospital—Wagstaffe on the Mechanical Structure of the Cancellous Tissue of Bone—Coughtrie on Aerial Locomotion—Notes on Aloes, with special reference to the Action of "Changed Aloin" and the "Resin of Aloes," by W. Craig, M.D.—The Saturday Half-Holiday Guide, seventh edition—Haigh on the Potato Disease and the Curl Disease in Potatoes—Annual Report of the State Lunatic Asylum, Utica, New York, for the year 1874—Weir on Ichthyosis of the Tongue and Vulva—Griffiths's Memorials of Millbauk, 2 vols.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—National Food and Fuel Reformer—Philadelphia Medical Times—Pharmaceutical Journal—Centralblatt für die Medicinischen Wissenschaften—La France Médicale—Iron—Wiener Medizinische Wochenschrift—Journal des Sages-Femmes—American Practitioner—Indian Medical Gazette—Live Stock Journal—Students' Journal and Hospital Gazette.

APPOINTMENTS FOR THE WEEK.

May 29. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

Royal Institution, 3 p.m. Prof. Douglas, "On the Chinese Language and Literature."

31. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

June 1. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Royal Institution, 3 p.m. Prof. Gladstone, "On Chemical Force."

2. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Obstetraical Society, 8 p.m. Some interesting Specimens will be exhibited, after which the Discussion on Puerperal Fever will be resumed by Dr. Savage.

Royal Microscopical Society, 8 p.m. Meeting.

3. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.

Royal Institution, 3 p.m. Prof. Dewar, "On the Progress of Physico-Chemical Inquiry."

4. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

Royal Institution (Weekly Evening Meeting, 8 p.m.), 9 p.m. Prof. Tyndall, "On Whitworth's Planes, Standard Measures, and Guns."

VITAL STATISTICS OF LONDON.

Week ending Saturday, May 22.

BIRTHS.

Births of Boys, 1047; Girls, 936; Total, 1983.
Average of 10 corresponding years 1865-74, 2144·5.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	714	608	1322
Average of the ten years 1865-74	684·9	611·8	1296·7
Average corrected to increased population	...	...	1387
Deaths of people aged 80 and upwards	...	...	34

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric or Typhoid Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	4	4	2	11	...	2	...	5
North... ...	751729	...	1	6	2	16	1	5	2	8
Central ...	334369	...	2	[illegible]	1	10	...	1	1	...
East	639111	...	5	7	1	21	2	2	...	...
South... ...	967692	2	11	12	8	33	...	4	5	2
Total	3254260	2	23	31	11	91	3	14	8	15

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·662 in.
Mean temperature	53·9°
Highest point of thermometer	70·3°
Lowest point of thermometer	39·6°
Mean dew-point temperature	44·3°
General direction of wind	S.W. & E.
Whole amount of rain in the week	0·27 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, May 22, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1875.)	Births Registered during the week ending May 22.	Deaths Registered during the week ending May 22.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3445160	45·7	1983	1322	70·3	39·6	53·9	12·17	0·27	0·69
Portsmouth ...	122632	27·3	68	38	...	...	...	...	...	...
Norwich	82842	11·1	45	43	69·8	39·2	51·6	10·90	0·16	0·41
Bristol	196186	44·1	112	81	69·3	39·8	52·0	11·11	0·93	2·36
Wolverhampton ...	71718	21·1	60	33	72·0	41·7	53·1	11·73	0·64	1·63
Birmingham ...	366325	43·6	255	162	69·7	41·0	52·4	11·33	0·62	1·57
Leicester	109830	34·3	68	32	71·8	39·8	52·3	11·28	1·00	2·54
Nottingham ...	92251	46·2	50	38	74·2	38·0	52·4	11·33	0·53	1·35
Liverpool	516063	99·1	352	229	68·0	42·5	51·2	10·67	0·83	2·11
Manchester ...	356626	83·1	195	182	77·0	36·0	54·0	12·22	1·33	3·38
Salford	135720	26·3	82	52	71·5	36·8	50·5	10·28	1·32	3·35
Oldham	87437	18·7	60	50	...	...	...	...	...	...
Bradford	168305	23·3	122	103	68·8	42·3	52·0	11·11	0·64	1·63
Leeds	285118	13·2	235	145	69·0	39·0	51·8	11·01	0·71	1·80
Sheffield	207881	13·6	164	133	69·0	38·0	51·2	10·67	1·55	3·94
Hull	133932	36·8	87	65	68·0	36·0	50·7	10·39	0·83	2·11
Sunderland ...	106342	32·2	79	37	72·0	40·0	52·2	11·22	0·31	0·79
Newcastle-on-Tyne	137665	25·6	90	50	...	...	...	...	...	...
Edinburgh	211626	50·5	116	81	...	...	...	...	...	...
Glasgow	534564	88·6	430	287	60·4	40·0	50·1	10·06	0·56	1·42
Dublin	314666	31·3	132	140	70·9	34·0	51·7	10·95	0·45	1·14
Total of 21 Towns in United Kingdm	7742889	37·0	4785	3303	77·0	34·0	52·0	11·11	0·75	1·90

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·66 in. The highest was 30·07 in. at the beginning of the week, and the lowest 29·44 in. on Friday afternoon.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

NOTES ON THE INVERTEBRATA

FOR THE

USE OF STUDENTS OF ZOOLOGY.

BEING AN OUTLINE OF A COURSE OF LECTURES DELIVERED FROM THE CHAIR OF NATURAL HISTORY IN THE UNIVERSITY OF EDINBURGH.

By THOMAS H. HUXLEY, LL.D., Sec. R.S.

(*Continued from page 573.*)

The Ctenophora.—These are freely swimming marine animals, which never give rise by gemmation to compound organisms, and are always of a soft and gelatinous consistence, their chief bulk being made up by the greatly developed mesoderm. Many are oval or rounded, while in others the body is produced into lobes, or may even be ribbon-shaped; but, whatever their form, they present a distinct bilateral symmetry, similar parts being disposed upon opposite side of a median plane, which is traversed by the axis of the body. The mouth is situated at one end of this axis, which may be termed the oral pole. At the opposite, or aboral pole, there is no median aperture, but usually, if not invariably, a pair of apertures a short distance apart. The faces of the halves of the body present four longitudinal bands of long and strong cilia, disposed in transverse rows, like so many paddles, which constitute the chief organs of locomotion. Each half is also often provided with a long retractile tentacle, and lobed processes of the body or non-retractile tentacula may be developed on its oral face. The mouth leads into a wide, but flattened, gastric sac, the aboral end of which is perforated, and leads into a chamber termed the *infundibulum*. From the aboral face of this, a canal which bifurcates, or two canals, lead to the aboral pores. On opposite sides of the infundibulum a canal is given off towards the middle of each half of the body, which sooner or later divides into two, and these two again subdivide, so that four canals, which diverge and radiate towards the inner faces of the rows of paddles, are eventually formed. Having reached the surface, each radiating canal enters a longitudinal canal which underlies the row of paddles, and may give off branches, or unite with the other longitudinal canals in a circular canal at the aboral end of the body. In addition, two other canals which run parallel with each flat face of the gastric sac open into the infundibulum. And when tentacula are present, their cavities also communicate with the same chamber.

The entire system of canals is in free communication with the gastric cavity, and corresponds with the enterocœle of an *Actinia*. Indeed, an Actinia with only eight mesenteries, and these exceedingly thick, whereby the intermesenteric chambers would be reduced to canals; with two aboral pores instead of the one pore, which exists in *Cereanthus*, and with eight bands of cilia corresponding with the chambers, would have all the essential peculiarities of a Ctenophore.

The question whether the *Ctenophora* possess a nervous system or not is still under debate. Between the aboral apertures there is a rounded cellular body, on which there is seated, in many cases, a sac containing solid particles, like the lithocyst of the Medusiform Hydrozoa. I see no reason to doubt that the rounded body is a ganglion, and the sac a rudimentary auditory organ. Bands which radiate from the ganglion to the rows of paddles are by some regarded as nerves; but Eimer has recently thrown doubt upon this interpretation. He considers the nervous system to be represented by numerous fine varicose filaments, which traverse the mesoderm in all directions, are here and there connected with what he considers to be ganglionic corpuscles, and are gathered into bundles on the inner faces of the longitudinal canals.

The ova and spermatozoa are developed in the lateral walls of these canals, which correspond with the faces of the mesenteries in the Coralligena, and the sexes are usually united in the same individual.

The laid egg is contained in a spacious capsule, and consists of an external thin layer of protoplasm, which, in some cases, is contractile, investing an inner vesicular substance. The vitellus thus constituted divides into two, four, and, finally, eight masses; on one face of each of these the protoplasmic layer accumulates, and is divided off as a blastomere of much smaller size than that from which it arises. By repeated division, each of these gives rise to smaller blastomeres, which become nucleated when they have reached the number of thirty-two, and form a layer of cells, which gradually spreads round the large blastomeres, and invests them in a complete blastodermic sac. At the pole of this sac, on the face opposite to that on which these blastoderm cells begin to make their appearance, an ingrowth or involution of the blastoderm takes place, which, extending through the middle of the large yelk-masses towards the opposite pole, gives rise to the alimentary canal. This, at first, ends by a rounded blind termination; but from it, at a later period, prolongations are given off which become the canals of the enterocœle.

At the opposite pole, in the centre of the region corresponding with that in which the blastoderm cells first make their appearance, the nervous ganglion is developed by metamorphosis of some of these cells.

It is clear that the invaginated portion of the blastoderm, which gives rise to the alimentary canal, answers to the hypoblast, while the rest corresponds with the epiblast. The large blastomeres which become enclosed between the epiblast and hypoblast in the manner described, appear to serve the purpose of a food-yelk; and the space which they originally occupied is eventually filled by a gelatinous connective tissue, which possibly derives its origin from wandering cells of the epiblast.

As might be expected from their extreme softness and perishable nature, no Ctenophora are known in the fossil state.

The Turbellaria.—The animals which constitute this group inhabit fresh and salt water and damp localities on land. The smallest are not larger than some of the Infusoria, while the largest may attain a length of many feet. Some are broad, flattened, and discoidal, while others are extremely elongated and relatively narrow. None are divided into distinct segments, and the ectoderm, which constitutes the outer surface of the body, is everywhere beset with vibratile cilia. Rod-like bodies, similar to those met with in some Infusoria and in many Annelida, are often found embedded in its substance, and in some genera (*e.g.*, *Microstomum*, *Thysanozoon*) true thread-cells occur. Stiff setæ project from the ectoderm in some species.

The aperture of the mouth is sometimes situated at the anterior end of the body, sometimes in the middle or towards the posterior end of its ventral face. In many, the oral aperture is surrounded by a flexible muscular lip, which sometimes takes on the form of a protrusible proboscis.

The digestive cavity, simple or ramified, with an anal aperture or without one, is lined by the endoderm, between which and the ectoderm is an interspace occupied by the connective and muscular tissues of the mesoderm, so that there is no proper perivisceral cavity.

The Turbellaria possess vessels of two kinds. 1. *Water vessels*, which open externally by one or more pores, and are ciliated. When these vessels are present, there are usually two chief lateral trunks, from which many branches are given off. It is probable that the ultimate ends of these branches open into the lacunæ of the mesoderm. 2. *Pseudhæmal vessels*, which form a closed system, usually consisting of two lateral and one median dorsal trunks, which anastomose anteriorly and posteriorly. The walls of these vessels are contractile and not ciliated, and their contents are clear, and may be coloured. These two systems of vessels have been shown by Schulze to co-exist in *Tetrastemma*. The nervous system consists of two ganglia placed in the anterior end of the body, from which, in addition to other branches, a longitudinal cord extends backwards on each side of the body. Most possess eyes, and some have auditory sacs. The Turbellaria are both monœcious and diœcious, and the reproductive organs vary from the utmost simplicity of structure to considerable complexity. In most, the embryo passes by insensible gradations into the form of the adult, but some undergo a remarkable metamorphosis.

The *Turbellaria* are divisible into two groups. In the one, the *Aprocta*, the digestive cavity is cæcal, having no anal aperture; in the other, the *Proctucha*, it is provided with an anal opening. The two groups form parallel series, in each of which organisation advances, from forms which are little more than gastrulæ provided with reproductive organs, to animals of relatively high organisation. In the simplest of the Aprocta, such as *Macrostomum*,(a) the oral opening is

(a E. Van Beneden, "Recherches sur la Composition et la Signification de l'Œuf," 1870, p. 64.

devoid of any protrusible muscular proboscis, and the alimentary sac is a simple straight bag. The male and female generative organs are united in the same individual, and each consists of a simple aggregation of cells; which, in the former case, gradually enlarge, fill with yelk-granules, and become ova; while in the latter they are converted into spermatozoa. Each is contained within a sac, which opens by a median pore externally on the oral face of the body, the male aperture being posterior to the female. The margins of the male aperture are produced into a curved prominence—the penis.

The Turbellaria, which resemble *Macrostomum* in having a straight, simple digestive cavity, are termed *Rhabdocœla*. They, for the most part, possess a buccal proboscis, which is capable of being protruded from or retracted into a chamber formed by the walls of the circum-oral region of the body.

In some (*e.g.*, *Prostomum*) the anterior end of the body is provided with a second hollow muscular proboscidiform organ, which may be termed the *frontal proboscis*.

In all the higher rhabdocœlous Turbellaria the female generative apparatus becomes complicated by the differentiation of a special gland, the *vitellarium*, in which an accessory vitelline substance is formed. There is a single or double *germarium*, having nearly the same structure as in *Macrostomum*, and the ova are formed in it in the same way, except that when detached they contain no vitelline granules; but the two vitellaria, which are long and simple or branched tubes, open into the oviduct, and the vitelline matter which they secrete envelopes the proper ovum, and becomes more or less fused with it, as it passes into the uterine continuation of he oviduct connected with the outer, or vaginal, end of the uterus. There is usually a spermatheca, or receptacle for the seminal fluid, and the eggs, after impregnation, are enclosed within a hard shell. The testes and vasa deferentia usually have the form of two long tubes. The penis is often eversible and covered with spines.

The water-vascular system consists of lateral trunks, which open by a terminal pore, or by many pores, and give off numerous ramifications. They are not contractile, but their inner surface is ciliated.

Many of the Rhabdocœla multiply by transverse fission; and, in the genus *Catenula*, the incompletely separated animals produced in this way swim about in long chains.

The vitellus of the impregnated ovum undergoes complete yelk-division, and the embryos pass directly into the form of the parent; but the precise nature of the steps of the developmental process require further investigation. However, there seems little reason to doubt that the ectoderm and endoderm are formed by delamination.

In the remaining Aprocta, termed *Dendrocœla*, the digestive cavity gives off many cæcal, frequently branched, processes into the mesoderm, one of which is always median and anterior; and the mouth is always provided with a proboscis. Some (*Procotyla*) have a frontal proboscis, and others (*Bdellura*) a posterior sucker. The animals commonly known as *Planariæ* constitute this division. Some are marine, some fresh-water, and some terrestrial.

In the fresh-water forms, the female reproductive apparatus has a distinct vitellarium, as in the higher Rhabdocœla, and there is only one common genital aperture. But, in the marine Planariæ, there is no vitellarium; the ovaries and testes are numerous, and scattered through the mesoderm, being connected with the exterior by ramifications of the oviducts and of the vasa deferentia. A ramified gland, which secretes a viscid albumen or envelope for the eggs, opens into the vagina, and the female is distinct from the male aperture.

In some of the Planariæ there are distinct water-vascular canals of the ordinary kind; but in the land Planarians(b) two nearly simple canals, occupied by a spongy tissue, and the connexion of which with the exterior has not been observed, occupy the place of the water vessels.

The fresh-water Planariæ, like the Rhabdocœla, undergo no metamorphosis in the course of their development; and the like is true of some of the marine Dendrocœla. Keferstein(c) has carefully worked out the development of *Leptoplana tremellaris* (*Polycelis lævigata*). The vitellus undergoes division first into two and then into four equal blastomeres; next, from one surface of these four blastomeres, four small segments are, as it were, pinched off. These divide rapidly, and form a blastoderm, which grows over the more slowly dividing large segments, and eventually encloses them. So far, the process is very similar to that which has been described in the Ctenophora. But though Keferstein describes and figures the various stages by which the globular ciliated embryo attains the form of the adult, neither his description nor the figures enable one to say whether the alimentary cavity arises by delamination or by invagination, nor to trace the mode of origination of the buccal proboscis, though this organ is one of the first to make its appearance, and its aperture becomes the future mouth.

In some of the marine Planariæ, however, the embryo, when it leaves the egg, differs very widely from the adult. Johannes Müller described such a larva, in which the body is provided with eight lobes or processes, one ventral and median in front of the mouth, three lateral, and one dorso-median. The edges of these processes are fringed by a continuous series of cilia, which pass from one process on to another, so as to form a complete circlet round the body. The successive working of the cilia forming this lobed transverse girdle of the body produces the appearance of a rotating wheel, as in the *Rotifera*. The eyes are situated on the aboral face of the embryo, in front of the ciliated circlet, while the mouth opens immediately behind it. As development proceeds, the lobes disappear, and the body takes on the ordinary Planarian character.

As will be seen, some Proctucha have larvæ similarly provided with a præ-oral ciliated zone; and larvæ of the same fundamental type abound among the polychætous Annelida, the Echinodermata, and the Mollusca.

The lowest *Proctucha*, such as *Microstomum*, have no frontal proboscis (whence they are termed *Arhynchia*), and they differ very little from the lowest Rhabdocœla, save in the fact that there is an anus, and that the sexes are distinct. But all the other Proctucha (*Rhynchocœla*) are provided with a frontal proboscis, which sometimes occupies the greater part of the length of the body. It has special retractor muscles, and its internal surface is either merely papillose, or may possess a peculiar armature. There is no buccal proboscis, but the mouth leads into a long straight intestine with short lateral cæcal dilatations.(d)

The Proctucha usually present only the pseudhæmal vessels, though, as has been mentioned above, Schulze found water vessels co-existing with them in *Tetrastemma*.

The nervous system of the Proctucha is like that of the Aprocta; but, in correspondence with the often extreme elongation of the body, the backwardly-prolonged cords are very stout. Moreover, the ganglia are united by an additional commissure, which passes over the proboscis, and thus traverses a nervous ring. In some, the lateral cords approach one another on the ventral aspect of the body, and ganglionic enlargements appear where the nerves are given off, thus presenting an approximation to the double ganglionated chain of higher forms.

In addition to eyes, almost all the Proctucha possess two ciliated fossæ—one on each side of the head,—which receive nerves from the ganglia.

The reproductive organs are lodged in the intervals between the saccular dilatations of the intestine, and the ova and spermatozoa make their way out by the dehiscence of the integument. In most of the Proctucha, the egg, after passing through the morula stage, acquires an alimentary cavity by delamination (apparently), and passes without metamorphosis into the form of the adult.

Professor A. Agassiz(e) has described a free-swimming larva, the broad anterior end of the body of which is surrounded by a zone of cilia, immediately behind which the mouth opens, while around the anal aperture at the narrow posterior end is a second circlet. This larva exactly resembles those forms of polychætous annelid larvæ which are called Telotrocha. As in these annelids, the region of the body which lies between the two ciliated rings elongates and becomes segmented, while a pair of eyes and two short tentacles are developed on the head in front of the præ-oral ciliated band. But as development advances the segmentation becomes obliterated, the ciliated bands and the feelers vanish, and the worm assumes the character of the Nemertid genus *Nareda*.(f)

(b) Mosely, "On the Anatomy and Histology of the Land Planarians of Ceylon,"—*Philosophical Transactions*, 1873.

(c) "Beiträge zur Anatomie und Entwickelungs-geschichte einiger See Planarien." 1868.

(d) For the organisation of the Rhynchocœle Turbellaria, or Nemerteans, see Dr. C. McIntosh's elaborate monograph lately published by the Ray Society.

(e) "On the Young Stages of a few Annelids."—*Annals of the Lyceum of New York*, 1864.

(f) It is very probable, however, that this larva described by A. Agassiz belongs to *Polygordius*. *See* Schneider "Ueber Bau und Entwickelung von Polygordius," *Archiv. für Anat. und Physiologie*.

In species of the genus *Lineus*, the embryo which leaves the egg is shaped like a helmet with ear-lappets, with a tuft of cilia in place of a plume. The lappets are fringed with long cilia, and between them, where the head would fit into a helmet, is the aperture of the mouth, which leads into a cæcal pouch-like alimentary cavity. This larva was termed by Müller, who discovered it, *Pilidium gyrans*. On each side of the ventral face of the Pilidium, aggregations of cells, probably forming part of the mesoblast, appear, and eventually enclose the alimentary canal of the Pilidium, giving rise to an elongated vermiform body, in which the characteristic features of a Nemertid soon become discernible. The worm thus developed becomes detached and falls to the bottom, carrying with it the alimentary canal of the Pilidium, and leaving the ciliated integument to perish.

In this remarkable process of development the formation of the Nemertid body may be compared, on the one hand to that of the segmented mesoblast in Annelida and Arthropoda, and, on the other, to that of the Echinoderm within its larva.

The Turbellaria, in fact, form a sort of central assemblage, around which all the lower Metazoa, except the Cœlenterata and Sponges, group themselves. Thus the Trematoda may be said to be parasitic aproctous Turbellaria, while the Rotifera and Nematoidea are very nearly allied groups of about the same grade. The Annelids (Hirudinea, Oligochœta, Polychœta) are Turbellaria rendered polymerous by the segmentation of the mesoblast. The Gephyrea are closely related to Annelids, Rotifers, and Turbellaria; and the development of the Enteropneusta, the Echinodermata, the Polyzoa, the Brachiopoda, and the Mollusca, shows that they are all derivatives of the same fundamental type.

(*To be continued.*)

THE LUMLEIAN LECTURES: ON LIFE AND ON VITAL ACTION IN HEALTH AND DISEASE.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS, LONDON.

By LIONEL S. BEALE, M.B., F.R.S.,
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LECTURE II.

(*Concluded from page* 574.)

THE CONSTRUCTION OF THE BODY BY BIOPLASM.

All development of structure, all the structural peculiarities of living beings, are due to changes which have taken place in bioplasm; all those characters upon which we depend for distinguishing one living form from another, are the result of changes occurring in bioplasm, changes which took place long before any differential characteristics had manifested themselves. In the formation of every tissue, in the construction of every organ, and of every form of mechanism existing in a living being, bioplasm is the sole essential and active agent. And if, as I have endeavoured to show, the ordinary phenomena, characteristic of all living matter, cannot be adequately explained except by the operation of an agency of an order or kind distinct from, and without direct dependence upon, or causal connexion with any mode of physical force yet discovered, how is it likely that the yet more remarkable results of formative or constructive power should be accounted for, unless we admit the operation of such peculiar agency? Whether we examine the marvellous details of the most minute structures entering into the formation of the tissues, or study their chemical composition, whether we take note of the simplicity of the conditions under which they are produced, or consider their wonderful, and in many instances inexplicable properties, we shall be forced to conclude that no ordinary physical actions will, alone, account for the result. The more minutely the details are investigated, the more firmly, I feel sure, will the conviction become established, that the agency by which each one of a long series of successive, but not necessarily consequential changes cannot possibly be of the nature of ordinary force, seeing that no forces known, except those operating in living matter, have been found competent to effect special structural arrangements. But the case is still stronger than I have stated it, for many of the special arrangements in living animals, wonderful and elaborate as they are, serve only a temporary purpose. While these are in active function, more permanent, and perhaps still more highly endowed organs are slowly undergoing formation.

Every attempt to explain the formation of any definite organ by what is called evolution and the operation of physical causation, independently of intelligence and of guiding governing power, has signally failed. Even with the aid of that wonderful "nature" with a capacity for differentiating herself, which the evolutionists have been obliged to call to their aid, we get only a very confused and inadequate notion of the formation of any single tissue of any one organ—the eye, for example. Let it be fully explained, in full detail, according to evolutional law, how the formation, not of the eye as a whole, but of one only of the tissues of the eye is carried out. Such an explanation would have far more weight than the assurance that the eye may be compared with a telescope, or that it exhibits an indelible stamp of its lowly origin. By vague suggestions of this sort, nothing whatever is proved, or even rendered probable. An interpretation of facts is authoritatively given, favourable to certain preconceived views, and that is all. Other interpretations might be given, but for the time all others are excluded, by authority which rules as if it were infallible.

No one has yet been able to account for the arrangement even of the nerve fibres of a nerve plexus of the eye or of any other organ. The little papillæ of the frog's tongue are, as I have remarked, organs admirably adapted for investigation, and I wonder that these have not been selected to illustrate the theory of evolution. They can be easily obtained for study, and are far less complex, and more easy of investigation, at every stage of development, than the eye.(a) A discussion concerning their formation, and the laws by which it is governed, would be extremely interesting. It is not very likely that evolutionists will accept this or any other challenge for the purpose of testing the application of their doctrine to the details of anatomical structure. They prefer generalities; and as long as they are able to make people believe that their doctrines are true, and that their prophesies will be verified, they are wise. If they are encouraged to persist in calling attention to general characters, to the exclusion of details, and to select out of nature's storehouse just those facts which support their own theories, taking no account whatever of facts which cannot be explained by them, they will be able to hold their own; but whenever they are forced to go into detail, and study the minutiæ of the development of an individual organ, the difficulty of the application of the doctrine will be apparent enough to everyone, and the farther the investigation is pushed, the more will the difficulties to be surmounted by the evolutionists increase, as regards degree and number.

Let me now consider, but only in the merest outline, the changes which occur when bioplasm, manifesting its wonderful developmental powers, at last gives rise to the formation of tissue.

The earliest state of matter, in every kind of development, is that of bioplasm, which was derived from pre-existing bioplasm. The masses of living matter absorb nutriment, and the whole increases in bulk. So far, the only indication of formed material is afforded by the presence of a little soft, transparent, mucus-like matter without any indications of any definite structure. This material is formed, and accumulates around each mass of bioplasm. During the development of tissue, bioplasm masses, embedded in their soft matter, continue to divide and subdivide. As development advances, there may be discerned, amongst the bioplasts here and there, one which undergoes more active change than the rest. This, in fact, becomes a new centre, from which growth proceeds, while the neighbouring bioplasts remain passive for a time, and some gradually waste. Soon, by division and subdivision, a collection, composed of a new series of bioplasts, results. Many such collections are formed, being separated from one another by the altered bioplasm particles of the previous generation, and their imperfectly developed formed material. Thus result the first indications of the different structures and organs which appear in the embryo of man and the higher animals at a very early period of development. The process above indicated is repeated many times, probably ere the first traces of actual structure with capacity to act are to be detected. Nay, the tissue which is at last formed, and which acts, exhibits structure, but this first tissue only serves a temporary purpose, and differs in its characters from the

(a) "Protoplasm," third edition, p. 341.

permanent texture, which is at length formed. Thus the first muscular tissue, for example, which is produced in the mammalian embryo, only lasts but for a short time, and it is entirely replaced by a form of contractile tissue which differs materially from it in structural arrangement and in mode of growth. The formation of cartilage, bone, nerve tissue, glandular and other organs, illustrates the same fact.

But formed material—whether its structural character be simple or complex, its function be low or exalted, and exerted only temporarily or throughout life—results from changes in bioplasm. I propose, therefore, now to consider the actual change from bioplasm to formed matter, and then I shall advert to the powers and properties of the particles of the bioplasm which succeed one another, series after series, or generation after generation, as long as the development of tissue continues.

The production of formed material may be studied in the early development of any of the tissues, and, in many of them, at any period of life. Epithelium, muscle, nerve, certain forms of fibrous tissue, are being produced from bioplasm at every period of life, and changes of the same order as those by which the first formation of tissue is provided for may be observed. In all cases the newest formed material is that which is nearest to the living matter. This formed material is pushed out, and a more recent formation occupies the space between it and the bioplasm. Gradually the formed material loses water, becomes firmer, and slowly undergoes other alterations, until it assumes its characteristic form and begins to fulfil its proper function. In some cases, as I have already remarked, the bioplasm actually moves onwards, leaving the formed material, which it has produced, behind it. I have described this phenomenon as it occurs in certain forms of yellow elastic tissue and muscle, in which tissues the thickening of the fibre can be clearly seen to be due to the formation of new material by the bioplasm as it moves over the surface of the fibre already formed. The new matter is soft and does not at first exhibit the peculiar characteristics of the tissue.

But however long a period may elapse before the formed matter assumes its characteristic peculiarities, and becomes functionally active, its characters, its properties, and its chemical composition mainly depend upon the changes which occurred just at the moment it ceased to be bioplasm. The elements entering into its composition must have been arranged in a definite way, while they were yet bioplasm, so that they were certain to combine in the manner required at the time when they assumed the condition of formed material. If, then, we desire to discover the true cause of the formation of tissue, we must search for it in the bioplasm ere formation occurs. Some of the elements of the living matter combine to produce the formed material, while others combine to form gaseous or solid substances which escape or are carried away dissolved in fluid. That which determines the combination—that which causes the elements to unite so as to produce the definite matter of the tissue is the *cause* of its formation.

According to my idea, which, however, may be considered by some very unphilosophical, there is something operating in each kind of bioplasm, which, in fact, determines the kind, by virtue of which the living matter *must* grow and *must* produce formed material of a certain character, if only it be supplied with pabulum, and be placed under certain conditions. This something is, I believe a power or force which the bioplasm has derived from pre-existing bioplasm—a force or power which has been transmitted onward, perhaps for ages, with or without variation. Conditions may indeed modify the action of this power within certain limits, or may prevent its action altogether, but that the action results from the power, and ought not to be attributed to the conditions, is obvious from the fact that one form of bioplasm exposed to the conditions favourable to the developmental phenomena belonging to another kind will not be so influenced as to exhibit these.

The characters of previous generations are indelibly stamped upon every individual belonging to each generation, and these inherited characters can be transmitted by the bioplasm only. In fact, is not the "nature or constitution of the organism" the nature or constitution of the bioplasm out of which the organism is formed? It may still be asked, whether all generations were potentially included in the first, and whether the germs of all were included one within the other from the first creation, as Liebnitz thought—each being containing the germs of its successors one within the other, which were thrown off one after the other, as envelope might be removed from envelope? Such questions must now be regarded from a point of view different from that from which they have been considered hitherto. The study of the characters and properties of the bioplasm will open out new lines of inquiry, more particularly with reference to the powers by virtue of which all formation takes place.

Those peculiarities of external form, and of external and internal structure and action, in which one species differs from all others, must also be attributed to the vital phenomena of the bioplasm. In like manner the power of origination, and handing down of newly acquired properties and characters, is limited to bioplasm. Bioplasm is the agent concerned in the transmission of all hereditary structural peculiarities. Nay, this living matter alone can inherit, and whatever it inherits comes from bioplasm. There is nothing in the non-living world, it need scarcely be remarked, that presents any analogy with this marvellous power of inheriting from predecessors definite characters, and transmitting them to those that succeed. All will accept Mr. Darwin's conclusion, that whenever variation occurs, the cause of variation must be attributed to something in the "nature or constitution of the organism,"—or, as I venture to think we may say with still greater accuracy, to something in the nature or constitution of the bioplasm from which the organism is developed. This cause of variation must, as it seems to me, be very closely related to the cause of the formation of tissue by bioplasm, and is in its nature *vital*—not *physical*.

The *vital powers* to which the special constructive peculiarities of bioplasm ought to be attributed are, however, not admitted by all. It has been truly remarked that the embryo of the common fowl, for example, will not be formed unless the egg be exposed for a definite period to the influence of a temperature which may vary only within a very limited range. The necessity of this condition has led some to regard the heat as the efficient cause of development, and it has even been maintained that the physical *heat* undergoes conversion into the non-physical *life*. The matter in the peculiar living state out of which the embryo was formed has been regarded as ordinary matter, which, possessing only ordinary material properties, underwent, as the saying is, certain peculiar "differentiations," or which "differentiated itself" into the tissues, and organs, and actions constituting the chicken. No such conclusion as to the forming or creating powers of any external physical agencies is, however, in the present state of knowledge to be justified.

The early changes in development require a considerable *time* for their completion, but the laws by which varying rates of growth in different living forms are governed or determined have not been discovered. Although wonderfully little pabulum is taken up, and but a small quantity of matter undergoes change, phenomena of paramount importance proceed, and time is very necessary for the completion of these early changes in all organisms, and especially, of course, in those that are complex. In vegetable organisms the time that must elapse between the completion of the formation of the seed and its germination varies very much, as also the periods of time during which the seeds of different plants will retain their vitality; and this must depend upon inherent properties of the bioplasm. So also with respect to the periodical rests from growth, the greatest individual differences are noticed. Inherent vital peculiarities also manifest themselves in cases in which a moderate rise of temperature is far more damaging to the vital phenomena of the normal bioplasm than a corresponding fall. If the average temperature be a little above or below that which is adapted for the growth and development of certain creatures, the organism soon begins to suffer, and many tissues, although they may be formed, never attain the most perfect construction possible, or their highest functional activity, and probably they begin to deteriorate long before those of corresponding organisms which are developed under the particular conditions suited to their special vital phenomena. But is there not something very remarkable in the fact of the existence of powers or properties in the several kinds of bioplasm, by virtue of which each seems to grow and flourish only within its own particular range of temperature? A fall of a few degrees in the average temperature will insure the destruction of some organisms; a slight rise, maintained for a time, that of others. We cannot even lay it down as a law that a low temperature is necessarily destructive of vital action, for there are organisms which flourish at or below the freezing point of water. In short, the various forms of bioplasm have their individual peculiarities and characteristics, which they inherit, and may transmit, and which are not to be accounted

for by physics, and which seem in truth to belong to their constitution. Conditions which are life to some forms of bioplasm are death to others. We may speculate as to the origin of these individual peculiarities which characterise the different forms of living beings, but we cannot at present expect to determine how they have arisen, or whence they have been derived in the first instance.

Some are content to be assured and have faith enough to believe that peculiarities from time to time originate, and that their fortunate possessors gain thereby great advantage, so that they are enabled to overcome their less fortunate brethren, and even to utterly exterminate them. A never-ending scramble for mastery seems to be regarded by philosophical naturalists as an essential factor in the origin of species. Success in the perpetual life-struggle falls to the lot of the strongest, or the most cunning, or to those blessed with some other fighting or outlasting quality, the origin of which is to be traced, it is said, to some slight deviation from the ordinary upon the part of one of a vast number of organisms of the same kind, which gives to that one the advantage of an offspring certain to survive the offspring of the less fortunate multitude. Being the fittest to live, the few soon predominate. Bioplasm with the newly acquired properties transmits the peculiarities to that which descends, until bioplasm capable of producing an organism still more fit somehow results. The organisms derived from this then prevail, and enjoy the advantage of living and continuing the race. So the experiment is supposed to proceed. Whether or not new constructive power is thus acquired by bioplasm, the existence of wonderful powers in relation with the bioplasm, is proved by the fact of the formation of tissues in the new organism having the individual characteristics of those of its progenitor, at a time long after the bioplasm mass was produced and detached from the organism that formed it.

ORIGINAL COMMUNICATIONS.

ON OBSTRUCTIONS OF THE LACHRYMAL SAC AND NASAL DUCT.(a)

By W. SPENCER WATSON, F.R.C.S.,
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A CONSIDERABLE number of cases of obstruction of the lachrymal sac and nasal duct are due to temporary causes, mere congestion or œdema of the mucous lining being the most common, but plugging with inspissated mucus being also an occasional cause of the obstruction. Such cases may often be relieved by the simplest possible treatment, or get well spontaneously; but if they have remained unrelieved or neglected they may pass into the condition of permanent obstructions, and these will almost always require treatment by the use of instruments.

Permanent obstructions occur under a variety of circumstances—as, for instance, in congenital absence of the nasal duct, which is said to have occurred in a case recorded in Forbes' "Reviews" (xii., 641), and in which M. Berard succeeded in making a communication with the nose direct through the lachrymal bone; or in the cases of bony deposit, whether from chronic periostitis, exostosis, or as the result of injury, as in the case recently brought before the Society, in which an injury to the face had distorted the nasal bones and obstructed the passage of tears. It is better under these circumstances to abandon all attempts at restoring the natural channel, and to force a passage through the inner wall of the lachrymal sac and the os unguis. This has been effected with very excellent results. Some difficulty is experienced in such cases in keeping the new aperture patulous, but the daily passing of a probe, or the use of a soft silver or leaden style for some weeks will generally succeed. The permanent strictures, whether of the sac or nasal duct, most commonly met with are the results of the acute inflammatory attacks, known as lachrymal abscesses. The lining membrane of the sac and duct become thickened in the course perhaps of chronic catarrh, or by an acute congestion, the flow of tears is at once delayed, mucus accumulates, and the channel is completely obstructed. Inflammation of the sac follows, an abscess forms and bursts on the cheek. Henceforth there is a permanent stricture, and probably a fistulous opening on the cheek besides. Treatment in the very early stage of threatening abscess may sometimes arrest its progress; but the best prospect of success is derived from treatment of the precedent catarrh. Though, however, stricture of the lower part of the sac at its junction with the nasal duct is thus the result of abscess, it is probably in many cases its exciting cause, the retention of secretions within the sac due to an obstruction being sufficient to excite acute inflammatory action.

I have spoken before of the benefit sometimes obtainable by the use of injections into the sac when combined with constitutional treatment in simple temporary obstructions; but if simple treatment is not speedily followed by relief, it is always better to resort to the use of the probe, and as a preliminary to slit open the lower canaliculus. It is obvious that the longer the obstruction remains unrelieved the greater will be the danger of irritation of the sac from retained secretions, and the greater the risk of lachrymal abscess with all its attendant evils and subsequent ill effects; while the sooner the lower canaliculus is laid open, even though it may not be necessary to use probes to the duct, the greater will be the facility in emptying the sac by pressure with the finger, and of applying astringent or stimulant lotions to its lining membrane by means of the syringe. A further means of checking the tendency to abscess is counter-irritation by the use of tincture of iodine applied by means of a camel's-hair pencil over the skin between the nose and the inner canthus, care being taken that the tincture does not run into the eye itself.

Obstructions in the nasal duct may be caused by inflammatory thickening in the course of catarrhal, strumous, or syphilitic affections of the Schneiderian membrane, and may be seated (1) at the junction of the sac and upper extremity of the duct, (2) in the middle of the duct, or (3) at its lower extremity. The usual effects of obstruction—*e.g.*, overflow of tears and mucus, and subsequent formation of mucocele—will ultimately present themselves, and clinically the features will be the same as those of chronic dacryocystitis. But obviously treatment directed to the lachrymal sac alone will fail to remove the causes of the mischief. Before the formation of a distinct mucocele it may be possible to check the progress of the disorder by the application of stimulant vapours to the nostrils. The use of a mixture of carbolic acid, spirits of wine, and ammonia, by way of inhalation, sometimes succeeds in relieving the congested state of the Schneiderian membrane, exciting a more fluid secretion, and thus removing the obstruction. Stimulant powders, such as scented snuffs, will answer the same purpose when employed in the very early stages of the disorder.

In the event of our failure in the treatment by these simple measures, we must proceed to the use of the probe. I do not restrict myself to the use of any special form of probe for these cases. In a case of simple obstruction, after laying open the lower canaliculus, I employ at first the full-sized Bowman's probes, using, however, a smaller one if that first used fails to pass, or is held tightly within the stricture. It is a good rule to use the large probe first in all cases, there being much less risk of tearing the mucous membrane with the large than with the smaller instruments. A probe with a bulbous end is still safer in this respect. Having passed the probe, it should be left in for ten minutes or a quarter of an hour, in order that it may excite by pressure some amount of increased action in the part. It will be well to ascertain after passing it whether we have placed it in the right position. If it is lying in the lachrymal sac and nasal duct, it will be found that its free end is resting against the upper margin of the orbit, in a line which passes through the centre of the tendo oculi, and cuts the interval between the second incisor (upper) and its corresponding canine tooth below, and the inner extremity of the eyebrow above. This line nearly corresponds to the line of the superficial furrow between the ala of the nose and the cheek. The upper end of the probe should be directed obliquely forwards as well as inwards. Having passed the full-sized probe several times, there is generally a marked improvement in the symptoms; but if not, injection of the sac with some astringent collyrium should be combined with the dilatation with probes; and in this way a cure may almost always be effected in a very short period. But every now and then very obstinate cases are met with—generally old neglected instances of lachrymal abscess, with fistulous opening on the cheek, in which the lining membrane and the bones themselves have become thickened by chronic inflammation. The mucous membrane in these cases is sometimes as stiff and hard as cartilage;

(a) Read before the Medical Society of London.

and even though a good-sized probe may be passed, the constriction remains, and the epiphora constantly returns.

In these cases I employ Stilling's method, and have been very well satisfied with the results. In order to perform this operation effectually, the patient, unless of very heroic temperament, should be put under the influence of chloroform. The canaliculus having been previously laid open, a probe is passed into the sac, in order to ascertain the seat and nature of the stricture. Stilling's knife being then passed at first horizontally, its point is turned downwards, the cutting edge held forwards, and then carried vertically downwards until it meets with the stricture. This is divided by turning the cutting edge against it in three or four different directions; next a full-sized conical probe is passed, with the intention of freely dilating the newly divided edges; and lastly a silver style introduced, and left in for a week or ten days, or until the discharge assumes a simply serous character. After the removal of the style it will be necessary to pass a probe about once or twice a week for several months, as there is a great tendency to the return of such strictures if neglected. It is important, in the treatment of such cases, to ascertain that the obstruction to the flow of tears into the nose is not due to acute periostitis, nor to the presence of necrosed bone. These conditions would be indicated by inflammatory redness, pain, and exquisite tenderness over the bones and cartilages of the nose, and of course the operation described would be entirely unsuitable, or even mischievous, when such a set of symptoms present themselves. Various instruments have been devised for division of strictures of the nasal duct; among others the guarded canula-lancet (Bowman's) may be occasionally useful: but, in the majority of cases, the operation can be better performed with the aid of Stilling's knife than with that of any other cutting instrument.

The soft virgin silver is the most suitable material for a style, and it should be made with a narrower portion at its upper end, which can be turned over the edge of the eyelid, and so retained in position. For hospital use the pure leaden style used by Mr. Green, of Philadelphia, answers extremely well. It is a good plan to use a rather thin style at first, and in a week to replace it by a larger one, until at the end of three or four weeks one of the size of a crow-quill may be introduced.

In very obstinate cases, or in neglected cases that have been of many years' duration, the larger the diameter of the style employed, the better the chance of a permanent cure.

In the case of threatening lachrymal abscess from any cause, probing is entirely out of the question; and if there be any periosteal tenderness, or any indication of bone mischief, the passing of probes can only be attended with increased destruction of tissue, and, even if succeeding necrosis be not really due to the probing, the patient, after having suffered the pain occasioned by it, will not fail to attribute his disasters to the manipulative interference of the surgeon.

These remarks do not apply to probing of the edges of the divided canaliculus, or of the edges of the divided walls of the sac, in cases of abscess, but only to the use of the probe in the way of dilating the obstructed channel into the nose. Syphilitic ulceration of the nasal cavities not uncommonly leads to abscess of the lachrymal sac and necrosis of the bones surrounding it. In these cases, above all others, probing of the nasal duct is to be avoided; and, on the other hand, an early opening of the abscess is most beneficial. Where an abscess has formed, there will be no difficulty in deciding as to the course to be followed; but it happens now and then that in the early stage the obstruction to the flow of tears is the most prominent early symptom, and it is in these cases that probing is likely to be used inadvertently. The diagnosis of a syphilitic taint will depend upon the usual signs, and especially upon the presence of ozæna or ulceration, with an offensive discharge from the nostrils. The history of the case will often assist us in arriving at a correct conclusion. Under circumstances indicating periosteal mischief—such as tenderness of the nasal bones, with nocturnal headache of a neuralgic kind,—leeches applied to the inside of the nares, and cold in the form of ice-bags externally, will give the best chance of arresting the disorder, if at the same time free doses of iodide of potassium are given internally, with opiates at night.

Illustrative Cases (in Abstract).

Case 1.—A seaman, aged thirty-five years, had suffered for two years with lachrymal abscess. The lower canaliculus having been laid open, a bony obstruction was discovered in the nasal duct. A large conical probe was passed, and sulphate of zinc injected. On the twenty-fourth day of treatment he was discharged cured.

Case 2.—A woman, aged thirty years, had had a watery eye for three years. The lower canaliculus was slit, Bowman's probes passed, and zinc lotion injected. Subsequently, an obstruction formed at the entrance of the canaliculus into the sac. This was freely divided, and injections used twice a week. The patient was discharged cured in the sixth week.

Case 3.—A horse-slaughterer, aged twenty-four years, was poisoned by the discharge from a glandered horse. Fourteen weeks afterwards a ragged ulcer had formed on the cheek over the region of the sac, and purulent discharge came through it when pressure was made on the sac. The lower canaliculus was divided, and a small Bowman's probe passed. Nitrico-oxide of mercury ointment was applied to the ulcer on the cheek. Probes of gradually increasing size were passed every other day for a month, and the patient returned home to Wales at the end of a month, with the sore nearly healed. At the end of three months the sore had healed, with the exception of a very small fistulous opening, through which a tear occasionally exuded.

Case 4.—A man, aged thirty years, with constitutional syphilis, had watery eye associated with tenderness of the nasal bones and nocturnal headache. The surgeon who first saw him laid open the canaliculus, passed a series of probes, and subsequently introduced a soft leaden style, with the effect of relieving all the symptoms; but an offensive discharge from the nostrils came on, and in a few weeks an abscess formed above the upper incisor teeth. This was found to communicate with a large sequestrum, traceable to the region of the nasal duct, and probably due to the irritation of probing in a bone affected with syphilitic osteitis.

Case 5.—A woman, about thirty-five years of age, had lachrymal abscess and fistula, associated with tertiary syphilitic ulcers within the nostrils. Portions of carious bone escaped from the region of the nasal duct, and, the obstructive disease being removed, the abscess of the sac subsided, and the fistula closed without the use of probes.

DUPLAY'S OPERATIVE METHOD FOR THE TREATMENT OF PERINEO-SCROTAL HYPOSPADIASIS.

ABSTRACTED AND TRANSLATED FROM M. DUPLAY'S ORIGINAL MEMOIR.(a)

By A. LUTAUD, M.D.,
Assistant-Physician to the French Hospital.

The question of the treatment of hypospadiasis has been lately raised in England by Mr. John Wood, who exhibited to the Medico-Chirurgical Society two cases upon which he had successfully operated. His method has been described in the *Medical Times and Gazette* (January 30, 1875), with an account of the different proceedings employed by the surgeons who had, before Mr. Wood, attempted to remedy, or at least to ameliorate, the malformation. This account is a very accurate one so far as it goes, but it seems to be somewhat incomplete. We do not find in it any mention of a paper lately published in the *Archives Générales de Médecine*, in which M. Duplay, of Paris, proposes a new method for the treatment of the most advanced degree of the deformity (perineo-scrotal hypospadiasis). This method has been successfully employed in several cases, and contributes, we have no doubt, greatly to the progress of the autoplastic treatment of hypospadic fissures, which are far from being uncommon.

The following abstract, taken from M. Duplay's work, will furnish the English profession with a complete description of the operation as performed by the eminent French surgeon:—

1.—*Some Anatomical and Physiological Considerations on Perineo-Scrotal Hypospadiasis.*

M. Bouisson(b) has admitted four varieties of hypospadiasis, which he describes under the names of *balanic*, *penian*, *scrotal*, and *perineal*. The first two varieties cannot be mistaken; everyone will easily understand that in the balanic hypos-

(a) "De l'Hypospadias Périnéo-Scrotal et de son Traitement Chirurgical." Par le Dr. Simon Duplay, Professeur Agrégé à la Faculté de Médecine de Paris, Chirurgien de l'Hôpital St. Antoine. Paris, 1874; chez Asselin.

(b) "De l'Hypospadias et de son Traitement Chirurgical: Tribut à la Chirurgie," t. ii., p. 287. Paris, 1861.

spadiasis the opening of the urethra is at the inferior part of the glans, and that in the penian hypospadiasis this opening is situated at the under surface of the penis. But the division into *scrotal* and *perineal* is not equally good, and may give rise to some misinterpretation. It may be supposed that the term scrotal should be applied when the abnormal opening is on the scrotum between the root of the penis and the perineum, and that the term perineal is to be employed when this opening is situated on the perineum itself. But such is not the case in M. Bouisson's division. This surgeon describes under the name of *scrotal hypospadiasis* all the cases in which the urethral orifice is situated at the root of the penis, and under the name of *perineal* the cases in which this orifice is situated behind that point; he meant by this arbitrary division to show the limits of the application of the surgical art to the treatment of the malformation. In fact, M. Bouisson believed that perineal hypospadiasis was beyond the powers of restorative surgery.

Before commencing the description of the deformity and its treatment, a more exact and precise definition of it will be found useful. The term of *peno-scrotal* hypospadiasis shall be then proposed to designate the cases in which the urethral orifice is situated at the union of the penis with the scrotum; the term *perineo-scrotal* being reserved for those in which the abnormal opening is placed at the union of the scrotum with the perineum.

The perineo-scrotal hypospadiasis, which constitutes the most advanced degree of the malformation, has been also called *vulviform* by Dugès; and, indeed, the opening of the urethra in the middle of the scrotum has to a certain amount the external appearance of the vulva. It often exists simultaneously with some complex state of the genito-urinary organs, and its history is then confounded with that of hermaphrodism. In many cases the testicles, arrested in their development, are both atropied, or, not having accomplished their usual migration, are still in the inguinal canal or in the abdomen.

Fig. 1.

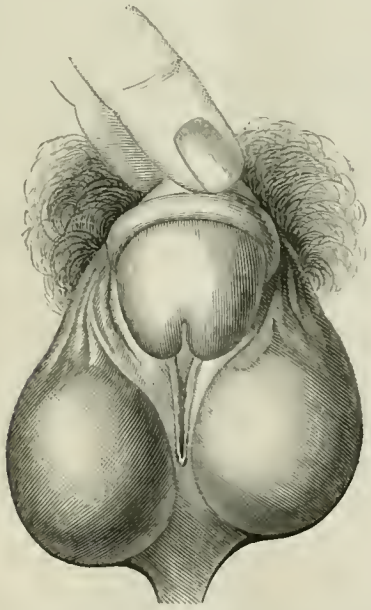

Fig. 1.—Perineo-scrotal hypospadiasis; man twenty-one years old.

In order to see the abnormal opening of the urethra it is necessary to take up the penis, which is usually found at the bottom of a little infundibulum, which is covered with a sort of thin mucous membrane. (Fig. 1.) The glans is held down by a band of integument of variable length, which affords an unsurmountable obstacle to erection and copulation. The dorsal surface of the penis, seen in a state of flaccidity, is much shortened, and sometimes does not exist at all. This state must be attributed to the absence of the urethra and to the existence of the above-mentioned band.

The functional derangements caused by perineo-scrotal hypospadiasis are considerable. The defective emission of the urine, which is the result of the abnormal opening of the urethra, is one of the greatest incouveniences connected with the deformity. The membranous and hulbous portions of the urethra being well developed, the urine is ejected with force, but in an improper direction. The patients are then obliged, to prevent the fluid being dropped in their dresses, to eject their urine in a crouching posture.

The special disposition of the penis during erection, which renders the generative functions quite impracticable, has been studied and pointed out by M. Bouisson. The organ, instead of taking a straight and erected direction, is doubled and bent in such a manner as to put the glans between the two pouches of the scrotum. This arching of the penis is really considerable; there is not only a simple incurvation, but an angular direction, and the glans is to be found backward and downward.

This unnatural direction is not only due to the cutaneo-mucous band which has been mentioned. A more complete examination is necessary to ascertain the cause of the incurvation, and this will be explained by the presence at the under surface of the corpora cavernosa of another fibrous band which represents the absent part of the urethra. Besides, the corpora cavernosa themselves participate to a certain amount in the malformation. The anatomical demonstration of this fact has been already given by T. L. Petit.(c) Having had the opportunity of dissecting the generative organs of an hypospade, the surgeon insufflated the corpora cavernosa in order to produce the curvation of the penis; then, making a section of the cutaneo-mucous band, he was quite astonished at seeing the persistence of the arching of the penis. This arching could only be prevented by making several sections on the corpora cavernosa, and then cutting the deep ligamentous cord which existed at the inferior surface of the organ.

It is very easy now to understand the painful situation of the patients affected with perineo-scrotal hypospadiasis. Besides the annoyance connected with the emissions of urine, they suffer mentally and physically from the impossibility of accomplishing the generative functions. The erections are frequent and painful, but coition is simply impossible.

2.—*Examination of some Operations practised for the Cure of Hypospadiasis.*

To give the penis its normal direction constitutes evidently the first surgical indication, and this is done easily by incising the fibrous band which represents the absent urethra. But the worst effect of the deformity, and the chief one to remove, is not the arching of the penis, but the inconveniences connected with the absence of the urethra. All the surgical attempts are then to be directed to the creation of a new canal from the hypospadic opening to the glans.

Some of the proceedings proposed are not at all applicable to perineo-scrotal hypospadiasis. Among them, Dupuytren and Maisonneuve's method, which consists in creating a new channel in the very substance of the penis by means of a trocar or cautery, is only to be quoted.

In a case in which the hypospadic opening was situated at the union of the penis with the scrotum (peno-scrotal hypospadiasis), M. Bouisson has employed the following method:—After making two longitudinal incisions on the under surface of the penis, he dissected a long band of skin from the anterior part of the scrotum, and brought the flap forwards, so that its margins corresponded with the above-mentioned incisions. The flap was cut about twice the length of the penis, in order to be reflected on itself and cover its own raw surface. The edges of the flaps were stitched to the corresponding incisions on the penis by means of sutures. M. Bouisson's operation, practised on a man twenty-five years old, met with a complete failure on account of the total gangrene of the flap.

M. Moutet(d) has employed a different method. In a case of penian hypospadiasis in which the opening of the urethra was situated at the inferior surface of the penis, this surgeon took a flap from the scrotum and another from the pubis. The first was fixed at the under surface of the penis, in order to constitute the floor of the new urethra; the second was employed for covering the raw surface of the first. The gangrene of the flap taken from the pubis rendered the operation unsuccessful.

The only thing to be objected to in MM. Bonisson and Moutet's method is the choice of the flaps, which, being taken from a region of little vascularity like the scrotum, offered very small chance of success. Besides, these two methods are

(c) "Œuvres Completes," édit. 1837, p. 717.
(d) "De l'Uréthroplastie dans l'Hypospadias Scrotal,"—*Montpellier Medical*, Mai, 1870.

not applicable to the perineo-scrotal hypospadiasis, in which the urethral opening is at the inferior and posterior surface of the scrotum.

M. Theophile Anger lately presented to the Société de Chirurgie a young man cured of peno-scrotal hypospadiasis by the following autoplastic method:—Taking the flaps from the penis itself, M. Anger (the penis being held up) dissected a portion of the skin of the left side of the under surface of the penis, which, being turned back and applied to the raphe, formed the anterior part of the new channel. Then, taking another flap from the right side, he covered the raw surface of the first flap, and thus formed the anterior part of the urethra. M. Angers' method, which was employed some years before by Thiersch(e) in a case of epispadiasis, is somewhat incomplete, as it does not include the formation of a urinary meatus in the very substance of the glans. The creation of an artificial meatus, which is simple and easy, constitutes an important part of the treatment.

(To be continued.)

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

LONDON HOSPITAL.

CASES OF PARTIAL CONVULSION FROM ORGANIC BRAIN DISEASE, BEARING ON THE EXPERIMENTS OF HITZIG AND FERRIER.

(By Dr. HUGHLINGS-JACKSON.)

(Continued from page 579.)

In the first of the following cases I predicted the seat of the disease correctly: but I did this empirically. There were very frequent convulsions limited to one arm, and as I had seen another case (Case 15 in this series) very like it, I predicted tumour of the same region.

Case 17.(a)—*Convulsions nearly always Limited to the Right Arm —Tumour of the Hindermost Part of the Uppermost Frontal Convolution on the Left Side.*

I am indebted to Dr. Kesteven for drawing my attention to this case, and for obtaining Mr. Soutter's permission for me to see the patient. Dr. Kesteven assisted me in examining into the symptoms. I first saw her on November 24, 1872.

History.—On September 21 (nine weeks ago) the patient had a severe fit. She was in her pantry, and when lifting the arm up to a shelf, she felt it suddenly "become contracted," but of the exact mode of its contraction she can tell us nothing. At the same time she felt a dizziness in her eyes and head; she could only see her arm indistinctly. The arm being contracted, she tried to draw it back, for fear she should upset things on the shelf, but at this juncture she felt her sight go, and became unconscious. About three-quarters of an hour later she found herself upstairs in bed. Her tongue was not bitten, and she could use her arm. Next day she got up, but, at Mr. Soutter's desire, she kept upstairs. After about three weeks, she went downstairs, and on that day she had her second fit, as below described.

October 16.—She was sitting at tea; she felt faint; then complained of oppression on the top of the head. It was supposed that her ill-feeling was owing to the gas, therefore the door was opened. The "arm rose again"; "I said it was coming on again." She bid her friends good-bye, thinking she was going to die. Then she became unconscious.

During the night she had many fits. She did not bite her tongue. Remembered nothing more until next evening.

On this evening (that of October 17) she had another fit, but this was limited to the right arm; and of these she has had very many up to the present time (November 24, 1872).

On November 16 she had a third severe fit; but in this she was unconscious for a very short time. She felt the fit go down the leg, after affecting the arm, and then up the middle of the back, feeling as if a tight cord stretched up her back. This was the last severe fit; for a long time afterwards the convulsions were limited to the arm.

On the 19th the slight fits were very frequent. Her husband says that *for one hour and three-quarters the arm was in constant movement.* This is no exaggeration, for Mr. Soutter was present part of the time, and says the movement did not cease for one moment so far as he observed. Mr. Soutter was hurriedly sent for when it was seen that the fit was more continuous than usual; he remained until he saw it cease. Her husband looked at his watch.

Now I come to the first visit (November 24, 1872) I paid her. She had many attacks, limited to the right arm. Dr. Kesteven and I saw several attacks. The patient felt them begin in the shoulder; she put one finger over the deltoid below the shoulder-joint to show exactly where they started. But we saw that the scapula was slightly raised, that the pectorals were in action; the spasm spread down the arm. This kind of March of Spasm I had never seen before. When fits begin in the foot, they often, when the spasm spreads to the arm, go down that limb: this is a very different matter. The spasm spread deliberately down the arm; it could be seen and felt to attack part after part, from the shoulder to the fingers. In each attack the spasm was at first tonic, and later in the paroxysm clonic. The most abnormal position the arm got into was that the shoulder was a little elevated, that the upper arm was displaced from the side, and was held a little backwards; the forearm was slightly flexed, the wrist was partly flexed, and so were the fingers at the metacarpo-phalangeal joints; the thumb was pushed strongly against the palmar surface of the index finger (in one fit the woman said it seemed as if the thumb would push the finger off). It is impossible to give an absolutely faithful account of the position the arm got into. The fit was attended by very great pain. There was no trace of loss of consciousness; the poor woman, who was sitting up, talked during the attack. A little disturbance of the limb would bring on the spasm. When it was on, her husband grasped the limb, and this she thought relieved the pain.

The arm was absolutely paralysed during the intervals, and was quite limp. She could not stir a finger. The attacks were very paroxysmal; the paralysed limb was suddenly seized with spasm, the spasm was over in so many seconds, and the limb was again limp and motionless. There were not even any little jerks, tremor, or fidgets in the intervals. There was no defect of sensation, nor was there any pain except in the paroxysms, and that pain was from the spasm; it was the pain of cramp. There was no spasm of the face or leg, and no paralysis of these parts.

One fit lasted seventy-three seconds, the others were not timed; only two intervals were measured—one was four minutes, and the other two and a half. But the following table gives a list of fits for an hour. It was made by two very intelligent persons:—

Mrs. A.'s Fits during One Hour of Sunday, Nov. 24, 1872.

1	at 15	minutes	*to* 4	o'clock;	duration	50 seconds.
1	„ 9	„	4	„	„	50 „
1	„ 4	„	4	„	„	50 „
1	„ $2\frac{1}{2}$	„ *after*	4	„	„	50 „
1	„ 8	„	4	„	„	48 „
1	„ $12\frac{1}{2}$	„	4	„	„	35 „
1	„ $18\frac{1}{2}$	„	4	„	„	45 „
1	„ $24\frac{1}{4}$	„	4	„	„	54 „
1	„ $29\frac{1}{2}$	„	4	„	„	45 „
1	„ $35\frac{1}{2}$	„	4	„	„	55 „
1	„ 41	„	4	„	„	58 „
1	„ $46\frac{2}{3}$	„	4	„	„	55 „

12; averaging one every five minutes.

Some days she has had fewer, and other days many attacks. One twenty-four hours the number was counted at forty-six; and Mr. Soutter could not induce her friends to continue the numbering, they were so alarmed. On an average he would say that twenty or twenty-five partial fits had occurred daily, these varying greatly in intensity.

The paralysis and the spasm were the woman's only symptoms beyond the pain from the cramp and the miserable depression and sleeplessness her attacks caused. There were no symptoms characteristic of tumour. There was no pain in the head, no vomiting, and the optic discs were normal. These are very noteworthy circumstances. I repeat, the diagnosis of both tumour and of its position were made simply because the case was very much like a former one (Case 15 of this series).

December 1, 1872.—I saw her again. It seems that she has

(e) "Ueber die Enstehungsweise und operative behandlung der Epispadie,"—*Archiv der Heilkunde*, 1869, p. 20.

(a) As some of the cases related under the former heading bear also on Hitzig and Ferrier's experiments, it is convenient to number this and following cases in continuation from them.

had the fits day and night, at about five-minutes intervals, ever since last Sunday, except when under the influence of chloral, and even then they would now and then occur without waking her. I saw her alive no more.

For the rest of these notes I am indebted to Mr. Soutter.

6th.—She felt as if water was constantly running down her back and right arm, and was now and then looking in the bed to make sure that she was not lying in a pool. This "watery sensation" lasted two days, and was accompanied with a swollen right hand and arm at the joints.

13th.—She felt cramp in the right leg very much, but it lasted not longer than one day. Fits continue as usual in the right arm, but sometimes at intervals of about one or two hours.

26th.—Mr. Soutter put her hand on a splint to save her attendants the constantly recurring necessity of grasping her hand when the spasms came on. *But she could not bear the extension of the hand on the splint, as it affected her head with extreme heaviness, and her neck with the sensation of swelling.* Her husband took off the splint one hour after it was put on. She is much weaker, but has rest at night for two or three hours without a fit. The interval in the day is from ten minutes to an hour, the longer intervals being when she is asleep. There has been trembling of the right leg, however, during the fits, and once or twice a general trembling. The right eye is also twitched during the fits.

On January 5 she had improved very much, having only one fit in the arm in the twenty-four hours. Has good nights. Appetite better than formerly. Unable to walk across the room yet without material help, mostly in consequence of numbness in the right foot. Continued in this state until the 28th, when she had another severe *general* fit.

On the 31st she had two general convulsions, though not severe, but a severe fit came on at night. Aphasia resulted; she cannot express what she wants, although she knows well enough apparently all that goes on about her. Hearing dull, particularly on right side, and both nostrils feel strange.

On February 2 had a general convulsion.

On 7th had a general fit in the morning at five o'clock, and again at 5 p.m. Cannot swallow anything solid, and a little liquid only with the greatest difficulty. Can only utter a few disjointed words.

10th.—Had another general fit, and shook incessantly for several days after. Refuses to take anything but a little liquid.

After the 13th passed her urine unconsciously.

On the 15th grew comatose, and remained so till the 20th, more or less profoundly, when she died.

Autopsy.—There was a tumour, looking nearly circular on the surface, and projecting slightly above the surface of the left hemisphere, close to the middle line. It grew so as to involve the posterior part of the first (uppermost) frontal, where it joins the ascending frontal, which last convolution was very slightly involved. The diameter of the tumour would be about an inch. That, too, would be its depth. There was very little softness of brain about it. The section showed a surface in some parts specked with blood, in others with black irregular blood-clots. There were several cysts in the tumour, believed to be remains of former hæmorrhages in it. It was a hæmorrhagic glioma. The rest of the brain was normal.

(*To be continued.*)

The Metropolitan Asylums Board have just purchased about 100 acres of land at Darenth, near Dartford, Kent, on which to erect a home for imbecile children.

The French Association for the Advancement of Science.—It is announced that the fourth meeting of this scientific body will be held at Nantes, from August 19 to 26, 1875. A powerful local committee has been formed so as to secure the success of all the arrangements. The secretaries to whom communications may be addressed are Dr. Laennec, Professor at the School of Medicine, and Dr. Malherbe fils. The Council of the Association has voted the sum of 5350 frs. towards the expenses of various scientific objects during 1874; and the sum of 5000 frs. was contributed by M. Eichthal, the president of the Association, and two other members, towards defraying the expenses of M. Jamain during his expedition to Siam for the observation of the total eclipse of the sun.

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Medical Times and Gazette.

SATURDAY, JUNE 5, 1875.

THE QUEEN v. THE GUARDIANS OF THE KEIGHLEY UNION.

This case, which is of great public importance in a sanitary point of view, came on for hearing in the Court of Queen's Bench on the 31st ult. As is well known to our readers, small-pox has for some time been alarmingly prevalent and fatal in the district of Keighley Union, and vaccination has been greatly neglected. Some time ago the Local Government Board drew the attention of the Guardians to this state of things, and desired them to direct the proper officers to take proceedings to enforce the vaccination of children. The Guardians, as a body, refused to do this, and consequently the Solicitor-General, on the part of the Local Government Board, applied for a *mandamus* to the Guardians to give directions to their vaccination officer, authorising him to take proceedings against persons who had neglected to have their children vaccinated. No counsel appeared on behalf of the Guardians, but it appeared that they had sent an answer to the Local Government Board, stating that the majority of the Guardians had been elected expressly on the footing that they should not enforce the Vaccination Acts, there being a strong feeling against them in the district, and that they consequently could not do so. They contended also that the seventeenth article of the Orders of the Local Government Board, made under the Vaccination Act, 1871, providing that the vaccination officer should take proceedings in any case in which the Local Government Board should direct him to do so, the remedy of the Board was to give direction themselves, authorising the vaccination officer to prosecute, not a *mandamus* to the Guardians to do so. It appeared that a minority of the Guardians are willing and anxious to put the Act in force, and have opposed the action of the majority.

The Court expressed a strong opinion that, though the Local Government Board might possibly have power to set the vaccination officer in motion, this did not absolve the Guardians from the performance of a duty expressly imposed upon them

by the order of the Board. And the Lord Chief Justice said "it might be that the Act gave a twofold power or authority, primarily to the Guardians, but also to the Local Government Board; and that each body had to do their duty separately and independently of the other. As at present advised, we are quite agreed that such is the law, and that, therefore, the Guardians have to do their duty independently of any duty which may attach to the Local Government Board. That being so, and the application for a *mandamus* not being opposed, of course the *mandamus* must issue to the Guardians to discharge the duty imposed upon them." Mr. Justice Mellor, moreover, intimated that, in the event of the Guardians litigating the writ on a return to it, it might be competent to the Court to make some distinction as regards liability to costs between the Guardians who were willing to perform their duty and those who were not. It is very satisfactory that this power has been obtained to enforce the application of the law as it exists, and that it has been obtained without further delay; for the medical officer reports that during the past month there were seventy cases of small-pox in the Keighley district, nineteen of which were fatal; and that in the week ending May 28, eighteen cases were reported, of which three were fatal, two of these being unvaccinated persons, and the third doubtful. It is said that it was believed in Keighley that the case against the Guardians would probably not be heard before Michaelmas Term, so that there was no fear that the Vaccination Act would be put in force before November next; and till then small-pox might work its will in the district without let or hindrance.

THE SENSIBILITY OF THE SKIN IN ACUTE RHEUMATISM.

The observation of a large number of cases of acute articular rheumatism, in Professor Botkin's Clinic at St. Petersburg, has led Dr. V. Drosdoff to make some extremely interesting experiments on the sensibility of the skin over the affected parts to pressure, temperature, and pain, under the influence of the induced galvanic current. The paper describing his method will be found in *Centralblatt*, No. 17, for April 3, and we shall here confine ourselves to a summary of his main results. In the first place, he finds that the sensation of pain which usually follows electrisation with the induced current is either remarkably diminished or else completely abrogated, so that the patient may not even be conscious of any pain when the strength of the current is so great as to give numerous sparks on opening and closing the circuit. On the other hand, the slightest pressure on the inflamed joints causes, as is well known, most severe agony, and in the majority of the cases there seems to be an inverse relation between the sensibility to pressure and the sensibility to the induced current.

The area of what we may call diminished electro-cutaneous sensibility has a narrow limit, so that it corresponds accurately with the inflamed portions of skin, and thus the diminished sensibility to the induced current passes suddenly into normal sensibility as soon as the electrode has passed the boundary of the inflammation. The diminution of electro-cutaneous sensibility sometimes appears two days or earlier before the articular pain, and it sometimes also lasts longer than the latter.

There is generally a relapse in any particular joint if the rheumatic symptoms have subsided before the electro-cutaneous sensibility has regained its normal intensity. The sensation of absolute pressure appears to be diminished simultaneously with the electro-cutaneous sensibility, so that sometimes the patients cannot even feel a weight of twenty or thirty grammes on the inflamed spots. The sensation of temperature is somewhat increased, so that a difference of 0·2° to 0·5° Cent. can be distinguished. The tactile sensibility is also markedly increased in some cases, while in others it is perverted, so that the patients imagine that there are two points pressed on the skin when only one is being applied, or *vice versâ*.

The temperature of the affected joints is always 2° to 3° Cent. higher than that of the healthy ones, but faradisation for five or ten minutes reduces it to, or even below, the normal level. At the same time, the rheumatic pains caused by movement or pressure on the joint are also diminished, sometimes to such a degree that movements previously impossible can be executed with tolerable comfort.

This effect of faradisation on the temperature and the pains lasts for from three to five hours, and then the joints become as hot and painful as before; but the duration of each paroxysm of pain, as well as its intensity, is thus considerably diminished. In conclusion, Dr. Drosdoff believes that daily faradisation for five or ten minutes will be found a valuable adjuvant to existing modes of treatment in acute rheumatism. It may even be used successfully, as he has proved, as the sole therapeutic agent. Relapses are not prevented, but each one is shorter and less serious than the last.

THE CERTIFICATION OF LUNATICS.

No. I.

There is no part of a medical practitioner's professional duty, perhaps, in which he appears to greater disadvantage than in the filling up of certificates for the admission of patients into pauper and other lunatic asylums. When the doctor whose time is mainly taken up with busy routine practice lifts the pen to construct a formal document, his literary execution is too frequently laboured and heavy, and his arrangement of ideas not uncommonly ludicrous. So much is this the case, that the superintendent of a large asylum lately affirmed in public that many of the certificates sent with patients to county asylums proved nothing except the insanity of those who had written them. The statement was certainly exaggerated, but embodied at the same time that small amount of truth which, as Voltaire said, is necessary and sufficient to make satire effective. Much has been written for the guidance of medical practitioners in the construction of lunacy certificates on strictly scientific principles. They have been instructed in the symptoms of the various forms of mental disease, with a view to enabling them to detect in casual patients the prominent delusions and the groups of symptoms which are found to characterise each form of mental malady. They have been versed in elementary metaphysics for the purpose of qualifying them to prosecute their diagnostic inquiries with special relation to the collocation of the intellectual powers, and finally Acts of Parliament and judicial decisions have been quoted and commented upon *ad libitum* for the purpose of bringing practitioners to a correct understanding of their duties towards the insane. But though such instructions and suggestions may be exceedingly useful as points of general information, the examination of a large number of forms of admission in various county asylums shows that in filling up lunacy certificates medical men stumble over much more superficial obstacles than these learned instructions in psychology, metaphysics, and law aim at obviating. Medical men, as a rule, do not fail in the detection of indications of insanity, but they too frequently mar the validity of their certificates (1) by want of clear expression of what they have observed, (2) by the introduction of matter which is ludicrously irrelevant when placed under the heading of "Facts Indicating Insanity," (3) by laying unwarrantable stress on superficial appearances, and (4) by imparting to their certificates a narrative form which frequently leads the narrator into an incongruous medley of clauses and sub-clauses not at all reconcilable with the heading under which he writes. With

regard to the want of clear expression, it may be observed that no small amount of obscurity in lunacy certificates is due to the use of bad grammar. In one instance, for example, the medical man evidently formed the correct conclusion that a case under examination was one of dementia following upon epilepsy: yet he fails both in clearness and grammar in his representation of the case, and, in fact, by the bad construction of his clauses, certifies himself as the only dement concerned. Under the head of "Facts indicating Insanity observed by Myself," he states—"This day is considered by her friends to be a better day, and *beyond exhibiting a certain amount of childishness* I observed nothing indicating insanity." Similar in medical incoherence is the *bonâ fide* certificate, "She has a desponding expression of countenance, interspersed with moans." It would be difficult to say whether such a condition of countenance is decidedly indicative of insanity, but there can be no doubt that such a face submitted to instantaneous photography would be of great artistic interest. It would be difficult to determine the true nature of the following delusion: —"Her delusion as to the birth of her child: she was not confined, but it was found by a neighbour in the dust-hole, who brought it to her. She did not know of its birth." Still more ludicrous is the following fact as an indication of insanity personally observed by the certifier:—"She frequently passes her digestions (?) in bed, which state of mind has been gradually increasing upon her for two months." It is recorded as indicative of insanity that a woman had "undecided notions about some man in Scotland." And, as if in retaliation, a man is returned as insane because "he had been deeply in love with a young woman who would not have anything to say to him." Surely, for the æsthetic and commercial credit of the medical profession, the doctor who adduced the following as a condition indicating insanity will retract it on consideration:—"He hums a musical air and informs me that he will pay readily for all that he purchases." The act and the assertion strike one as characteristic not of a lunatic but of an honest man in exceptionally good spirits, and the doctor who could regard them in any other light must be as unmusical as Dr. Johnson, and presently or prospectively in the same position as Curran when his money had gone and his credit had not arrived.

So much for errors arising from imperfect reproduction in writing of what the certifier has observed. A second point of weakness is the introduction of irrelevant matter under the head of "Facts indicating Insanity." Such irrelevant statements generally relate to notable features in the physical condition or personal history of the patient, which, though collaterally useful, are ridiculously out of place when brought forward as indications of insanity. Thus, "incontinence of urine" cannot by any means be looked upon as a condition calling for incarceration in a lunatic asylum; yet over and over again it is placed in certificates as a fact indicating insanity personally observed by medical men. That a man should have "no children" is useful as a fact in family history, yet it would be universally admitted that the lack of offspring was no proof that a patient was *non compos mentis;* and yet the statement appears under the head of "Communicated Facts as Evidence of Insanity." People of faltering speech may well be astonished to hear that one fact which a medical man has adduced in justification of his sending a woman to an asylum is that "she has had an impediment in her speech from birth." In direct combination with some statement regarding congenital brain disease, the advancement of the "fact" might be highly illustrative, but standing alone it certainly constitutes no proof of insanity. Even if the condition indicated were more definite it would not follow that because a patient was in "a lachrymose condition" she was labouring under mental aberration or defect. Numerous sufferers from chronic constipation may indulge in a natural indignation when they hear that a provincial medical man has advanced as a fact indicating insanity observed by himself the statement that a patient's bowels had been somewhat confined, and that another has adduced, as evidence of insanity communicated to him by others, the fact that a "patient had had no motion for twelve days." Persons of the rheumatic diathesis, also, may be led to exercise great personal care when they know that, under the head of "Facts showing Insanity," people are spoken of in the following manner:—"She had rheumatic fever nine years ago"; "He has been prevented from walking from rheumatism, etc." It may be a piece of courtesy in a country doctor to inform a specialist that a woman's "articulation is imperfect from an ulcerated sore throat, which seems to require attention"; but as an evidence of insanity observed by himself the fact is decidedly inappropriate. People who have undergone prolonged suffering from wasting diseases would fail to derive consolation from the medical practitioner who certified as an indication of insanity the observation that a patient was "lean and emaciated as if she required food"; and it is doubtful whether the doctor was actuated more by simplicity or cynicism who, under the head of "Conditions Personally Observed as Manifesting Insanity," adduced the evidence—"I understand she is pregnant." Whatever may have been his motive, however, he was not without congenial company; for he was very soon followed by another practitioner, who confirmed his prior evidence of a woman's lunacy by the final and conclusive assertion, "She is a prostitute."

That a patient "is evidently suffering from severe oppression of the heart," even though the condition were satisfactorily explained, would be very doubtful evidence of insanity; yet it is advanced as a fact observed by a registered practitioner, and placed under the category of conditions calling for instant seclusion. Similarly, "frequent yawning" is boldly placed under the first head as a proof of insanity, supported by direct professional observation; and a patient is forwarded to a county asylum, one of whose alleged manifestations of mental derangement is "that he has been under treatment for three weeks for bronchitis, but is now better"; while another almost immediately follows him, whose doctor is represented by his certificate as regarding her as insane partly because "her extremities were cold."

THE WEEK.

TOPICS OF THE DAY.

THE Guardians of St. Pancras have just dealt with a great public evil in a very commendable manner. They have provided accommodation for the holding of inquests, thus obviating the necessity which has hitherto existed in the parish for these inquiries being held at public-houses—places most unsuitable for such a purpose in every point of view, and which we have repeatedly condemned. The recommendation of the special committee appointed to confer with Dr. Hardwicke on this subject was adopted at the meeting of the Board on the 27th ult. One of the large rooms used as relief offices is to be fitted up and appropriated to the coroner as a coroner's court for two afternoons in each week. It was remarked, in the discussion on this question, that Dr. Hardwicke had stated that no effort should be wanting on his part to reduce the number of post-mortem examinations, but it was a question that required very delicate handling. If any inquests were forwarded to him to hold, which on the inquest taking place he found to be unnecessary, he should never hesitate to state it at the inquiry. This, it was believed, would operate as a check upon unnecessary inquests. The opening of the room at St. Pancras Workhouse is, no doubt, a step in the right direction. It will only deal, however, with a portion of the evil which it is sought to remedy. In an immense parish like St. Pancras, many of the inquests have to be held at such a considerable distance from the Workhouse, that to hold the

inquiry there would be simply impossible. With regard to Dr. Hardwicke's very proper desire to limit the holding of *unnecessary* inquests, it of course meets with our approval; but we hold that the coroner is bound to make, through his officer, such inquiries before an inquest as to render unnecessary inquests very rare indeed.

The subjoined details of the public services of the medical officers accompanying the Arctic Expedition are not without interest at the present moment. Fleet-Surgeon Thomas Colan, M.D., served as Assistant-Surgeon in the *Royal George*, 102, Captain H. J. Codrington, C.B., in the Baltic, from December, 1853, until the close of the Russian war; in the *Hastings*, 60, coastguard ship, at Liverpool, from April, 1857, until September, 1859; and in the *Beagle*, 4, on the China station, from the latter date until November, 1862. He was Surgeon in the *Research*, 4, from March, 1864, until March, 1867, when he joined the *Malabar* troopship, and remained until the spring of 1870. In October of the last-named year he was appointed to the *Thalia*, 6, Captain John E. Commerell, C.B., V.C., and proceeded in her to the Cape of Good Hope, where he turned over with her officers and crew to the *Rattlesnake* in February, 1871, and remained in her until paid off in 1874. He was Staff Surgeon in the *Unicorn*, drill ship for the Royal Naval Reserve at Dundee, from September, 1874, until January, 1875, when he was appointed to the *Duke of Wellington* for Arctic service. Dr. Colan is the writer of some valuable medical papers, and has been awarded Sir Gilbert Blane's Medal. Staff Surgeon Belgrave Ninnis, M.D., was appointed August 23, 1861, to the *Pantaloon*, 11, Commander William R. Hobson, fitting at Devonport for the Cape of Good Hope and East India station, where he remained until the summer of 1862. From October 22, 1862, until December 16, 1863, he served in the *Victory* flagship at Portsmouth, when he was appointed to the *Curaçoa*, 23, Commodore Sir William S. Wiseman, Bart., on the Australian station; and on his return to England in January, 1867, was appointed on the 26th of that month to the Royal Hospital at Greenwich, where he remained until June 1, 1869. On the date last mentioned he was appointed to the *Caledonia*, 24, in the Mediterranean, from which ship on May 2, 1872, he was transferred to the *Lord Warden*, 18, and remained until January 20, 1874. He was Surgeon at the Royal Hospital at Plymouth from April 4, 1874, until the 21st of the following October, and on January 29, 1875, was appointed to the *Duke of Wellington* for Arctic service. Surgeon Edward L. Moss, M.D., was appointed March 8, 1864, Assistant-Surgeon to the *Bulldog*, 6, Captain Charles Wake, fitting at Portsmouth for the North America and West India station, in which ship he remained until it was destroyed at Cape Haitien, at the close of 1865. From February 2, 1866, until 1870, he served in the *Simoom* troopship, Captain T. B. Lethbridge, and from June 4 of the year last named was attached to the *Achilles*, 26, coastguard ship, for service at sick quarters at Portland until February 3, 1872. He was borne successively on the books of the *Zealous*, 20, and *Repulse*, 12, in the Pacific, for service at Esquimault Hospital, from February 17, 1872, until appointed, March 6, 1875, to the *Duke of Wellington* for Arctic service. Surgeon Richard W. Coppinger, M.D., served at Haslar Hospital from November 12, 1870, until March 23, 1871, when he was appointed to the *Himalaya* troopship, from which ship on June 27, 1871, he removed into the *Topaze*, 28, fitting at Devonport for service with the detached squadron. He continued in the *Topaze* until transferred, August 22, 1874, to the *Cambridge* gunnery ship at Devonport, from which ship on March 12, 1875, he was appointed to the *Duke of Wellington* for Arctic service.

A case of considerable interest came before the Court of Queen's Bench, at Dublin, on Saturday last. In March last a gentleman named Marsden was killed at Sandy Mount under the following circumstances. It appeared that the deceased had sent to the Apothecaries' Hall for some oxide of manganese to make oxygen gas for a magic lantern. In mistake they sent him the oxide of antimony, which, when mixed with the chlorate of potass, caused an explosion, whereby he himself received fatal injuries, and his wife and two children also seriously suffered. By consent a sum of £1500 is to be paid in satisfaction of all demands, Mrs. Marsden getting £300 for injuries to herself, and £600 for the loss of her husband; and the children being allotted £600.

It is gratifying to state that the labours, sufferings, and privations of David Livingstone are to be commemorated in a fitting manner in the great temple of "silence and reconciliation," Westminster Abbey. On the tablet to his memory the following inscription has been placed:—"Brought by faithful hands over land and sea, here rests David Livingstone, Missionary, Traveller, Philanthropist. Born March 19, 1813, died May 1, 1873, at Chitambo's Village, Ulala. For thirty years his life was spent in an unwearied effort to evangelise the native races, to explore the undiscovered secrets, and to abolish the desolating slave trade of Central Africa, where, as almost his last words he wrote, 'All I can add in my solitude is, may Heaven's rich blessing come down on everyone—American, English, or Turk—who will help to heal this open sore of the world.'" On each side of the tablet are also the following inscriptions:—"Tantus amor veri nihil est quod nascere malim quam fluvii causas per sæcula tanta latentes," and, "Other sheep I have which are not of this fold; them also I must bring, and they shall hear my voice."

Drs. Cotton and Quain have been elected by the annual Court of Governors, Consulting-Physicians to the Hospital for Consumption, Brompton, after a period of service extending over twenty-seven years. We understand that the Committee of Management, anxious still to secure their attendance at the hospital, have assigned to each of them a limited number of beds. They received at the same time a well-merited and very complimentary acknowledgment of their long services to the institution.

On Saturday, May 22, Dr. Edward Wolfenden Collins, Demonstrator of Anatomy in the School of Physic, Trinity College, and Mr. M. J. Kilgarriff, Demonstrator of Anatomy and Physiology, Catholic University School of Medicine, were elected Surgeons to the Jervis-street Hospital, Dublin.

Mr. Charles Darwin has been appointed Foreign Honorary Member of the Imperial Academy of Science, Vienna.

LECTURES ON STATE MEDICINE AT THE APOTHECARIES' HALL.

THE second of the course of lectures on State Medicine was delivered before the Society of Apothecaries, at their hall in Blackfriars, on Saturday last, by Surgeon-Major de Chaumont. A numerous attendance of representatives of the several branches of the profession was present, including many members of the Naval, Military, and Indian Medical Services.

The subject of this lecture was Air and Ventilation. Air was represented as the most constant and general agent in the production of disease; food and drink may be suspended for awhile, but we are bound to breath the air as we find it, under pain of death itself. If, therefore, we find a community suffering from general deterioration of health, with a constantly high death-rate, we may safely ascribe this condition to the bad state of the atmosphere breathed. A sudden outbreak of disease is, on the other hand, more likely to have its origin in the condition of the water supply. The normal composition of air having been given, it was remarked how uniform the atmosphere was found to be in different parts of the globe. Even in the neighbourhood of densely peopled towns, the law of diffusion and the effects of the winds being sufficient to effect the distribution of the products of combustion and respiration,

when nature is not obstructed by the ignorance and selfishness of man—calculating the enormous column of carbonic acid evolved in London alone—it appears how constant and powerful must be the varying currents of the air to produce diffusion of so vast a mass. The average amount of carbonic acid in a normal air may be about 0·4 in 1000 volumes, but the mere addition of this gas in a pure state is not attended by poisonous symptoms till a considerable addition has been made —as much as 3 per cent., or even more, being tolerated under certain circumstances. The causes which induce deterioration of the air may be divided into the following :— 1. Respiration and transpiration. 2. Combustion. 3. Sewage emanations. 4. Gases and suspended matter given off by trades and manufactories. The most important of these agents is undoubtedly respiration, including transpiration. Generally speaking, special outlets are provided for the products of combustion, but respiration is continually going on, and evolving noxious matter into our breathing space, while the last thing that most people think of is the provision of an inlet for fresh air, or an outlet for foul air.

The changes induced by respiration are—first, oxygen is greatly diminished ; secondly, carbonic acid is largely increased; thirdly, a large amount of watery vapour is given off with a considerable amount of ammonia and organic matter, either in the state of vapour or suspended. The oxygen is diminished in the direct ratio of the consumption of carbon and hydrogen in the system, and may be reckoned theoretically or deduced from actual experiment, which latter was quoted from authority. The amount of organic matter has been variously estimated; that it is albuminoid and nitrogenous is certain, being demonstrated by analysis. The organic impurities consist of certain cellular bodies, which have been called putrefaction cells ; they are, in all probability, belonging to the lowest forms of vegetable organisms, perhaps the starting-point of the bacteria. Other organic impurities are chiefly fungoid spores or pollen-grains. A diagram was exhibited, containing magnified representations of many of these organisms, some of which were seen to be in a state of active development.

The evil effects of re-breathing air have been long recognised, but so slow are the people to take in such truths, that the dwellings of the present day are comparatively little better than they were thirty years ago. Dr. Neil Arnott pointed this out as the cause of death among the monkeys in the Zoological Gardens, five-sixths of whom died in one month. In the monkey-house there was only one outlet near the roof, and one inlet near the floor. And this is yet the condition of human dwellings, or even worse! The doors and windows of the houses of the poor are so defective that they become sufficiently ventilated, while theatres, ball-rooms, and apartments, even in the best houses, are frequently stuffy or unwholesome.

It is thus legitimate to connect defective ventilation with the diseases which are the chief causes of mortality. In the thirty-fifth Report of the Registrar-General, Dr. Farr gave a table showing diseases causing death in the order of their frequency. By this table the following results are shown :—

Phthisis	kills	108	out of 1000
Bronchitis	,,	87	,,
Atrophy and debility	,,	61	,,
Old age	,,	55	,,
Heart disease	,,	53	,,
Convulsions	,,	52	,,
Diarrhœa	,,	45	,,
Pneumonia	,,	41	,,
Small-pox	,,	39	,,
Violence of all kinds, whether accidental or intentional	,,	39	,,
Whooping-cough	,,	28	,,

In a truly hygienic community the greatest cause of death ought to be old age, and perhaps, next to that, accident ; but here we have old age occupying only the fourth place, whilst violence occupies the tenth place. Phthisis, bronchitis, and pneumonia alone make up 237 per 1000, or nearly one-fourth of the total mortality ; while if to this we add heart disease, atrophy, debility, and convulsions (which, we have good reason to believe, are all due in a great measure to overcrowding), we have in those diseases the cause of rather more than four-tenths of the total mortality.

Diagrams were exhibited, showing the relation of crowding and death-rates in districts containing between 80,000 and 120,000 inhabitants, making manifest the fact that the mere aggregation of human beings together is in itself a source of disease. The tendency to the aggregation of the agricultural population into towns makes this matter one of great importance to the State.

To take the condition of the outer air as the standard of the purity of the air in dwellings would be unwise ; but it may be suggested that a good and sufficient ventilation is one that shall present to the sense of smell no marked difference from that of the outer air.

Some details were given as to the quantity of air required. In an initial state of 1000 cubic feet per head, it would probably be necessary to supply 3000 cubic feet per hour, and in rooms where persons are in active work more would be required. No hospital should have less than 4000 cubic feet per head per hour, or in some cases the supply should be unlimited.

As to the ventilation of buildings, the means may be regarded as natural or artificial. By far the greater part is effected by natural means, the law of gravity causing the warmer air to be displaced by the colder or heavier air—this being, in fact, the cause of all the air-movement in our atmosphere. Details were entered into as to numerous plans which have been devised for artificial ventilation, and were illustrated by drawings showing the means adopted in various public buildings, as the Houses of Parliament, Pentonville Prison, and the Victoria Hospital ; and remarks were added as to principles which should guide legislation in the distribution and construction of dwellings.

An experiment was made, by which it was shown that, although the windows were open on both sides of the hall, the carbonic acid present in the air amounted to nearly two volumes in 1000.

BRITISH MEDICAL DEFENCE ASSOCIATION.

On Friday, May 21, a meeting of medical practitioners was held at the residence of Mr. G. Danford Thomas, Deputy Coroner for Central Middlesex, to consider the advisability of forming a society for the purpose of protecting the interests of registered medical practitioners, and undertaking the prosecution of persons who are practising without legal qualification. Among those present were Dr. Stevenson (Paddington), Dr. Leslie (Westminster), Mr. Maclean (Paddington), Mr. Brooks (Chippenham-road), Mr. Harrison (Shepherd's Bush), Messrs. G. Brown and S. Gardner (Islington), Mr. Drew (Gower-street), etc. Mr. Thomas, having been voted to the chair, said that the meeting was the result of certain letters of Mr. George Brown which had been published in the medical papers. Such a society as that proposed deserved the support of every medical man, and if carried out successfully would not only promote the welfare of the profession, but confer a great benefit on the public by preventing them from falling into the hands of those who were not competent to treat disease. In his official capacity as deputy-coroner, cases had frequently come under his notice where unqualified practitioners had attended persons who had died without having been seen by any qualified medical man, and inquests had been held to determine the cause of death. The movement had evoked much sympathy from country practitioners, who he believed were much interfered with in their practice by unqualified

persons. Letters had been received from medical men in all parts of the kingdom, urging the formation of the proposed society, and promising support; and he had no doubt that if once started there would be but little difficulty in getting members to join. It was unanimously resolved—"That this meeting approves the formation of a society for the suppression, by every legitimate means, of medical and surgical practice by unqualified persons, and that the society be entitled the British Medical Defence Association." The following gentlemen were elected members of the provisional committee for the purpose of carrying out the resolution, viz.:—Drs. Stevenson and Leslie, Messrs. Maclean, Harrison, S. Gardner, F. H. Hume, Drew, Brooks, Thomas, and Brown, with power to add to their number. Mr. G. D. Thomas was elected treasurer of the Association, and Mr. George Brown honorary secretary *pro tem.* It was also resolved that only registered medical practitioners be permitted to become members of the Association, and that each member pay a subscription of ten shillings and sixpence per annum. Gentlemen willing to join the Association will oblige by communicating with the Hon. Secretary, 12, Colebrook-row, Islington, N.

THE DECEASED MR. MOORE.

We much regret to hear of the death, at the early age of twenty-seven, of Mr. Samuel William Moore, L.R.C.P., F.C.S., etc., Demonstrator of Physiological Chemistry in St. George's Hospital. Although young, Mr. Moore had established for himself a reputation as a most promising worker in the comparatively untrodden field uniting the domains of physiology and chemistry; his first work in this direction (on the subject of brain crystals) was published at the early age of eighteen. Three years ago his attainments procured his election to the important post he held in the Medical School of St. George's Hospital—a chair filled by him with the utmost credit and usefulness,—while the "Notes of Demonstrations in Physiological Chemistry," recently published by him, form a valuable contribution to medical and chemical literature. At the time of his last illness he was on the point of commencing, under the auspices of the British Medical Association, a laborious series of researches on the effects of tobacco, a considerable grant being about to be entrusted to him for this purpose. Mr. Moore leaves a young widow and two infant children, who are, through his long-continued illness and early decease, left entirely unprovided for, and almost wholly destitute. We understand that their friends propose appealing to the liberality of the profession, of which Mr. Moore was so promising a member, for the purpose of raising a fund for the benefit of his family, and we have much pleasure in heartily recommending the case to the benevolence of our readers. The following gentlemen have kindly consented to form a committee for this purpose:—Dr. Barclay, St. George's Hospital; Dr. Bott, 20, Kennington-park-road, S.; J. Croft, Esq., St. Thomas's Hospital; W. M. Ord, Esq., St. Thomas's Hospital; G. D. Pollock, Esq., St. George's Hospital; Dr. Wadham, Dean of the Medical School, St. George's Hospital, W. (hon. treasurer); Dr. C. R. A. Wright, Chemical Laboratory, St. Mary's Hospital, W. Subscriptions in aid of this object will be gladly received by Dr. Wadham, at the above address.

A WRINKLE FOR PUBLIC ANALYSTS.

A contribution to the *Proceedings of the Royal Irish Academy*, by Dr. C. R. C. Tichborne, gives some facts, showing how fluorescence may be employed as a method for detecting adulteration. If the substance used for adulterating possesses fluorescent properties, and the body so sophisticated does not—as, for example, turmeric, employed to adulterate mustard,—the fluorescence of the turmeric, even in the smallest quantity, determines the fact of its presence.

HOSPITAL SUNDAY.

All preliminaries for the Hospital Sunday collection of the present year have now been completed, and the date remains, as previously fixed, the 13th instant. The Lord Mayor has, through the press, called attention to the fact, and has apparently taken the opportunity of giving a short *résumé* of what has been lately done to render the movement permanent and popular. From this we gather that the principles upon which the distribution of the Fund has been made, and the organisation of the movement itself, have, in the last few months, been subjected to close and repeated examination, from which much advantage has resulted; also, that the principles of distribution have been revised, and in some respects improved. The organisation of the Council, and its relation to those from whom it springs, has been so defined as to give to the Fund a constitution directly representing those who have associated themselves together to benefit the sick poor of the metropolis. So far the experience of the preceding years has been of much service, and everything may now be said to be upon the most satisfactory footing: yet we cannot say that we have seen anything in the results of the two anniversaries already held, to cause us to modify the opinions we originally expressed that the movement, as regarded London, was a mistake. The Lord Mayor, in his letter, calls attention to the fact that the second year's collection was greater in amount than what was subscribed upon the first occasion. The surplus, if any, is just sufficient to warrant the assertion; and it now remains to be seen whether, with everything admittedly in fair working order, the amount obtained upon the present occasion will be so much in excess of the former years as to justify the conclusion that the Hospital Sunday movement has fairly taken root in the metropolis, and is likely, with time, to increase to such considerable proportions as to bear comparison with the sums obtained in provincial towns at similar periods.

PRIZE DAY AT KING'S COLLEGE MEDICAL SCHOOL.

Dr. Lyon Playfair presided on Thursday, the 3rd inst., at the distribution of the prizes gained in the Medical School of King's College, and delivered to the students one of those lucid and eloquent addresses which past experience has taught us to look for from his lips, but which time will allow us only to refer to. He took for his subject "The Benefits which the Public may in future expect from the Application of Medical Knowledge to the Purposes of the State." He observed that the connexion of the State with medical men is a very old one, but that it is strengthened as knowledge advances; and after alluding to the time, not so very long ago, when the medical man was of necessity, and in no offensive sense, an empiric, he pointed out that now Science has cast her mantle over him and clothed him with honour; and that there is not a single branch of medicine which is not now under the dominion of science. As a man of science, the community are forced to consult the medical man in matters of public as well as of private health, though they resent having to do so, and "each new confidence is bestowed on him under protest, and is yielded after much show of suspicion." He enlarged on the relations of the medical man to the public in his capacity as officer of health; and he showed the right of man to use experimentation on animals for the prevention and alleviation of disease, so long as it is used scientifically and with jealous care to inflict on the lower animals not a single unnecessary pang.

A NEW METHOD OF SPREADING HYDROPHOBIA.

The other day, whilst waiting for a train at a suburban station, we witnessed the following disgusting proceeding. Two finely dressed women came in, lugging between them a dog supposed to be thirsty. A jug containing water and a tumbler

stood on the table. They promptly proceeded to pour water into the tumbler to give to the dog; but the tumbler leaked, and could not be used. Not to be defeated, they next presented the jug, but the water could not be reached, and the animal had to content itself with "licking the edges." Though thirsty, we confess we were cured by such dirty and disgusting conduct. But this is not all. Supposing the dog in the early stage of hydrophobia, what of the next drinker with any crack or other injury of his lips?

THE PHARMACY (IRELAND) BILL.

A DEPUTATION from the Pharmaceutical Society of Great Britain waited on the Chief Secretary for Ireland, on May 24, to urge on him the inadvisability of creating a new and separate Pharmaceutical Society for Ireland. We have reason to believe that the King and Queen's College of Physicians are strongly opposed to the proposals of the British Pharmaceutical Society, and have expressed their approval of Sir Michael Hicks Beach's Bill in unmistakable terms. In this matter the College of Physicians may certainly be regarded as the spokesmen of Ireland, or, at all events, as representatives of public opinion on the other side of the Channel.

THE ANNIVERSARY OF THE ROYAL HOSPITAL FOR DISEASES OF THE CHEST.

ON Wednesday evening, June 2, the annual dinner on behalf of this charity took place at the Cannon-street Hotel, the Marquis of Lansdowne in the chair. In the course of the evening upwards of £1500 was collected, but this sum would doubtless have been considerably greater had it not been for the crisis in the City. On the whole, the dinner was most successful.

THE COLLEGE LECTURES.

WE are authorised to state that Professor Turner, of Edinburgh, will be put in nomination for re-election to the office of Lecturer on Anatomy and Physiology at the Royal College of Surgeons, as he finds that he cannot complete, in the three lectures about to be delivered by him at the College, the subject he has selected—viz., "The Comparative Anatomy of the Placenta."

HOSPITALS FOR SEAMEN IN TURKEY.

HER MAJESTY'S Consuls throughout the Turkish Empire are now authorised to pay a toll on all British vessels entering Ottoman ports. The fund thus raised is to be appropriated in providing hospitals for sick and disabled seamen. A provision for sick British sailors in Turkish ports has long been wanting.

PARLIAMENTARY.—MEDICAL OFFICERS OF THE ARMY—SALE OF FOOD AND DRUGS—PUBLIC HEALTH.

IN the House of Commons, on Friday, May 21,

Dr. Lush gave notice that on June 18 he would submit to the House a motion declaring that in the opinion of the House the position of medical officers in the Army, as respects their rank and pay, is unsatisfactory, and requires revision.

The Sale of Food and Drugs Bill was further amended in Committee.

Mr. Sandford proposed that the retail dealer should have right of action against the wholesale dealer in cases of adulteration, which was agreed to.

An amendment was also inserted prohibiting the appointment in any place as an analyst of any person carrying on any trade or business connected with the sale of food or drugs in such place.

Some verbal amendments were agreed to, and the Bill advanced a stage.

On Monday, May 24, this Bill was read a third time and passed.

On Tuesday, May 25,

The House went into Committee on the Public Health Bill, previous to which there was a long discussion with reference to the general construction of the Bill; and

Mr. Sclater-Booth said, among other things, that, with regard to water supply, he was aware that the powers for obtaining an adequate supply of water were deficient, but he could not deal effectually with this deficiency in the present Bill. Three considerable difficulties stood in the way—1, the rights of existing water companies; 2, those of private owners; and 3, the difficulty of compelling private owners to lay out money for this purpose. The subject would either be inquired into by a royal commission, or the Government would propose legislation with reference to it as soon as possible. He was not prepared to make provision for the compulsory establishment of hospitals, or to introduce measures for the isolation and prevention of fevers and contagious diseases, although the Local Government Board were doing, and would be able to do, still more in this direction when the Health Bills were consolidated.

On Clause 17, Mr. Sclater-Booth also promised to introduce words to prevent the conveyance of sewage into "any lake, pond, or canal," in addition to "any natural watercourse."

On Clause 68, Mr. Rathbone moved to insert words to prevent the use of impure water for the manufacture of soda-water or other drinks, which was adopted; and

Mr. Denison moved to insert words to compel owners of wells or cisterns to repair them when necessary, so that they should not become disused, and the tenants deprived of water.

This Mr. Sclater-Booth assented to conditionally.

Clause 168, referring to the construction of halls for public meetings where required, was negatived; and, as we stated last week, all other clauses up to Clause 198 were agreed to.

NOTES OF THE

DISCUSSION ON PUERPERAL FEVER.

THE debate at the Obstetrical Society on Wednesday night did not commence till 8.45 p.m., owing to several of the Fellows having specimens to exhibit at the commencement of the proceedings. At the suggestion of the President, Dr. Savage gave way to Dr. Arthur Farre, who is an Hon. Fellow of the Society. Dr. Farre did not suppose anyone expected to hear anything very new, but rather to compare notes and take stock of our knowledge, with a view to encouraging further observation and research. He thought we hardly read enough and thought enough of the writings and labours of our predecessors, such as Denman, East, and Kirkland. He referred at some length to the writings of the latter, and to some extent adopted his view that puerperal fever includes any disease happening during or connected with the puerperal state. The great objection to this view was that it did not advance our knowledge, but rather led to confusion by mixing up many different diseases. Fever is merely a sign or set of signs, but the name of a disease ought to indicate that disease, and not the condition of the individual. He then referred to what Mr. Wells had said with regard to the definition in the "Nomenclature of Disease," and stated that definitions were only given as means for identifying the diseases, and not with a view to any dogmatic teaching; and he further pointed to the fact that puerperal fever was not placed among the specific fevers, but after such diseases as erysipelas, pyæmia, etc. Passing to Mr. Wells' questions, he said he had found difficulty in answering them, in consequence of the syllogistic form in which they were put—*i.e.*, they were intended to lead up to a conclusion. He answered No. 1 in the negative, and, taking 2 and 3 together, said he was unwilling to assent to 2, because in so doing he closed No. 3, to the form of which question he took exception because it implied that these diseases in parturient women did not differ from the same diseases in non-parturient women, men, and children; whereas there are processes going on in the parturient woman, such as milk fever and involution of uterus, which have no parallel in other conditions. For example, any septic state stops involution and adds its morbid products to intensify the existing, or perhaps add a fresh, kind of sepsis. He wished that he had suggested the term puerperal *fevers* instead of *fever*. He divided them into three classes—first, the simple or irritative

fevers; second, the puerperal ephemera, which are not specific; third, the eruptive and blood fevers; and this last class he would separate from puerperal fever. He thought post-partum fevers would be a good term as implying no theory. He suggested that erysipelas, scarlet fever, etc., occurring in the parturient woman should be registered in a separate column, but side by side with the corresponding diseases in general. In considering the pathology of the state we have thought too much of a blood poison, and not enough of the influence of the nervous system and nerve centres in the intermediate stage after the poison has entered the system, but before it declares itself by the recognised symptoms.

Dr. Savage had come prepared to express decided views, but had been somewhat shaken by what had fallen from Dr. Farre. He could not agree with him in leaving the matter in such an uncertain condition. He considered the evidence given at previous meetings by country Fellows conclusive against any such view as that which Drs. Hicks and Barnes seemed to favour, that there was some direct connexion between scarlet fever and puerperal fever. Is puerperal fever a fever at all?—for we have cases in which there is no elevation of temperature, and yet they are fatal cases of septicæmia. Is this septicæmia different from other forms of septic disease seen in surgery, and after the use of stem-pessaries, and after uterine and ovarian operations? He would place this septicæmia entirely apart from all such simple things as milk fever, etc. As to the question whether we know anything of the poison, he maintained that he had seen it, and touched it, and felt it: he referred to the sanious serum found in the peritoneum, the removal of which checked the disease. He referred to the experiments of Billroth and others, in which they had produced fatal septicæmia in animals by injecting such things as sulphuretted hydrogen, etc., as opposed to any germ theory. As to the channels of introduction, Sanderson's experiments had shown that particulate poisons can only enter through the absorbents. Dr. Savage did not believe in the particulate nature of this poison, however. He then referred to the "burglar theory" of Dr. Graily Hewitt, which he objected to. There are no open sinuses in the uterus after the removal of the placenta; if there were we should have bleeding; but there are lymphatics in direct communication with the peritoneum. He asked the question how the finger of the attendant or nurse caused the infection, and referred to the well-known fact of stale meat tainting fresh, though not in actual contact with it. With regard to pyæmia, he did not believe in pus in the blood except as an increase of leucocytes, which were a natural constituent.

Dr. Wynn Williams would answer to question 1, there is no disease which we cannot trace to some sort of infection—*i.e.*, no disease *per se*, and no special morbid poison. To question 2, he would answer that it cannot be referred to any special disease; and he repeated the arguments as to women being beside scarlet fever, etc., and not taking it, and to their having specific fevers, and yet no special uterine manifestation. He would take 3, 4, and 6 together, and say everything is due to septic contamination of the blood, the wearied and torn uterine parts naturally suffering most. He agrees with Dr. Graily Hewitt, except that he would not call it "pyæmia." Formation of pus is a healthy sign, and gives a better chance of recovery; only putrid pus is harmful. The poison enters in a state of solution through some breach of surface in the rapidly fatal cases; in the more chronic ones as a vapour. There are three channels—retention of materials, clot, etc.; bruising and sloughing of the parts; conveyance of septic poison to the parts from without. Prevention: first by leaving nothing in uterus or vagina; isolation, ventilation, etc. Treat by syringing with antiseptic lotions. As to question 5, he regards bacteria as a "delusion and a snare": they live on putrid matter, but do not produce it.

Dr. Playfair pointed out how little real knowledge we have, and how systematic writers have caused confusion by professing to deal fully with the subject on imperfect data. We are only on the threshold; the great difficulty is the relation of the zymotic diseases to puerperal fever. He does not believe in any special poison or miasm in the disease. It is never epidemic in the true sense, but only endemic. He considers surgical septicæmia, etc., the same as puerperal. The channels of diffusion are the veins and lymphatics. He took exception to the argument used by Dr. Brunton on a previous occasion, because it was founded on negative facts. He considered the evidence as to interchange between such diseases as erysipelas, diphtheria, and puerperal fever conclusive, and he pointed to Dr. Hicks' paper already referred to. If puerperal fever be pyæmia, zymotic poisons should act in the same way after surgical operations, and he hoped Mr. Wells would speak on this point in his reply. As to the burning question of the conduct of practitioners, he agreed with Dr. Duncan as to ordinary antiseptic cleansing of hands, etc., being sufficient, without absence from practice, etc. It is impossible in general practice to avoid attending both fevers and confinements.

Dr. Tilt could not agree with Dr. Playfair in his views on scarlet fever, erysipelas, etc., and he pointed to the number of exceptions given in Dr. Hicks' paper. He thinks the Pathological Society have settled the germ theory for us. He supports the autogenetic view of puerperal fever, which he considers has not been brought forward sufficiently in the discussion. Fetid lochia often escape observation, and are commoner than we think. Nothing is of any use in treatment but intrauterine injection. Does not believe in the danger of infection from the syringe or passage of fluid through the Fallopian tubes into peritoneum.

After a proposal by Dr. Brunton that intending speakers should send in their names before the next meeting, and if there are too many, a ballot be taken, so as to make sure of finishing at the July meeting, the discussion was adjourned on the motion of Dr. Snow Beck.

FROM ABROAD.

Affections of the Sebaceous Glands.

Dr. Wigglesworth has contributed an interesting paper on this subject to the *Boston Medical and Surgical Journal* for January 28 and March 18. Speaking of the comedones, or so-called maggot pimples, produced by the obstruction of the sebaceous follicles and the accumulation of their contents,—the black colour of the free extremity of the sebaceous plugs thus formed being caused by the dirt of the atmosphere with which they come in contact,—the first point, he observes, in their treatment is to remove the matter so accumulated. This is best done by placing a watch-key over each in succession, and then pressing steadily and firmly down. The plug comes out like a worm (whence its popular name), pushing itself upwards into the bore of the key, and often springing out with a perceptible jerk. The key should have a large bore to admit of the entrance of the plug, and the walls of the tube should be thick and smooth (as in new keys) to avoid cutting through the skin, as with a punch. It should be placed exactly perpendicular on the skin, to prevent any cutting by one of the angular edges. It does not do at first to persevere in the use of the key if the reaction of the skin leaves a condition of things worse than that previous to treatment, as may sometimes be the case with skins predisposed to urticaria. Too many of the comedones should not, for the same reason, be removed at a single sitting from a limited portion of the skin. As a rule, the reaction soon disappears, and it is best to perform the operation at bedtime to enable it to do so. Several days may be required in order to extract all the comedones, and they are not always extruded on the first application of the key. In this case, the face may be exposed to the steam of hot water for a time before using the key, or the attempt may be renewed after the additional treatment to be described has been pursued. Or, again, a troublesome but almost unfailing plan may be employed, consisting in inserting the point of a cambric needle into the aperture of the follicle to the depth of a hair's breadth, and moving it around, but not so as to draw blood. This dilates the follicle, besides removing the epithelium or whatever closes the orifice, and then the key readily succeeds. The comedones, if not removed, act as foreign bodies, like splinters, and cause inflammation of the skin, which usually results in the pustules of acne.

Coincidently with this treatment, and without waiting for the removal of all the comedones, local applications are to be employed. Of these, for skins that will bear it, common soft soap is the best, while for thinner skins yellow soap, and for delicate ones Castile soap, may be substituted. When in delicate women even this last cannot be borne, sponging the face with eau de Cologne may be resorted to. The object is to soften and remove the epithelium, dissolve any remaining sebum, and

wash out those follicles that have been emptied by the key; and for these purposes soaps are the cheapest and the most convenient and efficacious remedies, their action being increased by rubbing them in or by spreading them as a plaster on cloth and leaving them on. The German soft soap (*sapo viridis*) is a more elegant preparation than common soft soap; and the best preparation is made by dissolving two ounces of it in one ounce of rectified spirit, and allowing it to digest, afterwards straining and scenting. This spirit of soap is best applied with flannel, and rubbed into the skin either alone or with the addition of warm water, as the alcohol evaporates and the soap hardens. When merely washing the skin is not sufficient, the soap should be rubbed on, and the foam be allowed to stay on all night. After a week or two of the use of the watch-key, followed by that of the soap, the key may generally be dispensed with, the face being merely washed with the soap three times daily. White precipitate ointment should also be applied with the finger at night, and washed off with the soap in the morning. If the skin should become too dry, irritated, painful, or furfuraceous from the use of the soap, this may be temporarily omitted, while the ointment is continued; or Hebra's diachylon ointment may be substituted. The former gives us the action of mercury on the glands, and the latter acts as an astringent. Both supply to the skin the fat removed from it by the alkali, while at the same time they soften the hardened sebum in the follicles. The action of mercury may also be obtained by adding two grains of corrosive sublimate to an ounce of glycerine, alone or with a little rose-water. Glycerine, however, is a base, and not a pure fat: and although, like the fixed oils, it does not dry up, it is sufficiently hygroscopic to withdraw water from the skin, and is to many delicate skins a strong irritant.

When stronger applications are necessary, sulphur-soap may be used in the same way as common soap; or precipitated sulphur may be combined with carbonate of potass, glycerine, and alcohol, and for mild cases with cherry-laurel water, for more severe ones sulphuric ether—of all equal parts. This mixture should be spread on the skin with a camel's hair brush, or rubbed in gently at night, and washed off in the morning with bran-water, barley-water, or water containing a little mucilage. Frequently after the second application, and usually after the third, the skin becomes somewhat painful and reddened, possibly a little swollen, tightly drawn, and covered with fine scales. We have then attained our object, which is to set free the exits of the follicles, removing by desquamation the epithelial *débris* obstructing their orifices. The lotion, therefore, may now be omitted for two or three nights, and its place supplied by any simple ointment—an astringent one preferably—to remove the feeling of tension in the skin, and, by taking the place of the exfoliated epidermis, to protect the new cells. Such ointments should be applied on cloths like plasters; an ointment so applied being, according to Hebra, worth three times as much as when merely rubbed on and left to be removed by the first thing with which it comes in contact, and forming in the meantime a receptacle for dirt. Such ointments, spread thickly, should be allowed to remain on the skin all night, and washed off with soap and water in the morning. A general direction should also be given to employ soap in every ablution. A practical point has also to be borne in mind—viz., that a mercurial ointment and a sulphur paste should never be employed coincidently, especially on parts exposed to view. The chemical combination of the sulphur with the mercury causes a black deposit on the skin and in the orifices of the follicles, producing much the appearance of the very disease which is under treatment. Sulphur combines in the same way with the ingredients of lotions which might be employed, as those of lead.

Comedones are usually only a local affection. When constitutional treatment is required, it is usually on account of the anæmia or great debility of the patient; and this is often due to a scrofulous or phthisical *habitus* which interferes with the nutritive processes, and amongst others with those of the sebaceous glands. Tonics are therefore called for, especially the nutritive oils. Olive oil, half an ounce, after meals, is nutritive and slightly laxative. The animal oils are perhaps preferable. Cod-liver oil may be freely given alone or with a little glycerine. Half an ounce of glycerine added to a six-ounce mixture of very many medicines tends to conceal any disagreeable taste. This applies particularly to the oils, and especially if a few drops of oil of cinnamon are added, and the mixture well rubbed together.

Passing over Dr. Wigglesworth's observations on seborrhœa and some other affections of the sebaceous glands, we may notice a few of those he makes on acne. This may be one of the results of comedones, or may follow eczema, and is a usual result of the external application of tar to the hairy parts of the skin. The internal use of the iodides and the bromides may also cause it; but it does not, like urticaria, depend upon the use of certain articles of diet. The continual feeling the face by the finger when comedo or other trouble is present, as is common with women and nervous persons, tends to produce acne, the oil of the finger occluding the orifices of the sebaceous ducts; and some irritating ointments act in the same manner. It is a very obstinate disease, tending to recur when removed, and requiring attention to be paid to underlying gastritis or other morbid conditions. Treatment should be commenced early and long persisted in, and that which is suitable has been described under "comedones." The German *sapo viridis* that is most suitable is that of Duvernois, of Stuttgart, which contains 4 per cent. of caustic potass in excess or above neutral. The various forms of mercurial plasters are of value, as are also the stronger mercurial ointments combined with from four to eight parts of simple ointment. The best results are obtained from lotions, soaps, or ointments containing sulphur, care being taken in the lighter forms of acne not to irritate by over-stimulation. Scarification, or puncturing with a lancet every separate papule or pustule, is of great service. Acne is an inflammation of the follicles and contiguous parts, capillaries being enlarged and white corpuscles exuded into the corium, so that a papule is formed. Reabsorption may ensue, or cell-disintegration or tissue-formation.

In the first case the papule disappears; in the second there is, according to G. Simon, a drop of pus formed in the corium; and in the last we get acne indurata, which may last for years. Puncture in the first case relieves the distended capillaries and promotes reabsorption. In the third case the scaling of the cuticle, which is necessary for the gradual reduction and removal of the indurated nodule, is furthered by the division of the tissue-layers. It is, however, especially in the second case, which is the one commonly presented to our notice, that the greatest benefit is derived from puncturing the papule and allowing it to bleed under warm applications. The condition is practically that of a furuncle, the pus making for itself an inadequate aperture through the epidermis. This is hard and horny, and, by the time its strata have been bored through, the subjacent softer layers have been absorbed to such an extent that reparation can only be made by cicatricial formation, giving rise to a scar, which might have been prevented by interference. In some cases many follicles merge together into small abscesses containing large quantities of pus. We have not space for the author's observations on the internal and hygienic treatment of this affection.

Dr. Bouchut on Eserine in Chorea.

In the *Bulletin de Thérapeutique* for April 15, Dr. Bouchut, of the Hôpital des Enfants Malades, terminates an elaborate essay on the employment of eserine, the active principle of the Calabar bean, with the following conclusions:—

1. On summing up the results of 437 trials of eserine administered in moderate doses to children, we find that it acts on the muscular contractility, which it diminishes, and on the contractility of the small vessels, which it increases. 2. Eserine or the sulphate of eserine may be administered either in hypodermic injections or by the stomach, and should be employed fasting. 3. In the form of hypodermic injection it may be used in doses of from three to five milligrammes. The action is more energetic in this mode, so that the dose should be one-half less than when given by the stomach. 4. The action of eserine lasts for two or three hours, by which time its effects are quite exhausted, so that the doses may be so repeated that from fifteen to twenty milligrammes may be injected (in three or four times) during the day. 5. It manifests its effects on children in a few minutes, but more rapidly from injection than by the stomach. 6. In doses of from three to five milligrammes these effects are so constant that they have failed to be observed only in three children. 7. Generally, eserine produces pallor, with contraction of the pulse, sometimes followed by diminution in frequency. Almost all the children treated by it manifest uneasiness, loudly moan, and suffer from gastralgia, nausea, and the sputation of aqueous, glairy matters. Sometimes there has been bilious vomiting. The temperature has not been sensibly modified. By the doses indicated, neither colic nor diarrhœa has ever been induced. The pupil has been only quite exceptionally affected.

A considerable transpiration has been often observed on the face and body. Paresis of the diaphragm, and even its temporary paralysis, are the most serious and painful phenomena observed after the employment of an injection of five milligrammes. 8. When the effects of the eserine have become exhausted, the children resume their natural condition, and no consecutive effects are observed. 9. Eserine is not found in the urine when employed in the small doses mentioned. 10. Administered in cases of chorea, eserine arrests the movements during the continuance of its action, and gradually modifies them during the intervals, so that the cure of the disease is effected in a mean period of time of ten days. These effects are more certain when it is administered by hypodermic injection than when given by the stomach. 11. During these researches, eserine has never produced trembling or convulsions; and it is probable that these accidents are only induced when it is given in large and poisonous doses.

FOREIGN AND COLONIAL CORRESPONDENCE.

FRANCE.

Paris, May 2.

THE LATE FATAL BALLOON ASCENT—THE "BAROMÈTRES-TEMOINS"—PROPOSED FRESH VOYAGES.

THE public mind has lately been most painfully occupied with the terrible catastrophe that befell the three aëronauts of the "Zenith" in their ascent about a fortnight ago, which proved fatal to two of them, and placed the life of the third in extreme jeopardy. The immediate cause of death is still a disputed point, and the subject has been fully discussed both at the Academy of Sciences and at the Academy of Medicine. At the Academy of Sciences it was maintained that death was caused by asphyxia; whereas at the Academy of Medicine it was attributed to the extreme rarefaction of the air. Some of the *savants* have advanced that both the hypotheses are correct; but the opinion of M. Gaston Tissandier, the surviving traveller, is that the deaths of Sivel and of Crocé-Spinelli, his companions in the "Zenith," were evidently caused by the rarefaction of the air. M. Woillez, of the Academy of Medicine, so well known for his researches on this and allied subjects, has pointed out that the chemical phenomenon resulting from the absorption of oxygen, as recommended by M. Paul Bert, is insufficient to counterbalance the mechanical effect of the atmosphere as it is found to exist at a height where the barometer marks 280. M. Colin, another well-known Academician, stated that no amount of *ballonnets* (bags) of oxygen, whatever may be their number, would be sufficient to bear against the low atmospheric pressure which exists beyond a height of 7000 metres. The deaths of the two aëronauts in question, he added, were not caused by want of air or by an insufficiency of oxygen. At an altitude of 7000 metres, the density of the atmosphere is reduced by half, and the quantity of oxygen contained in a given volume of air is reduced in the same proportion; but the diminution of oxygen in the case under notice could not have caused death. It is known by experience and proved by experiment that a human being is capable, without any great inconvenience, of living for some time in an atmosphere containing half the normal quantity of oxygen. No amount of inhalation of oxygen would have prevented the bleeding from the mucous membrane of the mouth and lungs, which was accompanied by extreme lassitude and temporary paralysis of the respiratory muscles, which proved fatal—symptoms caused by low atmospheric pressure. Another point to be taken into consideration is whether the gases generated during digestion in the stomach and intestines would not under such conditions act in such a way as to push the diaphragm upwards, and thus interfere with the movements of respiration. This would seem to have been demonstrated in the case of the surviving traveller, who, according to his own account, escaped the sad fate of his companions by having undertaken the ascent with an empty stomach, whereas the latter had enjoyed a hearty meal before starting. Besides which M. Tissandier remained for a longer time in a state of syncope, in which all three fell when the balloon got up a certain height, and which enabled him to resist the unusual influences to which he was exposed. M. Tissandier is reported to have said that his possessing a "lymphatic" temperament also contributed to the safety of his life, whereas his two companions were of an "excitable" temperament. Be this as it may, the majority of the members of both Academies, after the official inquiry on the subject, have come to the conclusion that death in the present case may be attributed to causes which are neither purely chemical nor purely physical, but to the combined influence of physico-chemical causes. This, in my humble opinion, is the proper manner to view the case. There is no doubt, also, that the velocity with which the "Zenith" ascended contributed in a great measure to the melancholy end of these brave pioneers of science, for in less than ten minutes after I had seen the balloon high in the air, it had disappeared, although it was travelling in a vertical direction.

You are aware that the object of the ascent was to ascertain the relative proportion of carbonic acid existing in the different strata of the atmosphere in the higher regions; but these researches could not be carried out, as the apparatus intended for the purpose got broken in the ascent, or rather in the descent; for it will be remembered that when the "Zenith" had reached 8000 metres it descended a certain distance, and it was at this level when the unfortunate Crocé-Spinelli, in a state of delirium, threw overboard everything he could get hold of. This had the effect of so lightening the balloon, that it reascended with vertiginous rapidity, as if, to use M. Tissandier's own words, "it was being sucked up towards the sky." The height attained by the balloon was 8600 metres, and not 14,000 metres, as stated in some journals. This was ascertained by the barometers prepared for the occasion. This is more than twice the height of Mont Blanc—a height that had not been attained in any previous balloon ascents, although it has been stated that Mr. Glashier, the celebrated English aëronaut, reached 11,000 metres. This is evidently erroneous, as the height which Mr. Glashier attained could not have been measured with such precision as has been obtained with the "baromètres-temoins" used on this occasion; for the means adopted by Mr. Glashier were limited to measuring the velocity with which his balloon ascended within a certain time and under the supposition that the rate is constant; consequently, according to the French Society of Aëronauts, the conclusions arrived at by Mr. Glashier are inadmissible.

As the "baromètres-temoins" seem to be something new, a short description of them will perhaps interest your readers. These instruments consist of a reservoir of mercury surmounted by tubes hermetically closed, in which a certain quantity of air is confined. The external atmospheric pressure communicates with the interior by means of holes at the bottom of the reservoir. These holes are small and capillary—that is, they are so small as not to admit the ingress of air, and yet they are large enough to allow the mercury to escape when the external pressure becomes less than that of the air in the interior of the instrument, a phenomenon which takes place as soon as the balloon rises above the surface of the earth. The height attained is therefore measured by the quantity of mercury expelled, and, as I have stated above, the height attained by the "Zenith" crew was ascertained to be 8600 metres.

The moral lesson to be drawn from all that has been stated above is, that man ought to keep within his own sphere, as from his organisation he is no more fitted to soar to the lofty regions of the air—at least within certain limits—than he is to dive into the depths of the ocean. In this I am borne out by many *savants*, and among others I may name Baron Larrey, one of the members of the committee appointed to inquire into the affair of the "Zenith," who advises that until some means are discovered that would effectually protect our organs against the mechanical effects of unequal atmospheric pressure, it would not be prudent to launch too high. "Do not," added the learned Baron, "trust to the bags of oxygen so much vaunted by certain parties; before commencing an ascent the food ought to consist of carbonaceous substances which are known to produce the least gas in the stomach and intestines; and, if there can be any use in attaining an altitude of 7000 metres, this height should never be exceeded." Here, then, is a salutary warning for future explorers; and this is seconded by M. Faye, the illustrious astronomer, who, in a letter to the Academy of Sciences, which was read at the last meeting, recommends that aëronauts should limit their ambition to an altitude of 7000 metres, which is surely quite sufficient for all human purposes.

But notwithstanding this strong advice and the lesson to be

drawn from the fatal results of the ascent of the "Zenith," M. Gaston Tissandier, the only survivor of the crew, intends making another ascent in order to carry out the object of his last voyage—viz., to ascertain the relative proportion of carbolic acid contained in the higher regions of the atmosphere. M. Tissandier is certainly much to be admired for his courage and perseverance in the cause of science, but it is to be hoped that he will bear in mind the sad end of his ill-fated companions, and accept the wholesome advice proffered by such men as Faye and Larrey.

It would appear that the catastrophe attending the "Zenith" is not sufficient to cool the ardour of other aërial navigators, as it is reported that M. Durnof, the intrepid aëronaut, whose name is well known in connexion with the disasters attending the "Tricolore," which nearly cost him and his wife their lives, proposes making an ascent in company with M. De Fonvielle and Mr. Mariotte, the *Times* correspondent of Paris. The object of this voyage, as described by M. De Fonvielle, is to ascertain the conditions indispensably necessary for the safety of those who may wish to make a voyage in lofty regions. These gentlemen, however, are more cautious, for they intend penetrating very gradually into the aërial regions, and studying the effects of each layer of air on their own constitutions. To enable them to do this with some degree of safety to themselves they are to be provided with various apparatus for the purpose of testing the influence of the rarefaction of the air, and of the gas that escapes from the balloon on certain animals. These animals will be placed in cages near the lower opening of the balloon, and the effects of the gas on them closely observed. When the animals become affected by the gas it will be considered a warning that the travellers have reached the height to which they can with safety ascend in balloons opened at their inferior extremity, and that this would most probably correspond with that where MM. Crocé-Spinelli and Sivel were asphyxiated.

Besides these intrepid travellers there are other aëronauts and *savants* who have proposed to the Aëronautic Society of Paris to undertake an aërial voyage, and continue the experiments begun by the crew of the "Zenith." They are to be provided with a special apparatus, the object of which is to prevent asphyxia, and at the same time to counteract the effects produced by the sudden transition from a dense to a light atmosphere, manifested by symptoms of pulmonary apoplexy and other forms of hæmorrhage. The boat of the new "Zenith" is to contain a reservoir of compressed air, which is calculated to be sufficient to sustain the life of a man without any inconvenience for several hours. When the balloon reaches an altitude where the respiration becomes difficult the travellers can have recourse to the reservoir, and thus ward off the ill effects above referred to. In addition to this they are to wear a "scaphandre" or envelope made of vulcanised indiarubber, which is also filled with air. The wearer of this new style of clothing will be covered from head to foot, something after the fashion of Captain Boyton, the great nautical adventurer. It appears that by means of this envelope the body will be sheltered from the influences of the unequal density of the air, and that it will be able to bear with impunity barometrical depressions indicating an altitude of 15,000 metres. This may answer for the exterior of the body, but how about the interior? I must say I feel somewhat sceptical as to the results. However, the apparatus is to be subjected to experiments in the great iron pneumatic room at the Sorbonne, and no doubt a report will be made on the subject.

You will remember that in the summer of last year a prize of 400,000 francs (£16.000) was offered to any person who may discover the most effectual and practical means of destroying the *phylloxera*. M. Dumas, the eminent chemist and academician, has just announced that the remedy has been found, and that henceforward there need be no apprehension as to the prosperity of the vine. The communication made by M. Dumas to the Academy of Sciences on the subject simply states that, judging from experiments carried out by the Academies of Paris and Montpellier, there can be no doubt as to the success of the remedy, and that instructions will soon be issued to the viticultors to enable them to protect their vines. I think it a pity it had not been done earlier, as the work of destruction by these parasites must have already commenced. The anti-phylloxeric remedy consists of a sulpho-carbonate, which is to be mixed up with the manure, and applied to the vine. This has been tried with great success by M. Marés, an able chemist of Montpellier, but the report does not state whether the experiments have been practised on a sufficiently large scale to justify its application to whole vineyards, and consequently the claim of the discoverer to the prize. There is no doubt that in the chemist's laboratory, or even in a small vineyard, the experiment has proved eminently successful, but the feasibility of the application of the remedy over some thousands of acres is another question. But, besides the undoubted efficacy of the sulpho-carbonate as a remedy against the *phylloxera*, the cost of its application must also be taken into serious consideration; and from what I have learned, the remedy would cost considerably more than the produce of the vine, whether in the form of grapes or wine.

GENERAL CORRESPONDENCE.

PAROXYSMAL HÆMATURIA OR HÆMATOLYSIS.

LETTER FROM DR. ALFRED WILTSHIRE.

[To the Editor of the Medical Times and Gazette.]

SIR,—The observations in your issue of to-day's date on the curious malady called "paroxysmal hæmaturia" have singularly interested me. My own views respecting the pathology of this and a large class of allied disorders (for I believe we have here the key to some at present obscure and ill-understood diseases) are largely in accord with those expressed in your article on the subject. They were formed some years ago as the result of much thought and observation of the disease in question, and as the conclusion seemed inevitable that one, at least, of the essential phenomena of the disease consisted in the destruction of the red blood-corpuscles, it seemed to me, for a variety of reasons which it would be inexpedient here to state, fitting that the name "paroxysmal hæmatolysis" should be applied to it in preference to the terms "intermittent or paroxysmal hæmaturia," "hæmatinuria," or "cruenturia." The process certainly seems to be a hæmatolytic one; and, having in view its markedly paroxysmal character, the name I suggested to Dr. George Harley and others some years ago—viz., "paroxysmal hæmatolysis"—seems, in the present state of our knowledge of the intimate pathology of the malady, to be the most appropriate one. "Hæmaturia" would be suitable were there no dissolution of the blood-elements; and your excellent article and Dr. Thudichum's researches furnish ample grounds for rejecting the use of the word "hæmatinuria" in this connexion.

I am, &c., ALFRED WILTSHIRE, M.D.

57, Wimpole-street, Cavendish-square, W., May 29.

THE EARLY HISTORY OF CHLOROFORM.

LETTER FROM MR. G. W. CALLENDER.

[To the Editor of the Medical Times and Gazette.]

SIR,—Sir Robert Christison, himself in times past a pupil at St. Bartholomew's, has drawn attention to the first use of chloric ether by Sir William Lawrence and Mr. Coote. In the company of my late colleague Mr. Coote, and of my friend Mr. Furnell, I have heard the facts you allude to more than once narrated, and they are well known in our school. Perhaps we ought to have published them more widely, but you will find them referred to in the article on anæsthetics by Mr. Lister, in the "System of Surgery," with the exception, it is unfortunately true, of the mention of the intelligence and zeal which prompted Mr. Furnell, whose distinguished Indian career is also well known, to bring chloric ether under the notice of our surgeons—an omission which ought to be remedied in any future edition of the work.

As so-called antiseptic surgery is attracting attention, will you permit me to mention, as I have in my lectures already repeatedly done, that carbolic acid was first used in this country as a cleanly dressing for wounds in the wards of St. Bartholomew's Hospital during the winter session of 1862-63, the acid having been sent for trial to Mr. (now Sir James) Paget, and its use having been superintended by his House-Surgeon, Mr. Edlin. It has since been used in the management of our cases, with results better than any obtained from the more complicated antiseptic treatment, in a practical common-sense way to prevent decomposition in the discharge from wounds. Salicylic acid has also been employed since the beginning of the past winter session for a similar purpose. I mention this, which was referred to at one of the meetings of the Clinical

Society, as, from a paper by Dr. Thiersch, recently translated, it may seem as if this remedy were one with which we are not practically familiar in this country.

May 31. I am, &c., George W. Callender.

REPORTS OF SOCIETIES.

ASSOCIATION OF MEDICAL OFFICERS OF HEALTH.

Saturday, April 17.

Dr. Letheby in the Chair.

The Practical Power of Soil and Air, combined with Vegetation, to Purify the Sewage of Water-closet Towns.

Dr. Alfred Carpenter read a paper on the above subject. He said: The practical power of soil, air, and vegetation to purify the sewage of water-closet towns must be distinguished from that which may be called the theoretical view of the question, because the theoretical power of agriculture to purify sewage is not now denied by any reasonable student of nature. The theory of sewage purification by soil is the foundation of sewage irrigation, but the power of soil is not everlasting; its power to extract organic matter has a limit, and if the action of the filter be continued after that limit has been reached, there is a cessation of purification, and nuisance and its contingencies are inevitable. The water which passes through the filter may be absolutely less pure than before filtration was effected. The result of this action was shown last year at the Royal Patriotic Schools at Wandsworth, in which it was proved by chemical analysis that the water supplied to the children in the girls' school was less pure after filtration than before; that it contained more nitrogen and phosphoric acid than was present in the water before it passed into the filter. If a filter is continuous in its operation, it soon fails; but if its action is intermittent, if the soil in use is allowed to run dry, and the interstices which naturally exist in it, and which, whilst in action, are filled with water—if those interstices are allowed to become re-charged with air, the power of the filter is restored and purification is again effected. There is an oxidation of the organic matters contained in the interstices of the filter; the arrested organic matters become organic salts, and pass away when the filter is used again, dissolved in the water as nitrates and nitrites, and if looked for afford evidence of a so-called previous sewage contamination. In themselves they are harmless in the quantities in which they are usually found in filtered water. This is the principle in operation in the plan which is now finding favour under the name of "downward intermittent filtration." A filter requires rest to allow of the access of oxygen for the purposes of oxidation; but the true principle of sewage utilisation is, for that oxidation not to take place at all, but that the organic matter which is arrested by the soil should be taken up into its natural storehouse, made to revert into the formed material of plant-life at once, rather than to change into a chemical salt which has to be decomposed again by the vital power of the plant, reabsorbed into its juices, and so brought back to organic life by a roundabout process, instead of that direct one which Nature provides in her agricultural laboratory. It has been supposed by physiologists that it is in all cases necessary for such a change in the character of organic matter to take place before it can be assimilated by plant-life. It has been thought that the effect of manure when applied to land has to be obtained after the stage which has been called previous sewage contamination has been reached—viz., that all organic matter is changed into ammonia, nitrates, and nitrites, or has entered into chemical combination with the earthy bases and sulphur and phosphorus, which are more or less found in manure of every kind. In the year 1868 I showed that this was not so; that, at any rate as regards rye-grass, that plant may be called carnivorous in its tastes, and that the rootlets of a young crop of rye-grass seize upon the organic elements which are contained in sewage, bring them into immediate contact with the extremities of the spongioles of the plant, and that an actual digestion of the animal matter takes place without any reduction to organic salts coming to pass, such as that which really does arise in the process of filtration. Dr. Hooker, of the Royal Gardens at Kew, has followed out the observations of Dr. Sanderson on the action of the *Drosera Dionæa*, and he finds it quite possible for plants apparently to invert the order of nature, and to draw a part of their nutriment from the animal kingdom, which, he says, "it was oftener held to be the function of the vegetable kingdom to sustain." That "plants can and do assimilate animal matter without that animal matter being first resolved into its ultimate elements." This is precisely the sum and substance of my own observations upon the power of rye-grass to digest animal matter. The protoplasm of rye-grass, as existing in the minute fibrillæ or spongioles of the root, can avail itself of animal matter for its support without that matter having first to undergo decomposition. The extreme end of the rootlet, the rootcap as it is called by some writers, consists of cells which, after the exercise of their function, become detached from the proper cell-tissue of the spongiole, and which have been actually engaged in this process of digestion. The great principle in the utilisation of sewage, from the preventive point of view, is, that if the granules of vital matter are brought into contact with the extremities of the spongioles of plant-life, their character is at once destroyed, and the contained nitrogenous matter is assimilated by the plant, oxygen or carbonic acid being given out, and neither vitally nor chemically are they the same matters as before they were acted on by the spongioles of the plant. There is an electric action excited, which will be found to be precisely similar to that shown by Dr. B. Sanderson to happen when the *Drosera* feeds upon the animal which is unfortunate enough to be embraced in its marvellous clutches. Mr. Darwin is of opinion that the *Drosera Dionæa* assimilates its food and digests its captives much in the same manner as does the human stomach. The inference may be easily drawn, that, if the *Drosera* can do this, the vital power which exists in the protoplasm of the fibrillæ of the rootlets of rye-grass can do the same. A very serious question is often asked, and sometimes answered in the negative—Will earth destroy the germs or granules of disease? Will such germs escape from the clutches of vegetable matter in earth, and become again active if passed into a watercourse? Pettenköfer has raised this question, and put forth the idea that ordure, mixed with earth, may be deprived of its noxious smell; but that the germs of disease may still remain. Thus, he asserts that the excreta of cholera patients may not be destroyed if they are mixed with earth, but may remain dormant, ready to develope into activity whenever they are placed in circumstances favourable to their reappearance. Supposing that such earth, containing ordure in excess, should become mixed with water, and that that water should carry away the germs of disease into a supply of water used for potable purposes, the disease would be reproduced by those germs or granules, even although they had been previously mixed with vegetable matter in earth. If this is correct, it would show that the earth-closet plan is not free from a danger which cannot properly belong to sewage irrigation, for there is no doubt but that the roots of the plants will infallibly extract every particle of matter of organic origin existing in the atom which has nitrogen in its composition, and which passes within reach of a living vegetable rootlet. Not a single granule capable of reproducing disease can reach the effluent stream if the fields are properly managed, and care be taken to bring every portion of the sewage into contact with growing crops. It will be asked how I show this to be a fact. I answer—by experiment, and the actual results of irrigation upon a neighbouring population. A point is sometimes made by some of the opponents of sewage-farming, that chemistry has not yet been called in to prove the safety for human consumption of the food raised from sewage. The question may be fairly argued upon its merits, and its value assessed according to the evidence. The result, however, is one which practice will solve; and if the chemist should tell me that Italian rye-grass entirely grown by the application of sewage gives chemical results which are to the sanitarian unsatisfactory and unsafe, I should answer at once that his chemistry is at fault. A long-continued use of rye-grass as a food for cattle, not in isolated and small quantities, but in quantities which may be estimated at many tens of thousands of tons every year, and the long-continued use of the products of a sewage farm in the form of milk, meat, and vegetables, have already satisfied me that his experiments would be wanting in some particulars, the absence of which has modified and altered the result. A recent writer asserts that infusions of ordinary meadow-grass, compared with infusions made from sewage-grown rye-grass, give results which

as regards the latter, are extremely unsatisfactory. From his experiments upon such infusions he comes to the conclusion that sewage-grown rye-grass contains a large amount of unassimilated nitrogenised matter, because he finds 2·33 times more nitrogen in the infusion made from rye-grass as compared with that from meadow-grass. Albuminoid ammonia cannot pass through the vital processes by which it gains admission to the animal economy without undergoing change, and that change renders it chemically different. Whilst a plant is thriving and luxuriant in its growth, the process of digestion is going on at the spongioles of the root, and when it gets too much it is surfeited and no longer luxuriant, and vegetation shows the result very quickly. It will be seen from the plan before you that the farm which has been under my notice for the past fifteen years is more or less surrounded by houses. I will give you presently the actual figures as to population. The farm consists of nearly 500 acres, of which 460 are more or less under irrigation, and about 280 have been persistently irrigated since the year 1860. This irrigation has not been in driblets, but the land has dealt with the sewage of nearly 50,000 persons—now probably 55,000—night and day, summer and winter, in dry weather and during heavy rains, in continuous snow, and during long frosts. The effluent stream from it goes into the River Wandle, and then runs through several estates, and the properties of gentlemen who would be excessively restive if nuisance were perpetrated; indeed, in former years they used to be excessively restive under nuisance of any kind. They have not hesitated in former times to put the law in force against the Croydon Local Board of Health for nuisances, and certainly will do so again if they have the chance. We know how decidedly the judges, vice-chancellors, and Master of the Rolls have put their veto on the continuance of sewage nuisance; and you may be certain, therefore, that, if nuisance had been created, efforts would have been made to stay it by an appeal to the courts of law by those who conceived themselves to be injured. No such attempt has been made since the effluent water from the present farm has been discharged at its present outlet—that is, for the last fourteen years; and yet no farm in the kingdom has been more sedulously watched, more roundly abused, or more carefully superintended by the supporters of manure companies and competing schemes than has the Beddington Farm belonging to the Croydon Local Board of Health. Does not this fact speak volumes as to the power of vegetation to effect its object—viz., purification from dangerous animal matter? Dr. Frankland's analysis which appears in the Report of the Rivers Commission shows that there is no loss of power on the part of the land to continue its purifying activity, and the analysis gives no countenance to the idea that land will in time become sick of sewage, provided the proper weight of crops are taken from it, as compared with the amount of sewage which is passed on to a given area. If fifty tons of produce are annually obtained from every acre of land upon which 5000 tons of town sewage have been poured, a ton of produce for every 100 tons of sewage, it will be found that a proper balance has been struck, and all manurial matter has been extracted which is at all likely to be obtained. It is found, however, in practice, impossible to get the fifty tons every year. The produce of our rye-grass land gives on the average about forty tons per annum; and, at the end of three years, the land is broken up and planted with some other crop, as mangold wurtzel, or cabbage, or both, or it is market-gardened, and during the time it is thus cropped the sewage is sparingly applied. Thus the fresh cropping takes out of the soil the matters which were not abstracted by the rye-grass, and the balance is restored without the possibility of danger arising to the health of the district around the farm. This is not a statement without foundation in fact; because an area such as that in the map before you, the major portion of which is within a mile of a populous portion of the parish of Croydon, must injuriously affect that neighbourhood if miasms such as are reported to arise can be produced. It is acknowledged on all hands that the parish of Croydon is not injuriously affected by any such miasms. The district of Croydon has now for many years shown a comparatively clean bill of health; and for many years no one has pretended that anything has sprung up at the farm which has affected the inhabitants of Croydon. I can even get a nearer estimate than is afforded by the parish of Croydon; for I have a numerical statement of the population and health statistics of Beddington and Wallington, from which it will be seen that, instead of introducing disease and death into the district, the introduction of the farm has been coincident with a low death-rate and a clean bill of health. I have obtained from the rate-collector of the district the number of houses which are now upon the rate-books. In the parish of Beddington they are 297, and in the hamlet of Wallington 348, giving a total of 645. They are similar in character to the Croydon houses, and most of them are situated within half a mile of the border of the farm, many being quite close to it. I found on analysis that the population in Croydon is 5·6 per house. This calculation, when applied to Beddington, gives a present population of 3607, and, taking that as a basis, it gives an estimated death-rate of 16·9: but we must remember that one house in the place, which joins the farm itself, has nearly 200 inmates. This ought to be added to the estimated population, and then we get 15·5, which is about as low a death-rate as is usually recorded; and, moreover, it corresponds with the estimate published last year by the Registrar-General as the death-rate for that particular district, without comparing it with other vital statistics of the place. The birth-rate has also to be considered, because a low birth-rate will help to disguise a high death-rate; because a high birth-rate has a corresponding high infant mortality among poor people, raising the death-rate without reference to the health of the district outside the dwelling-house. It will, however, be observed that the birth-rate has been correspondingly high. In the district of Croydon the birth-rate has averaged 34·4 in 1000; in Beddington it has been 35·7—that is, the birth-rate has been higher than in Croydon, while the death-rate has been lower by 4 in 1000. It has been argued that these figures may be fallacious, because the servants of those living in the better class of houses, if taken ill, are sent away to die elsewhere. This may be true, but I can get no evidence of it, and I have analysed the occupation of those registered as dying in the district, and I find several domestic servants who have come from situations elsewhere to die at home. They have helped to swell the death-rate to a higher point instead of reducing it. The average age at death equals thirty-seven, taking every infant as one year old. Whether this is high or low I do not know, but I am aware that the mortality might be much larger without any blame attaching to the farm as producing an unhealthy locality, because the whole of the district under consideration has no general plan of drainage. The houses have cesspools which in many instances are overflowing, and too often in close proximity to the wells from which the inhabitants draw their water-supply. In the year 1870 the medical officer attending upon the poor in the district presented a report to the board of guardians as to the sanitary state of the cottages close to the farm. Mr. Creasy says, in his report, "The water-supply from local wells is most impure, and decidedly bad both to taste and smell. . . . The cesspools are numerous and carelessly managed." Notwithstanding this honest denunciation of present evils, the board of guardians made no attempt to remedy things which need not have remained a single day unaltered. An examination of the causes of death, taking the causes as registered during the last year, shows that not a single case of fever has occurred. There is one caused by otitis after scarlet fever; two from measles; and two from erysipelas in infants under one year; and two from whooping-cough—seven deaths from zymotic disease out of fifty-nine, in a population of about 3800, or 1·82 in 1000. The ratio in Croydon for the same period was 2·3, in London 4·5. The Commissioners on Pollution of Rivers propose to allow any water to go into a running stream which does not contain more than two parts by weight of organic carbon in 100,000, or 0·30 parts of organic nitrogen. I have a report of the examination made of effluents from most of the sewage farms in the kingdom, from which it may be seen that in every case the water has complied with the conditions laid down by the Commissioners, notwithstanding the difficulties under which the managers of the farms labour in consequence of the ignorance of those in charge, and the obstructive action of designing persons. I have given an average as drawn from those analyses; it will be seen in that table that the practical condition of that average is not very far removed from the character of Thames water, and on many occasions an analysis of the Beddington effluent has given a result which is much more favourable than that which is supplied as potable water to the inhabitants of London.

Dr. Letheby, in opening the discussion, requested that the subject be considered under the three following heads:—
1. As to the power of vegetation to absorb organic matter.

2. As to the safety and use of sewage-grown crops. 3. As to the nuisance or safety of the proximity of a sewage farm to inhabited dwellings.

Dr. Voelcker doubted whether vegetables were able to utilise organic matters in their growth. He thought Liebig had long shown that plants live upon mineral food, and not upon organic matter. There are certain soils in which the ordinary method of manuring was essential to good farming; in others it was necessary to manure in spring, and that not too deeply. In some soils it was not good to manure shortly before seeding. In porous and light soils the decomposition of manure proceeds rapidly, but in clay soils it is the reverse. Plants of good feeding quality and properly manured have a small quantity of nitrogen. The large proportion of nitrogenous matter in sewage grass shows it to be of inferior quality as a food for cattle. He doubted much if such grass would make good cheese, as decomposition would most likely take place before it was "ripe."

Mr. Smee claimed to be "the father" of the sewage farm at Croydon, but spoke very strongly against it as a nuisance. He considers that sewage grass does not contain unchanged organic matter, but that in the interstices of the stems it is locked up, and will produce a bad smell; if bruised, the blades of grass retain, rather than assimilate, the solid excrement. From his own knowledge the people living around the farm have to send a mile for their drinking water, because the neighbouring wells are so tainted by filtration. If the nuisance be admitted, then there are ample means of rendering the sewage innocuous by precipitative processes, with lime, alumina, etc.

Dr. Corfield agreed in the main with the author's conclusions, but if much sewage passes over the soil the ammonia will be too abundant, and not changed into nitrites and nitrates. He had often, when crossing a sewage farm, picked the stalks of maize and found the grains quite sweet.

Dr. Stevenson found that ample oxidation was necessary, and therefore such a method of sewage removal is not universally applicable. It would be very desirable to limit the amount of storm water, especially in winter, as this interferes with the due oxidation of the sewage.

Dr. Letheby considered that careful inquiry should first be made as to the suitability of the soil. He criticised severely the tables furnished by Dr. Carpenter, as he considered them not only inaccurate, but showing a conclusion the reverse of what the author intended.

Dr. Carpenter, in his reply, stated that he had undertaken a variety of experiments with sewage water. He had sown rye-grass on moist land, and found that after a little time a feeble stem was produced, which languished and ceased growing: but after adding sewage to the land, the plants started afresh, and became quite vigorous. Sewage-grown hay, he considered, had a sweeter and better aroma than meadow hay. In proof of the sanitary condition of the farm, an acre of land was recently sold for £1000 in close proximity to the farm. Before the farm was cultivated the same land would have sold for about half that sum of money.

OBSTETRICAL SOCIETY OF LONDON.

Wednesday, May 5.

W. O. Priestley, M.D., F.R.C.P., President, in the Chair.

(*Continued from page 596.*)

Dr. Brunton: Mr. President and gentlemen, I feel called upon to rise and make a few remarks upon the subject now under discussion, because, as a general practitioner, I think that this subject of the power of carrying infection from one patient to another is of vast importance to all who are in the habit of attending all sorts of infectious diseases, and at the same time attending midwifery cases. If the poison of contagious diseases be so productive of puerperal fever as it has been pronounced to be by any of the speakers in this assembly, I cannot help saying that, in my own practice, I have certainly failed to find it such. The reason for it is this. I come forward as a practical man. Theory is all very well; but, when we come into general practice, one must look at what is seen in every day's work. The first midwifery case I ever attended was in the small-pox ward of the Royal Infirmary, Glasgow. The patient was in the full bloom of small-pox, and aborted at about the seventh month. She recovered without any puerperal symptom of any kind. Then, as Dr. Leishman has said, the students at the University of Glasgow, during the time they are dissecting, are in the habit of attending midwifery cases. I did the same, and I know some gentlemen in the room who were fellow-students of mine who also did the same, and during the whole time of our practice we had no puerperal fever at all. Then I came to practise in London, and I went to see a lying-in woman, who had two children lying ill with the scarlet fever. She made a good recovery, with not the slightest feverish symptom whatever. Then, again, general practitioners are in the habit of making post-mortem examinations. They meet with cases of sudden death, and the coroner calls upon them to perform post-mortem examinations. I have done it over and over again. I have gone on with my obstetrical practice all the time, and I have not had in the whole course of my practice one single case of puerperal fever. I saw one case of scarlet fever many years ago, where the patient went through the whole course of the disease, with very putrid discharges, as offensive as could well be, and yet the patient recovered. The skin peeled off; she had the usual affection of the kidneys, and so on, and yet did well. My evidence in this discussion is decidedly negative. It appears to me that if scarlet fever, typhus, measles, and small-pox are to be reckoned such very strong producers of puerperal fever, I ought to have had a great deal of it in my practice; but that has not been the case. I will read a note that I received the other day from Dr. Caskie —"A few months ago I was sent to see Mr. P. I found him covered with the scarlet fever rash, and by his side his wife in bed, three days previously confined. Her labour had been natural. The husband was taken away, and she made a good recovery. Her own children escaped, but the children of the landlady in the house took the fever, and two of them died." Now, if scarlet fever in that case were so deadly, Mrs. P. ought to have taken it and passed through the usual course, or died. I cannot help referring to the remark made by Dr. Richardson and Dr. Barnes about the peculiar physiological condition of lying-in women. It is said that at that time their blood is in a peculiar condition. Certainly that is the case; but I look upon it from another point of view. While there is an excess of fibrin and a diminution of blood corpuscles, a diminution of solids, and an excess of albumen, I look upon this as Nature's preparation for the casting off of the ovum. I look upon the excess of fibrin as Nature's safeguard against hæmorrhage. I also look upon the excess of fibrin as one of the means for the easy production of the lacteal secretion to follow. Mention was also made of the feverish condition that is said to follow the immediate birth of the child. Since the last meeting, I have had the opportunity of speaking to Dr. Richardson, and I have made observations on this point, and in only one case have I been able to find any increase of temperature worth speaking of, except in one case which was not attended by myself, and in which the lady desired not to suckle her child. There, while the pulse remained at 72, the temperature was as high as 104°; the breasts were very hard, showing some sort of rapid tissue-change at all events. What appears to me to be the nature of puerperal fever, as far as I can theoretically make out, is this: that it is simply autogenetic; that it begins in the uterus of the female who has very lately had hæmorrhage, or is weakly, and there is an imperfect contraction of the uterus; a clot remains, that clot decomposes, and then you have pyæmic poison; then I do not deny that the poison coming off the excreta from the woman in this pyæmic condition may be infectious to others. I regard such a woman as being in a similar condition to one who has had a thigh amputated. We know that, if pyæmia occur after such an operation, the dressers are not allowed to dress the wounds of any other patients. No doubt, as Dr. Barnes has said, during this process of pyæmia the poison may be absorbed and then excreted by the lungs of the individual who is in attendance, and be carried to another patient, and there set up a similar form of disease. While Dr. Barnes was speaking, I came to the conclusion, from what he said, that, if the contagious diseases are so productive of puerperal fever, and if the medical man be a focus of infection by exhaling the poison, the judges at the present day should look upon a man as a criminal if he attend obstetric cases while he is attending a fever case. I must say that my experience is exactly the opposite of that.

Dr. Huntley (Jarrow): Mr. President and gentlemen, in responding to your invitation to strangers, I confess I feel some diffidence, in part arising from the fact that Dame Nature

has not endowed me with that glibness of tongue which stands its possessor in such service on occasions of this kind, but chiefly arising from the fact that I am addressing many of the most distinguished members of our profession; and it would ill become me, a stranger and of no repute amongst you, to attempt to dogmatise. But as my experience has been somewhat peculiar, of a nature that does not occur to many medical men (perhaps not a single member here present has had a similar experience), I may be allowed to give rather freer expression to my opinions than otherwise I might do. I will briefly describe to you the experience to which I refer. About ten years ago, in December, 1864, I had an outbreak of puerperal fever in my practice. I was then a very young man, and the anguish of mind which it caused me was something I shall never forget. In the course of two months I attended fourteen cases of fever, five of which died. All the cases that I attended were not affected by the disease; at intervals two or three escaped. However, at the end of two months I think two patients died. Then I was obliged to cease practice, having come to the conclusion that the disease was in some measure connected with myself; for, although there were four other practitioners in our district, not one had a case of the kind. I was forced to the conclusion that coincidence could not account for such a continued sequence of cases, and that I was the cause of propagating the disease. But how could I propagate it? That was a matter that exercised my mind for many a day. We had small-pox very prevalent at the time in our midst, but no other infectious disease. I was then attending a case of severe burns with great suppuration, but that I only dressed for a few days, and I think it is very unlikely that the infection could be carried from such a source for two months continuously. If it were so, I think such instances would be very frequent, and I could not but consider it absurd in the extreme to think that for weeks, considering all the protections which I took, frequent ablution, and change of clothes, I still kept the disease. It seemed to me then, and I have no reason to change my opinion now, that the disease was somehow or other reproduced; and the only source from which I thought it could be reproduced was from some poison generated in malassimilation, or in some defect in the secretory or excretory system. Arguing from analogy, I see no reason to doubt that many infectious diseases are propagated in this way, and not from clothing. Suppose a nurse is attending a case of scarlet fever for weeks, and does not have the germs of scarlatinal poison entering her system and being exhaled from it, we cannot suppose that the disease will be communicated. There is no proof at all that the clothes communicate the disease always. Perhaps there are instances in which they do. In the case of washerwomen it has been communicated in that way; but I think it is just as reasonable to suppose that vitalised material will be allied with the poison as unvitalised. But it was not chiefly to relate this experience that I came here to-night. I had an impression, from reading the report of the last meeting, that opinions were expressed which were very far from correct. The opinions I refer to are those chiefly discussed by the two previous speakers. I think it was Dr. Braxton Hicks who asserted that scarlatina was a very prolific source of puerperal fever. But in tracing infection in such a way, you are very likely to drift into error, for if you approach the subject with any fixed opinion of your own, the wish is apt to become father to the thought, and you are brought to a conclusion not in accordance with facts. I have never in my own practice been able to associate scarlatinal poison distinctly with puerperal fever. On November 12 last, I was attending two severe cases of scarlet fever occurring in children. The mother of these children took scarlet fever, and the symptoms in her case differed not in the least iota from those of the children. I can call one or two other instances to mind where such has been the case. So with small-pox. I have seen two or three cases of small-pox in parturient women, but they have always manifested the characteristic eruption, and there could be no doubt about stamping them as small-pox. In the case of scarlet fever to which I referred, I may say that the woman had no symptoms of inflammation of the uterus, nor anything at all to distinguish it. I think what we should really do is not to argue from a particular case to a general conclusion, but to take general facts and deduce particulars from them. I regret to say that the returns of the Registrar-General are not useful in this respect in assisting us to arrive at a satisfactory basis. The returns of puerperal fever, I think, are annual, and extend to counties. If these returns were given in quarterly in particular districts, we should then be able to see whether scarlet fever occurred synchronously with puerperal fever, and then we should have a safe guide.

Dr. Brown: About six weeks ago I was engaged in attending a patient in her confinement. At that time a child in the house (her own house) was taken ill with a pretty severe attack of scarlet fever. She was under great apprehension at the time of her confinement, expecting daily that she would suffer from scarlet fever. About a fortnight after the rash came out on the child she was confined, and did perfectly well, without a bad symptom. The infant had no sign of scarlet fever. About ten days after that another child in the house had scarlet fever badly. I attended another similar case about two months ago. The patient had never had scarlet fever herself—she was quite positive of it. In another case I attended a woman with her own child ill with the scarlet fever in the house. In some days she was laid up for her confinement, and she got up without a bad symptom. She had never had scarlet fever. I may mention that I attend on an average three or four midwifery cases a week, and I have never had a case of scarlet fever in which I could say that I had conveyed the disease to the patient.

Dr. Swayne (of Clifton): I think the letter read at the beginning of this meeting is calculated to do great good, especially as regards the unfounded statement that appeared in the *Times* that medical men could retire from practice for two or three months. The statement has in some places created a panic that is becoming quite a nuisance. I will give an instance that occurred to myself. About March 16 last, I consented reluctantly to see a bad case of puerperal fever. I listened to the solicitations of the husband, but I only saw the patient once. A gentleman whose wife I had engaged to attend at the beginning of this month happened to hear of it, and wrote to me requesting me to release him from the engagement, which, of course, I did. She is not yet confined. As to the mode in which the infection of puerperal fever is conveyed, I think it is generally conveyed by the person of the accoucheur, more than by the clothes or in any other way. Some men are peculiarly unfortunate in this respect. It is often observed that all the puerperal cases in a district are limited to a few practitioners. It is not only that they have the run of them at a particular time, but even after a long interval it is the same men who get them. Some men, I believe, have the power of absorbing and exhaling these poisons to much greater extent than others; and from remarks I have made in my own experience, I am inclined to think that the poison is much more likely to be given off by the skin than by the breath of the practitioner. I have come to the conclusion that men who have moist perspirable skins, especially moist hands, are much more likely to exhale it than those whose hands are generally dry and cool, especially if they have to make frequent examinations during labour. With regard to the precautions to be taken to prevent the spread of puerperal fever, I cannot think that it is necessary for a medical man to seclude himself for more than a week at the outside from midwifery practice. If he is unfortunate enough to have a bad case, probably by that time the poison will have passed out of the system. He should also take the precaution of not wearing the same clothes. I am not aware of having conveyed anything of a puerperal kind to a patient except one; that was in a case of scarlet fever. As a general rule, I now refuse to go to a case of scarlet fever, unless, of course, it should occur to a lying-in woman. I refuse to see children with scarlet fever, on account of the danger of conveying it. Some years ago I did not do so. I was attending a child with scarlet fever, and I attended a lady at the same time. About a week afterwards, the rash came out, with sore throat; she did perfectly well, and did not show any symptoms of puerperal fever. But the worst case of scarlet fever I ever saw was a lady, who, about a week before her confinement, called at a house where the fever was: the children were ill, and she was afraid to go in; but most unprudently the mother came out directly from the sick room to report how they were going on, and she put her head into the carriage to talk to this lady. In that case the scarlet fever came on *pari passu* with the labour. I attended her about ten o'clock at night. I observed that the face became red, and at the latter part of the labour the speech was rather muffled. The redness of the face did not excite particular attention, as it generally comes on at the second stage of labour. On the next day I found she had been delirious; she was covered with a thick rash, had a sore throat, and died in two days. Immediately after seeing a case of puerperal fever I go home, and, before going to bed,

take a warm bath, and wash myself with carbolic soap; and, on the next day, I take a Turkish bath, which, I think, is an excellent way of eliminating the poison and cleansing the skin. I need hardly say that, with every accoucheur, personal cleanliness is of the greatest possible importance. We know that cleanliness is next to godliness; we cannot be too particular about it, especially after seeing cases of this kind; and we should be very careful not to wear the same clothes. With these precautions, in a few days there will be little or no danger of conveying the poison from one patient to another.

Dr. Graily Hewitt: The subject which is now before the Society is one which has on many occasions interested me very deeply. I have seen a great deal of this disease, in public and in private, and it has been my duty not only to learn what the disease is, but to endeavour to combat it, and to teach others in the best manner I could how to deal with it. I think this discussion is extremely opportune, and that it is likely to lead to very good results. Our thanks are due to the President and to Mr. Spencer Wells, who have endeavoured to bring the matter before this great Society. Now, I will not dwell further on preliminaries, but go at once *in medias res*. The opinion which I have formed with respect to puerperal fever is, that it is essentially a form of blood poison. Some seven or eight years ago I read a paper before this Society, in which I detailed the experience which had occurred to me in the British Lying-in Hospital, with which I had been connected for some time. I brought forward a considerable number of cases, and in giving my conclusion, in reference to the nature of the malady, I expressed myself in these words: "It is impossible to escape the conclusion that puerperal fever consists in nothing more nor less than an injection into the general circulating fluid of a poisonous material of animal origin—that it is a form of pyæmia for the production of which the minutest portion of the morbific agent may prove sufficient." I was very early impressed with a lecture, published by the late lamented Sir James Simpson, of Edinburgh, I think about 1859, in which he strongly advocated the doctrine that puerperal fever is a form of pyæmia; and what I had seen at that time, and what I have seen since, has certainly led me to endorse that view of the matter in the strongest manner possible. I may say that I entirely disbelieve in the existence of a form of fever which is sufficiently definite and precise to receive a distinctive name, in the same sense that we speak of typhus fever, or typhoid fever, or measles, or scarlet fever, or small-pox, each of which has a definite and well-determined course. I can see nothing in puerperal fever which at all resembles this. I think all the clinical evidence producible on the subject is entirely opposed to that view, and, therefore, I have no hesitation in answering that part of the question put by Mr. Spencer Wells in the way I have done. I think it would be profitable to divide the cases of puerperal fever, or puerperal pyæmia, into two classes. There are the cases in which there is very distinct evidence of the introduction into the system from without of a morbid animal poison. There are, in the second place, cases which do not resemble these, in which the evidence is wanting of the introduction from without of such a morbific poison; and I will endeavour to make my remarks under these two heads. In the first place, in reference to the cases that occur from the introduction of poison from without, after what has been said on this occasion, and on former occasions, there can be no question that it has over and over again happened that the disease called puerperal fever has been produced by inoculation (the word seems to me to be suitable), in those unfortunate cases where the medical man himself conveys the disease, and in those cases where the midwives are equally efficacious in communicating it. It is to that class of cases that I would first call attention. It is my impression, from all that I have seen, that the manner in which this communication takes place is, in a large proportion of cases, by means of the hand; and I believe that the spaces beneath the nails and under the skin that covers the nails are exceedingly liable to harbour these animal destructive products. I do not say that they are limited to those parts, the skin of the fingers may also be their habitat. We know what sometimes takes place after a post-mortem examination, when it is exceedingly difficult to get rid of the smell of the corpse from the hands, cleanse them in whatever way you will. I am speaking now more particularly of what happened some years ago, before carbolic acid and other disinfectants were much known or used; it is not so difficult now as it was. At all events, I believe that the nails and the neighbourhood of the nails are the parts more particularly liable to harbour these infecting materials. It seems to me rather unlikely that the clothes carry infection so readily. Of course, in cases where a person allows the cuffs of his coat to be dipped in putrescent material, and then makes an examination of a patient in childbirth, something may happen after that. On the whole, I think the hand is particularly efficacious in this matter. I share the opinion that some previous speakers have expressed, that very great attention should be bestowed on cleansing the hands, in all cases where they are to be used in midwifery practice. A good deal has been said of late years in reference to the *armamentaria* that medical men should be provided with, and I think a useful addition would be a pot of carbolic ointment, and a nail-brush. In the next place, I would remark that it has seemed to me that any animal poison introduced from without may produce what we term puerperal pyæmia, the same as may be produced by a student who is handling surgical wounds in the hospital, and attending midwifery cases. I have instances of this in the case of a medical practitioner going from one puerperal case to another. I see no difference in the attack produced in these two different ways; there is nothing whatever different in regard to the clinical features of them. Another mode in which the poison is introduced from without is due to the carelessness in washing the patient, or an improper method of washing. I think water never ought to be used for cleansing the perineum in the case of a recently delivered woman. I think it is far preferable to use a dry clean rag, or dry cotton-wool. This plan secures greater immunity from the passage of *débris* from without. Then, there is another method by which poison may be introduced from without, that is, in case of laceration of the perineum. I think this mode of introduction is not very uncommon. I recollect being called into consultation to see a lady who was suffering from puerperal pyæmia. Very great care had been taken with her to keep her exceedingly quiet, and she had not been allowed to be moved from her position (lying on the back) for some days after labour. The perineum had been slightly torn. Now, in this case, the discharges were putrescent. It seems hardly possible to escape the conclusion that in such cases as this there is a pool of putrescent material in the vagina constantly in contact with the abraded perineal surfaces; is it to be wondered at if some of this is absorbed? I think it is bad practice in all cases to maintain the patient too persistently in this position on the back. I think there is an advantage in turning her from side to side occasionally, in order to allow of the escape of putrescent *débris* from the vagina,—not that it will produce pyæmia in all cases, but if there be a laceration of the perineum it is more likely to do so. So far for the cases which come under the first category. I will now proceed to discuss those which are more difficult to define and particularise—those in which the affection does not apparently depend upon anything introduced from without. This class corresponds to the cases denominated by Dr. Barnes "autogenetic." In the first place, I would remark that it is exceedingly easy to produce pyæmia in the non-puerperal woman by handling the uterus in a certain way. I have seen acute pyæmia produced by the action of a spongetent at the os uteri, left in too long, and producing violent inflammatory symptoms, and death in a few days. It is well known that this event may happen. The uterus is so constructed that it is exceedingly easy for pyæmia to occur in it and in its tissues; the walls are very thick, the vessels are very large, and they communicate very freely (I am now speaking of the uterus in the non-puerperal state), and a slight wound may at any moment set up pyæmia. I have always been unable to see any precise difference between an attack of pyæmia in a puerperal state and a non-puerperal state; the symptoms are precisely identical, they only differ in degree. I do not wish to give my remarks the semblance of a lecture, but I thought it might be interesting to bring a specimen (which I have done), representing the healthy uterus immediately after delivery, in order to shew the condition of the organ at that moment. I have also here a plate exhibiting the condition of the uterus after delivery. Doubtless most teachers of midwifery are familiar with it. It will serve as a peg on which to hang the remarks to which I shall call your attention in the next place. In the uterus, after delivery, we have an organ precisely analogous to a sponge. It has large interstices, large spaces freely communicating, and, moreover, these spaces are open into the uterus through the vessels which have communicated with the placenta, and these openings are filled up by certain clots. The natural event after labour, of course, is that the uterus becomes contracted. A progressive diminution occurs in its size. This is the safeguard, and this is the important vital phenomenon

which belongs to the after period of childbirth. Now, it is my belief and conviction, from all I have seen, that if we wish to obtain a clue to the manner in which puerperal pyæmia is produced, we must regard this process very attentively, and notice particularly the deviations from the normal physiological process which are so liable to occur. It is some years now since my attention was first directed to the fact, but it is a fact which I have been able to confirm by repeated observation since, and which I deem to be of the greatest importance in reference to this matter, that concurrently with the commencement of the attack of puerperal pyæmia, the uterus is found to be enlarged; in other words, in a state in which its involution is absolutely retarded. I have never seen a case of puerperal pyæmia in which this condition of the uterus was absent, and absent at the very commencement of the malady. It seems to me, if this be a fact, that it is an exceedingly important element in the explanation of cases of puerperal pyæmia, of whatever kind they may be. It has seemed to me, in endeavouring to carry out explanations of these cases, that the thing which fails is the contraction of the uterus. That is where the breakdown originally occurs. The woman has a large bleeding, for instance, at the time of childbirth. The want of contraction in the uterus acts in precisely the same way as if all the locks of a house were taken off and ingress allowed to any burglar who wished to enter the premises. This is precisely what happens, in fact, after a labour. The contractile power of the uterus fails to a certain extent. The expulsion of the *débris* ceases, and there occurs a suction action in the uterus, by which these *débris* are taken up into the circulation. I explain those cases in which these scarlet fever poisons and other fever poisons apparently produced disease in this way. They destroy the vitality of the patient to a certain extent; they take away the safeguard; they abolish the contraction of the uterus; and they produce a paralysis of the uterus for the time being; and having once produced this paralysis, the rest of the explanation is sufficiently simple. The pyæmic process immediately passes into the uterine sinuses, and it is a question whether the patient will survive, or whether the injuries in this manner will end in speedy death.

Mr. Callender: I came here to listen and to learn, but as you have called upon me, I feel bound to offer some remarks on the subject under consideration; and I do so the more willingly, because I quite agree with what fell from Dr. Barnes with reference to the fact that, although we may be all engaged at various points of what I may call the professional circle, yet we are all attracted to one common centre, and at that centre I read the words, "prevention and cure of disease." I must be allowed to draw upon my experience as a surgeon in referring to this matter, and I feel that you will be the more indulgent to me when I recall the fact already referred to by several speakers, that there seem to be many points of resemblance between affections such as erysipelas and septicæmia, which are constantly coming under our notice, and the disease of puerperal fever, which is at present under discussion, and which has been held by many speakers to be, in many instances, due in its origin to septic causes. I think that, amongst others, one speaker said that at least three-fourths of the cases were traceable to such an origin. With regard to one's experience of septicæmia, I prefer to limit myself to this term; for if I venture to speak of other affections which I have heard spoken of, and which are closely allied to this disease, such as those in which the veins are implicated, I fear, after the remarks that have been made by Mr. Jonathan Hutchinson, I should be regarded as almost a heretic if I ventured to propagate the views I hold as to the part that the veins have in these affections. I confine myself to septicæmic affections; and I say that, so far as I can judge from practical experience, we must consider them with reference to two distinctive sets of signs—those which may be spoken of as speculative, and those which may be regarded as facts. With regard to these speculative matters, I think it is purely a matter of speculation (although there seems to be a common consensus that such is the case) that these affections are due to the influence of some septic matter or poison. Then, beyond this, it seems to me quite a matter of speculation as to whence that poison is supposed to come. There are some who hold the idea that the poison is to be found in germs which come from without the patient; there are others who seem to hold the view that the septic poison is greatest in the woman herself, as the result of the production of decomposition: and there are yet others who say that the septic material is due directly to the products of inflammation. All these, I hold, are mere matters of speculation; and what I should like to put before the Society is the question, how far we have a series of facts to bring to bear upon these various speculations which have been offered to us. Speaking entirely from a practical point of view (people must be allowed to speak from their own experience), there are certain points which have forced themselves on my attention—certain negative facts, such as these. I hold that in the treatment of patients in a hospital ward, the first point we have to attend to is, that there must be no foulness about the wounds; the wounds must be absolutely clean; directly we see anything unpleasant about them we must take care to remove it. The point is, that no foulness must be capable of being recognised; the wounds should be most carefully kept from any contamination from other wounds, both by the nurses and dressers; and in regard to sponges and such-like materials, all possibility of contagion from this source should be avoided. This leads me to remark that in the treatment of wounds a patient will be tolerant enough of decomposition, which may be set up in a wound on his own body, but will be intolerant of poison conveyed to him or her from any other wound. That is another point of which we must be extremely careful. It is a fact that is constantly forced upon one's notice, the possibility of a wound being contaminated from another wound. Then the patients should as far as possible be isolated. It is easy enough to do this in a surgical ward, where a case in which there is an open wound may be surrounded by cases not suffering from wounds, so that they can be, for all practical purposes, isolated. Then no discharge should be allowed to accumulate in a wound—not merely the discharge resulting as a consequence of the ordinary inflammatory process, but the discharge thrown out of the wound during the first few hours after it has been inflicted. I know nothing more irritating or acrid than the fluid of a wound immediately after an operation, if it be allowed to accumulate. Then again (and I think this is another point of great negative moment), there should be no movement of the part; the wound should be kept absolutely at rest, allowed to heal from the beginning, and not permitted, by jars and jolts, to reopen, so as to create new wounds, through the cracks and fissures of which putrid or other foreign matters can enter. It is by such means as these that I have learned how to banish, for all practical purposes, such affections as those commonly called pyæmic (though I prefer the term septicæmic) from surgical wards, except now and then when we make errors, and trouble arises in consequence. No such thing as pyæmia exists in the hospital wards under my immediate care. By the experience we get from these facts, we have some light thrown upon the worst of the suspicions that I spoke of—namely, the suspicion that these cases of septicæmia are in some way connected with the presence of a poison. I think, also, we have some light thrown upon what is patent to us all—that which has been ably spoken of this evening by Dr. Graily Hewitt,—the sort of common-sense rule that should guide us with regard to the treatment of women in a puerperal state, such as the maintenance of absolute cleanliness and absolute quietness. In addition to this, we do not, from these facts, get much light thrown upon what I further spoke of as a matter of suspicion regarding the cause of the disease. I do not at all see my way clear as to the exact source of the poison: it may be in the air; it may be brought to the patient through her attendant; it may possibly be in the festering of a wound, or be present in the direct products of inflammation; but I do not see my way to the absolute cause. All one can see from the collection of facts surrounding one's cases, extending over a considerable time, is that septicæmia is a disease which, in surgical practice, may be absolutely prevented. Here I should like to answer one of Mr. Spencer Wells' questions—whether the disease can possibly be produced. I entertain myself no doubt that pyæmia and septicæmia can be produced. If, after I had performed an operation upon a patient in otherwise good health, I left that patient unprotected by all the many means that one is bound to adopt, to insure, as a matter of certainty, that a patient shall be conducted towards a successful termination, it would be a mere matter of chance whether that patient did or did not suffer from pyæmia. I say a matter of chance, because people differ very much among themselves: a patient may be strong and robust, and resist any poison brought into contact with the system, or the patient may be feeble, and readily succumb to the slightest dose of poison. With reference to another question, I would

say, before I sit down, that I hold that antiseptics are of very great use to surgeons. I think they are of the very greatest possible use in surgical practice; and I take this opportunity, as it is a public one, of saying that, although I may have seemed to differ very much from Mr. Lister with regard to carrying out his principles of antiseptic treatment, I am entirely at one with him as to that matter, and I fully acknowledge the great benefit he has conferred upon us by his advocacy of the antiseptic treatment. All I wish to show is that the treatment should be carried out on a more simple plan, without that elaborate attention to detail which Mr. Lister has thought necessary.

The discussion was again adjourned.

MEDICAL NEWS.

Royal College of Surgeons of England.—The following gentlemen passed their primary examination for the Fellowship, on the 26th ult., viz:—

Barron, Albert Boyce, diploma of Membership dated January 24, 1873, of King's College.
Cressey, George Henry, of St. Bartholomew's Hospital.
Edwards, Frederick Swinford, of St. Bartholomew's Hospital.
Evans, William Morgan, of Guy's Hospital
Henderson, George Courtenay, of University College.
Mears, William Pope, of the London Hospital.
Pickering, Charles Frederick, of Guy's Hospital.
Prouger, Charles Ernest, of St. Thomas's Hospital.
Pye, Walter, of St. Bartholomew's Hospital.
Southam, Frederic Armitage, of the Manchester School.
Stewart, William Robert, of the London Hospital.
Turner, Edward Beadon, of St. George's Hospital.

Thirty-three candidates out of the fifty-six examined, having failed to acquit themselves to the satisfaction of the Court of Examiners, were referred to their anatomical and physiological studies for three months.

Apothecaries' Hall.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, May 27:—

White, Edward Arthur, Norwich.
Wright, William Henry, Skelmesdale, Lancashire.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that place.

Andrew, George, L.R.C.P. Lond., M.R.C.S. Eng.—Resident Surgeon at the Birmingham General Dispensary.
Abbott, C. E., M.R.C.S.E.—House-Physician to the Royal Infirmary, Liverpool.
Clutton, H. H., B.A., M.R.C.S.E., L.S.A.—House-Surgeon to St. Thomas's Hospital.
Coote, Michael, M.D., M.R.C.S. Eng.—Medical Officer for the Second and Third Districts of the Ashby-de-la-Zouch Union.
Elliott, Frederick Homer, M.B., C.M., M.R.C.S. Eng., L.S.A.—House-Surgeon to the Dispensary and Accident Hospital, Scarborough, *vice* J. A. Calantarients, M.B., M.R.C.S. Eng., resigned.
Hayward, W. J., L.K. & Q.C.P.I.—House-Surgeon to the Royal Infirmary, Liverpool.
Paul, F. T., L.R.C.P.I., M.R.C.S.E., L.S.A.—Resident Medical Officer to the Royal Infirmary, Liverpool, *vice* G. J. Scale, M.R.C.S.E., L.S.A., resigned.
Potter, H. P., M.R.C.S.E., L.S.A.—House-Surgeon to St. Thomas's Hospital.
Pugue, R. N., M.R.C.S.E.—House-Physician to the Royal Infirmary, Liverpool.
Rossiter, George F., M.R.C.S., L.S.A.—House-Physician to St. Thomas's Hospital.
Watson, Alfred Marchmont, M.D. Edin., M.R.C.S. Eng.—Medical Officer and Public Vaccinator of the Penistone Medical District, of the Penistone Union, and of the Workhouse; also Medical Officer of Health for the rural part of the said District.

BIRTHS.

Cassidy.—On May 23, at Broadmoor, Berkshire, the wife of D. M. Cassidy, M.D., of a daughter.
Chaning-Pearce.—On May 20, at the Manor House, Brixton Rise, the wife of J. Chaning-Pearce, M.B., of a son.
Cotter.—On May 23, at Holly Lee, Ross, Dumbartonshire, at the residence of her father, the wife of Surgeon S. K. Cotter, M.D., of Pietermaritzberg, Natal, of a daughter.
Dewar.—On May 28, at 132, Sloane-street, S.W., the wife of J. Dewar, L.R.C.P., L.R.C.S., of a son.
Macnamara.—On May 21, at 13, Grosvenor-street, London, S.W., the wife of Surgeon-Major N. C. Macnamara, of Calcutta, of a son.
Potter.—On May 27, at 20, George-street, Hanover-square, the wife of John B. Potter, M.D., of a daughter.
Rhodes.—On May 24, at 2, Royal-terrace, Weymouth, the wife of C. Rhodes, M.D., of a son.

MARRIAGES.

Greaves—Rigby.—On June 1, at the parish church, Dwygyfylchi, Ernest Greaves, Esq., of Plas Wennydd, Merionethshire, to Marianne, second daughter of the late Edward Rigby, M.D.
Hall—Beecroft.—On May 26, at St. George's, Hyde, John William, son of John Hall, Esq., of Baldingstone, near Bury, to Mary, eldest daughter of S. Beecroft, F.R.C.S., of Hyde.
Maclean—Dicken.—On April 29, at Christ Church, Bhaugulpore, India, Alexander Thomas Maclean, Esq., of Ardgour, N.B., to Selina Philippa, daughter of the late William Stephens Dicken, Esq., Bengal Medical Service.
Simpson—Leisler.—On May 25, at St. James's, Birch-in-Rusholme, P. A. Simpson, M.A. Cantab., M.D., Professor of Forensic Medicine in the University of Glasgow, to Frances Adelaide, fourth daughter of John Leisler, Esq., Victoria-park, Manchester.
Smith—Meaden.—On May 27, at St. Saviour's Church, Bath, F. W. Smith, M.B., M.C., of Westbury, Wilts, to Clara, second daughter of Martin Meaden, Esq., of 25, Grosvenor-place, Bath.
Wheeler—Meikleham.—On June 1, at Christ Church, Cheltenham, George Wheeler, son of the late Robert Wheeler, Esq., of Wycombe, to Ellen, eldest daughter of G. C. Meikleham, M.D., Inspector-General of Hospitals, and formerly of 51st (K.O.) Light Infantry, and 70th Regiment.

DEATHS.

Cannon, Emma, widow of Æneas Cannon, M.D., at 15 Cambray, Cheltenham, on May 23, in her 80th year.
Chapman, Henry Wilson, F.R.C.S., at his residence, Devon House, Isleworth, after years of intense suffering, on May 30, aged 67.
Cotter, Alice, beloved wife of S. K. Cotter, Staff Surgeon, Pietermaritzberg, Natal, and daughter of Captain Jamieson, P. & O. Steam Navigation Company, at Holly Lee, Ross, Dumbartonshire, on May 29.
Gibbons, Grace, beloved wife of John Gibbons, Surgeon-Major A.M.D., at Southsea, on March 15.
Powis, Henry Samuel, M.D., of Castle Hill, Maidenhead, Berks, at Ryde, Isle of Wight, on May 22, in his 65th year.
Sheppee, W. H., M.R.C.S., second son of the late Dr. Francis Sheppee, Physician-General of the H.E.I.C. Bombay Army, at Alperton, near Ealing, of rapid decline, on May 30.
Tapson, Susannah Harriet, wife of J. Tapson, M.D., of Dulwich Wood Park, and formerly of Clapham, Surrey, at 13, Goldsmid-road, Brighton, after a long and painful illness, on May 25.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

Bradford Infirmary and Dispensary.—Physician. Candidates must be duly qualified. Applications, with testimonials, to Mr. Charles Woodcock, Secretary, 65, Market-street, Bradford, on or before June 12.
Bristol General Hospital.—Physician's Assistant. Candidates must possess a registered qualification. Applications, with testimonials, to Henry Fox, Esq., R.N., Secretary, on or before June 24.
Cheltenham General Hospital and Dispensary.—Honorary Medical Officer. Candidates must be M.R.C.P. Applications, with testimonials, to the Board of Governors, on or before June 5.
Hospital for Sick Children, Great Ormond-street.—House-Surgeon. Candidates must be unmarried, and duly qualified. Applications, with testimonials, to the Secretary, on or before June 17.
Hospital for Sick Children, Dyke-road, Brighton.—Surgeon. Candidates must be graduates in surgery of one of the Universities of the United Kingdom, or F.R.C.S. Eng., and registered under the Medical Act. Applications, with testimonials, to the Secretary, on or before June 14.
Kent and Canterbury Hospital, Canterbury.—Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, before June 18. Also a vacancy for House-Surgeon and Dispenser. Candidates must be duly qualified and registered. Applications, with testimonials, to the Secretary, on or before June 25.
Royal Free Hospital, Gray's Inn-road.—Surgeon. Candidates must be F.R.C.S. Eng. Applications, with testimonials, to the Secretary, on or before June 28.
Royston Union.—Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to Mr. Henry Thurnall, Royston, on or before June 7.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Amersham Union.—Mr. D. Courtney has resigned the Amersham District; area 6000; population 2726; salary £63 per annum. Also the Workhouse; salary £50 per annum.

Hay Union.—Mr. J. E. Smith has resigned the Workhouse; salary £10 per annum.

Bedwellty Union.—Mr. A. Brewer has resigned the Ebbw Vale District; salary £15 per annum.

Manchester Township.—Mr. Wm. C. Pountney has resigned the office of Junior Assistant Medical Officer at the Workhouse Hospital; salary £120 per annum and allowances.

Newcastle-in-Emlyn Union.—The Penbryn District is vacant; area 28,132; population 5147; salary £50 per annum. The Llandyssul District is vacant; area 36,495; population 6133; salary £50 per annum.

Royston Union.—Mr. J. Balding has resigned the Fifth District; area 14,219; population 2931; remuneration by case.

Saffron Walden Union.—Mr. Balding has resigned the Fifth District; area 2698; population 612; salary £15 per annum.

Stourbridge Union.—Mr. R. L. Freer has resigned thhe First Kingswinford District; population 11,403; salary £56 per annum.

Toxteth Park Township.—Mr. T. D. Ransford has resigned the office of Assistant Medical Officer at the Workhouse; salary £100 per annum and allowances.

APPOINTMENTS.

Bingham Union.—James W. Eaton, L.R.C.P. Lond., M.R.C.S. Eng., to the Workhouse.

Bradfield Union.—Robt. B. Morrell, L.R.C.P. Edin., M.R.C.S. Eng., to the Fifth District.

Central London Sick Asylum District.—Henry S. Branfoot, B.M. Lond., M.R.C.S. Eng., as Assistant Medical Officer at the Highgate Asylum.

Halifax Union.—F. O. Strickland, L.R.C.P. Edin., L.F.P. & S., to the Southowram District.

Machynlleth Union.—Daniel Ferguson, L.R.C.P. Edin., L.R.C.S. Edin., to the Darowen District.

Pocklington Union.—Alexander F. A. Fairweather, B.M., M.C. Aber., to the Workhouse and the Second Pocklington District.

Stratton Union.—Edward A. Burgess, M.R.C.S. Eng., L.S.A., to the Week St. Mary District.

Pontefract Union.—Walter S. Simpson, M.R.C.S. Eng., M.D. Edin., to the First District.

St. Thomas Union.—Edward C. Fox, L.R.C.P. Edin., L.R.C.S. Edin., L.S.A., to the Newton Poppleford District.

THE DUKE OF CONNAUGHT, the Princess Louise, and the Marquis of Lorne are expected to visit Oxford to-day, and to be present at an entertainment given by the Regius Professor of Medicine and Mrs. Acland, in the Library of the University Museum.

CRIMINAL ABORTION.—A commercial traveller of Huddersfield was charged, on Monday, at the Bristol Police-court, with having supplied noxious drugs with intent to procure the miscarriage of a young woman residing with her parents in Bristol. It appears the defendant seduced the young lady by means of a mock marriage ceremony, and then sent her medicine which made her very ill, and advised her to undergo an operation to procure abortion. In consequence of her being too unwell to attend, the prisoner was remanded on substantial bail.

ELECTION OF MR. BENTHAM INTO THE ACADÉMIE DES SCIENCES.—M. De Candolle, of Geneva, having been promoted in the Academy from Corresponding Member to Foreign Associate, there were the following candidates declared for the vacant post of Correspondent in the Section of Botany, viz.—Mr. George Bentham, of London, on the first line; and Prof. De Bary, of Strasburg; Dr. Asa Gray, of the United States; Prof. Nageli, of Munich; and Prof. Parlatore, of Florence. Of the forty-two members who took part in the election, forty-one voted for Mr. Bentham. — *L'Institut*, May 26.

HEALTH OF LONDON.—The Registrar-General's report last week returns the deaths of 1294 persons in London, or 63 below the average. The annual death-rate from all causes, which in the eight preceding weeks had declined from 28 to 20 per 1000, fell last week to 19·6. Two deaths occurred from small-pox, 75 from whooping-cough, 42 scarlet fever, 32 measles, 7 diphtheria, 20 from different forms of fever, and 23 from diarrhœa. Thus to the seven principal diseases of the zymotic class 201 deaths were referred, against 220 and 201 in the two previous weeks. To diseases of the respiratory organs 222 deaths are attributed, 118 being from bronchitis and 73 from pneumonia.

GENERAL INUNCTION AS A REMEDY.—Dr. Fisher, in the *New York Medical Record* (March 27), insists upon the value of this measure applied for other than mere local purposes. It should be preceded by a warm bath, after which the patient should be clothed in a loose flannel wrapper long enough to cover the feet and preserve the bedclothes from soiling. The oil, slightly warmed, should then be liberally applied by the bare hand of the attendant over the entire body and limbs. The first result is the production of a general sense of comfort, any nervous irritation that may have been present undergoing diminution. A gentle perspiration soon shows itself, sometimes accompanied by an erythematous eruption, which is, however, but slight and temporary. The general conclusions of the paper are—1. That inunction is a valuable method of introducing nutritive material into the body. 2. The vegetable oils are better suited for inunction than the animal oils or fats. 3. Inunction is chiefly useful in diseases and derangements in which wasting is a marked symptom, and it is especially beneficial in scrofula, syphilis, and rickets. It is serviceable in nervous affections; in convalescence from acute disease; in many chronic diseases, especially those of the chest and abdomen in children. 4. Children are more suitable subjects of inunction, owing to their greater susceptibility and to the greater convenience of its application in them.

ROYAL COLLEGE OF SURGEONS.—The half-yearly examination for the Fellowship of this institution was brought to a close on Saturday evening, when thirteen candidates out of the twenty-four were reported to have acquitted themselves to the satisfaction of the Court of Examiners, and at the next meeting of the Council will be admitted Fellows of the College. The following is a copy of the questions submitted to them at the written examination, and we quite agree with some of our correspondents that they are *not* up to the standard of former examinations for the Fellowship of the College, viz.:—1. Describe the circumstances under which you would remove the eyeball, and the mode of performing the operation. 2. What are the symptoms attending the introduction of a foreign body into the trachea? Describe the probable course and termination of such a case when the body is retained; and state how you would proceed in attempting to give relief. 3. Describe the structural changes that occur in the arteries in the various forms of degeneration to which they are liable; and explain the influence of these changes, when advanced, upon the circulation. 4. Give the diagnostic signs by which you would distinguish different tumours within the antrum, and describe their respective anatomical characters. The annual election of Fellows into the Council of the College will take place on Thursday, the 1st proximo, when the retiring members will offer themselves for re-election,—they are Messrs. Prescott Hewett, of St. George's Hospital, Vice-President of the College; Spencer Smith, of St. Mary's Hospital; and John Birkett, of Guy's Hospital (the last-named two gentlemen are members of the Court of Examiners). In addition to the above gentlemen, the following candidates have also been proposed, viz.:—Messrs. John Cooper Forster, of Guy's Hospital, a Fellow by examination, April 11, 1849; Edward Law Hussey, of the Radcliffe Infirmary, Oxford, also a Fellow by examination, August 16, 1849; and Alfred Smee, F.R.S., a Fellow by election of December 13, 1855.

COMPOSITION AND QUALITY OF THE METROPOLITAN WATERS IN MAY, 1875.—The following are the returns (by Dr. Letheby) of the Society of Medical Officers of Health:—

Names of Water Companies.	Total Solid Matter per Gallon.	Oxygen required by Organic Matter, &c.	Nitrogen.		Hardness.	
			As Nitrates &c.	As Ammonia.	Before Boiling.	After Boiling.
Thames Water Companies.	Grains.	Grains.	Grains.	Grains.	Degs.	Degs.
Grand Junction .	18·67	0·059	0·169	0·000	13·5	3·8
West Middlesex .	18·87	0·036	0·137	0·000	13·8	3·8
Southwark & Vauxhall . . .	19·20	0·054	0·156	0·001	13·8	3·6
Chelsea . . .	18·53	0·041	0·115	0·000	13·6	3·6
Lambeth . . .	18·90	0·057	0·151	0·001	13·9	3·8
Other Companies.						
Kent	27·93	0·007	0·288	0·000	20·8	5·6
New River . .	17·81	0·015	0·147	0·000	13·6	3·3
East London . .	19·73	0·046	0·129	0·001	13·8	3·8

Note.—The amount of oxygen required to oxidise the organic matter, nitrites, etc., is determined by a standard solution of permanganate of potash acting for three hours; and in the case of the metropolitan waters the quantity of organic matter is about eight times the amount of oxygen required by it.

The water was found to be clear and nearly colourless in all cases but the following, when it was slightly turbid—namely, in those of the Grand Junction, the Southwark and Vauxhall, the Chelsea, and the Lambeth Companies.

The average quantity of water supplied daily to the metropolis during the preceding month was, according to the returns of the Water Companies to the Society of Medical Officers of Health, 113,015,907 gallons; and the number of houses supplied was 517,200. This is at the rate of 32·5 gallons per head of the population daily. The last official return from Paris stated that the average daily supply per head of the population was 28·3 gallons; but this includes the water used for the public fountains, and for the ornamental waters in the Bois de Vincennes and the Bois de Boulogne.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

G. F., Dublin.—The Medical Society of London was instituted in 1773.

Mr. George Smith, Brentwood, near Sheffield.—The title is merely a courtesy-title, and no L.R.C.P. can lawfully claim it. Nevertheless, if assumed, it is commonly conceded by courteous people, but the use of it cannot be exacted from anyone.

Dr. B., Bermondsey.—The filters of Messrs. Atkins are, in our opinion, the very best. They are in daily use in the different offices of the College of Surgeons.

A Very Young Fellow.—The visitors at the examinations for the Fellowship of the Royal College of Surgeons were Dr. F. Duka, and Messrs. W. Adams, Butlin, Cumberbatch, Gant, Heath, Jackson, Lowne, and Dr. Quimby, of the United States.

Expectant Medicine.—Our contemporary *Mr. Punch* says—"The public may have learned from a late discussion that not only do policemen very often mistake apoplexy for drunkenness, but doctors are sometimes out in their diagnosis between the effects of drink and those of simple determination of blood to the head. The question between the graver and less serious state of coma has been formulated into 'Drunk or Dying?' This, it is evident, can in many cases only be solved by waiting the event, which will always ultimately show whether the patient, or the prisoner, according to circumstances, has been in a really dying condition or only dead drunk."

COMMUNICATIONS have been received from—

Professor Huxley, Edinburgh; Mr. B. Vincent, London; Mr. T. Stone, London; Mr. J. Fenn Clark, Leamington; Dr. Wadham, London; Mr. McGill, Leeds; The Registrar-General, Edinburgh; Dr. Cotton, London; Dr. C. Handfield Jones, London; Mr. H. Morris, London; Dr. Hughlings-Jackson; Mr. J. Chatto, London; Dr. Sparks, London; Mr. Jonathan Hutchinson, London; Mr. Stone, London; Mr. C. E. Abbott, Liverpool; Mr. T. Davenport, Ashby-de-la-Zouch; Dr. H. P. Potter, London; Mr. G. F. Rossiter, London; Dr. J. A. Calantarients, Scarborough; The Secretary of the Royal Hospital for Diseases of the Chest; The Dean of the Medical Faculty, King's College, London; Dr. Capell, Glasgow; Dr. Wiltshire, London; Mr. G. Smith, Sheffield; Dr. Letheby, London; Mr. S. Whitford, London; The Registrar of the Apothecaries' Hall, London.

BOOKS AND PAMPHLETS RECEIVED—

Great Eastern Railway Panoramic Guide—Vacher on the Treatment of Simple Fracture of the Shaft of the Clavicle—Transactions of the Odontological Society of Great Britain, vol. vii., No. 7—Thomas on Fractures of the Lower Jaw, second edition.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—National Food and Fuel Reformer—Philadelphia Medical Times—Pharmaceutical Journal—Centralblatt für die Medicinischen Wissenschaften—La France Médicale—Iron—Wiener Medizinische Wochenschrift—Journal des Sages-Femmes Edinburgh Medical Journal—Monthly Microscopical Journal—Obstetrical Journal of Great Britain and Ireland—Science Gossip—New York Druggist—On Guard—Canada Lancet—Chicago Medical Journal—Pacific Medical and Surgical Journal—Irish Hospital Gazette—L'Archives Générales de Medecine.

APPOINTMENTS FOR THE WEEK.

June 5. Saturday (this day).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

Royal Institution, 3 p.m. Prof. Douglas, "On the Chinese Language and Literature."

7. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

Odontological Society, 8 p.m. Meeting.

8. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Anthropological Institute, 8 p.m. Meeting.

9. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

Epidemiological Society, 8 p.m. Mr. J. Netten Radcliffe, "On the Reappearance of Plague."

10. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.

11. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

VITAL STATISTICS OF LONDON.

Week ending Saturday, May 29.

BIRTHS.

Births of Boys, 1300; Girls, 1153; Total, 2453.
Average of 10 corresponding years 1865-74, 2038·7.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	682	612	1294
Average of the ten years 1865-74	669·7	616·9	1286·6
Average corrected to increased population	...	...	1377
Deaths of people aged 80 and upwards	...	...	30

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric or Typhoid Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	2	10	1	4	...	1	2	5
North	751729	1	2	7	1	15	...	3	2	2
Central ...	334369	...	3	6	...	7	...	2	...	4
East	639111	1	14	9	...	26	1	1	2	3
South	967692	...	11	10	5	23	...	6	...	9
Total	3254260	2	32	42	7	75	1	13	6	23

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·967 in.
Mean temperature	54·1°
Highest point of thermometer	71·8°
Lowest point of thermometer	42·3°
Mean dew-point temperature	44·8°
General direction of wind	W.S.W. & N.
Whole amount of rain in the week	0·21 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, May 29, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1875.)	Births Registered during the week ending May 29.	Deaths Registered during the week ending May 29.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3445160	45·7	2453	1294	71·8	42·3	54·1	12·28	0·24	0·61
Portsmouth ...	122632	27·3	76	35	...	...	...	...	...	...
Norwich	82812	11·1	49	43	69·5	45·0	52·8	11·56	0·29	0·74
Bristol	196186	44·1	150	75	67·1	39·8	52·4	11·33	0·66	1·68
Wolverhampton ...	71718	21·1	49	29	69·2	42·0	52·5	11·39	0·11	0·28
Birmingham ...	366325	43·6	318	156	...	...	...	...	...	...
Leicester	109830	34·3	85	49	68·8	42·0	52·6	11·45	0·13	0·33
Nottingham ...	92251	46·2	68	40	68·3	39·9	52·4	11·33	0·61	1·55
Liverpool	516063	99·1	375	196	63·8	44·8	50·9	10·50	0·50	1·27
Manchester ...	356626	83·1	309	171	71·0	42·0	53·0	11·67	0·22	0·56
Salford	135720	26·3	131	77	67·5	40·3	50·3	10·17	0·70	1·78
Oldham	87437	18·7	76	37	...	...	...	...	...	...
Bradford	168305	23·3	154	74	65·0	42·0	52·6	11·45	0·24	0·61
Leeds	285118	13·2	244	116	68·0	43·0	53·4	11·89	0·59	1·50
Sheffield	267881	13·6	243	101	67·0	42·5	53·5	11·95	0·21	0·53
Hull	133932	36·8	110	65	...	...	...	...	...	...
Sunderland ...	106342	32·2	105	34	71·0	39·0	52·5	11·39	0·32	0·81
Newcastle-on-Tyne	137665	25·6	103	61	61·0	40·0	52·8	11·56	0·97	2·46
Edinburgh	211626	50·5	126	107	...	...	...	...	...	...
Glasgow	534564	88·6	373	262	60·7	42·6	51·1	10·62	0·49	1·24
Dublin	314666	31·3	177	143	71·0	37·0	53·5	11·95	0·23	0·58
Total of 21 Towns in United Kingdm	7742889	37·0	5774	3171	71·8	39·0	52·5	11·39	0·41	1·04

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·97 in. The highest was 30·26 in. on Monday morning, and the lowest 29·61 in. on Friday evening.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

ORIGINAL LECTURES.

NOTES ON THE INVERTEBRATA

FOR THE

USE OF STUDENTS OF ZOOLOGY.

BEING AN OUTLINE OF A COURSE OF LECTURES DELIVERED FROM THE CHAIR OF NATURAL HISTORY IN THE UNIVERSITY OF EDINBURGH.

By THOMAS H. HUXLEY, LL.D., Sec. R.S.

(*Continued from page* 601.)

The Trematoda.—These are all parasitic, either upon the exterior (ectoparasites) or in the internal organs (entoparasites) of other animals. Many are microscopic, and none attain a length of more than an inch or two: most have a broad and flattened form, one face being ventral and the other dorsal, and the body is never segmented.

The ectoderm is not ciliated, but its outermost layer is a chitinous cuticula. In most Trematoda, one or more suckers are developed upon the ventral surface of the body, behind the mouth. These are sometimes armed with chitinous spines or hooks; and setæ of the same character may be developed in other parts of the body, especially in the region of the head.

The mouth is usually terminal, but is sometimes ventral and sub-central; it is ordinarily placed in the centre of a muscular sucker, rarely proboscidiform. The alimentary canal never opens posteriorly by an anus. Sometimes a simple sac, it is often bifurcated, and occasionally branched, like that of the dendrocœle Turbellaria. Sometimes (*Amphilina*, *Amphiptyches*) the alimentary canal is absent; and it becomes aborted in the adult *Distoma filicolle* (Van Beneden). The interval between the endoderm and the ectoderm is occupied by a cellular or reticulated mesoderm, in which abundant muscular fibres are developed. The peripheral muscular fibres form an external circular and an internal longitudinal layer.

The water-vascular system is well developed, and may consist of—(1) a contractile sac which opens externally and communicates with (2) longitudinal vessels with contractile non-ciliated walls, from which proceed (3) branches which ramify through the body and are non-contractile and ciliated, and the ultimate ramifications of which probably end by open mouths.

There is no pseudhæmal system. The nervous system has not been discovered in all; but, when it exists, it has the same arrangement as in the aproctous Turbellaria. Eye-spots have been observed, but no other sense-organs. With rare exceptions, the Trematoda are hermaphrodite, and the reproductive organs are constructed upon the same type as in the rhabdocœle Turbellaria, a large vitellarium being always present. The accessory vitellus is included, in the form of numerous pellets, along with the primitive ovum, and is absorbed *pari passu* with the development of the embryo.

In the ectoparasites, most of which have several suckers, and in *Aspidogaster conchicola*, which inhabits the pericardium of the fresh-water mussels, and has only one large compartmented sucker, the embryo passes into the form of the parent while still within the egg. But, in the entoparasites, it goes no further than the condition of a morula, the outer layer of cells of which may either secrete a cuticula or may be ciliated.

In the former case (*e.g.*, *Distoma variegatum*, *D. terecticolle*, *Monostomum flavum*), the apex of the embryo is often provided with radiating elevations or spines, and it is capable of slow creeping movements. In the latter (*e.g.*, *Distoma lanceolatum*, *D. hepaticum*, *Monostomum mutabile*), the body of the embryo is partially or completely covered with long cilia, by which it is actively propelled.

The history of all these different forms is not completely known, but it is probable that, in all cases, they reach some animal of a lower grade of organisation than that in which the parent is parasitic, and then become converted, either directly or indirectly, into either *Sporocysts* or *Rediæ*.

A Sporocyst is a sac-like body, the parietes of which have essentially the same structure as the body-wall of a Distoma, and contain water-vessels; but it has neither mouth nor alimentary canal. It may multiply by division or become branched. In its interior it developes cellular bodies, which in some cases give rise to new sporocysts, but usually change into minute asexual Trematodes, provided with long actively-moving tails, which are termed *Cercariæ*. The Cercariæ make their way out, and, attaching themselves to the animal in which their sporocysts have been developed, or to some other, or sometimes to plants or inorganic bodies, secrete a structureless cyst, which invests the body only, so that the tail drops off. In this condition they remain until they are taken into the alimentary canal of the animal in which the sexual state of the Trematode is found. They then escape from their cysts, and acquire fully developed sexual organs.

A Redia, in the main, resembles a sporocyst, but it has a mouth and a simple gastric sac, while the posterior end of the body is usually provided with a long median and two short lateral processes. The Redia may be developed within the ciliated embryo before the latter leaves the egg, and is set free by the breaking up of the superficial layer of ciliated cells. Like the sporocyst, the Redia gives rise to internal cellular granules, which may either become Rediæ or be converted into Cercariæ.

The Sporocysts, Rediæ, and Cercariæ, free or encysted, are found almost exclusively in invertebrated animals, while the corresponding Trematoda are met with in the vertebrated animals which prey upon these invertebrata.

The singular double-bodied Trematode, *Diplozoon paradoxum*, results from a sort of conjugation between two individuals of a Trematode, which in the separate state has been named *Diporpa*. The *Diporpæ* acquire fully developed sexual organs only after this union.

Gyrodactylus multiplies asexually by the development of a young Trematode within the body, as a sort of internal bud.

The Cestoidea.—The Tape-worms are all entoparasites, and, in their adult condition, infest the intestines of vertebrated animals.

The simplest form known is *Caryophyllæus*, found in fishes of the Carp tribe. It has a slightly elongated body, dilated and lobed at one end, so as to resemble a clove, whence the name of the genus. In structure it resembles a Trematode, devoid of any trace of an alimentary canal, but provided with the characteristic water-vascular system and with a single set of hermaphrodite reproductive organs.

In *Ligula* the body is much elongated, and provided at one end (the head) with two lateral depressions. It is not divided into segments, but there are numerous sets of sexual organs arranged in longitudinal series. The openings of the genital glands are situated in the middle line of the body. These parasites inhabit Fishes and Amphibia as well as water birds, but they attain their sexual state only in the latter.

In the more typical Cestoidea the body is elongated, and presents at one end a head provided with suckers, and very generally with chitinous hooks, either disposed circularly around the summit of the head, or upon proboscidiform tentacles, which can be retracted into or protruded from the head. Sometimes the head is produced into lobes; and very generally, when lobes or tentacles exist, they are four in number, and are disposed symmetrically round the head. A short distance beyond the head the slender body widens and becomes transversely grooved, so as to be marked out into segments. The distance between these transverse grooves, and their depth, increases towards the hinder end of the body, and each segment is found to contain a set of male and female organs. At the extreme end of the body, the segments thus formed become detached, and may for some time retain an independent vitality. In this condition each segment is termed a *proglottis*; and its uterus is full of ova.

The embryo is developed in these ova in the same way as in the Trematoda; and, as in the Trematoda, it may either be ciliated (as in *Bothriocephalus*) or non-ciliated, which last is the more usual case. The embryo is a solid morula, on one face of which four or six chitinous hooks, disposed symmetrically on either side of a median line, are developed.

If the egg is placed in appropriate conditions, the hooked embryo emerges from the shell, and rapidly increases in size. After a time, a cavity appears in the midst of the cells of which the morula is composed, and a chitinous cuticula is developed upon the outer surface of the embryo. Ramified water vessels make their appearance in the wall of the spheroidal sac thus formed, and in some cases open by an external pore. There is, therefore, a very close resemblance between this cestoid embryo and the sporosac of a Trematode.

When the saccular embryo has attained a certain size, a thickening and invagination take place, usually at one, sometimes at many, points of its wall. The invagination of the

wall elongates inwards, and becomes a cæcum, the cavity of which opens outwards. At the bottom of the interior of this cæcum, and therefore on what is morphologically its external surface, the hooks of those species which possess them are developed, while, upon the side-walls, elevations arise, which become converted into suckers. The cæcum is next evaginated or turned inside out, and the embryo has the form of a phial, of which the evaginated cæcum forms the neck. Round its apex are the hooks, and below them the suckers, forming a complete cestoid head; while the sac answers to the body of the phial. The original hooks of the embryo are cast off in the course of this process.

If the eggs of the Tape-worm have passed into the alimentary canal of an animal in which the worm is unable to attain its sexual condition, the hooked embryo, as soon as it is hatched, bores its way through the walls of the alimentary canal, and eventually becomes lodged in the connective tissue between the muscles, or in the liver, or in the brain or eye. Here it goes through the changes which have been described, and generally the sac becomes very much dilated. The region of the wall of the sac to which the cestoid head is attached becomes invaginated, and thus is enclosed within a chamber, the walls of which are really constituted by the outside of its own body. In this condition the animal is what is termed a *Cystic worm* or bladder-worm; and when there is only one head it is a *Cysticercus*. In the genera *Cœnurus* and *Echinococcus* the cystic worm has many heads, and in *Echinococcus* the structure of the cystic worm is still further complicated by its proliferation, the result of which is the formation of many bladder-worms enclosed one within the other.

In the Cystic condition, the Tape-worms never acquire sexual organs, but if transported into the alimentary canal of the appropriate animals, the heads become detached from the cysts, and, rapidly growing, give rise to segments, which become sexual *proglottides*. The Tape-worms are not found in both the cystic and cestoid conditions in the same animal, but the cystic form is found in some animal which serves as prey to the animal in which the cestoid form occurs. Thus:—

Cystic Form.	Cestoid Form.
Cysticercus cellulosæ.	*Tænia solium.*
(Pig)	(Man)
Cysticercus pisiformis.	*Tænia serrata.*
(Rabbit)	(Dog, Fox)
Cysticercus fasciolaris.	*Tænia crassicollis.*
(Rats and Mice)	(Cat)
Cœnurus cerebralis.	*Tænia cœnurus.*
(Sheep's brain)	(Dog)
Echinococcus veterinorum.	*Tænia Echinococcus.*
(Man, Domestic Ungulata)	(Dog)

The saccular embryos of the cestoid worms have been compared above to the sporocysts of the Trematoda, to which they undoubtedly present much resemblance. But another view of their nature is worthy of consideration. The central cavity may correspond with that of the planula of a Hydrozoon, and the embryo may only lack an oral aperture to become a Trematode-like gastrula. In view of the extraordinarily close resemblance between the Cestoidea and the Trematoda, this aspect of the question is worth consideration. For if the Cestoidea are essentially Trematodes, modified by the loss of their digestive organs, some trace of the digestive apparatus ought to be discernible in the embryo tape-worm. Nevertheless, nothing of the kind is discernible, unless the cavity of the sac is an enterocœle. And if the central cavity of the saccular embryo is a blastocœle, and not an enteric cavity, it may become a question whether the tape-worms are anything but gigantic *Morulæ*, so to speak, which have never passed through the gastrula stage.

The *Hirudinea*.—The Leeches are aquatic or terrestrial, more or less distinctly segmented, vermiform animals, most of which suck blood, though some devour their prey. The ectoderm is a cellular layer, covered externally by a chitinous cuticula, and devoid of cilia. Very commonly it is marked by transverse constrictions into rings which are more numerous than the true segments of the body, and simple glands may open upon its surface. One or more suckers, which serve as organs of adhesion, are developed upon it. In some (*Acanthobdella*) bundles of setæ are present; in others (*Branchellion*) the sides of the body are produced into lobe-like appendages; but none have true limbs.

The mouth is generally situated at the anterior end of the body; the anus at the opposite extremity, on the dorsal side of the terminal sucker. It usually opens into a muscular, sometimes protrusible pharynx, from which a narrow œsophagus leads into a stomach, which is frequently produced into lateral cæca. From the stomach a narrow intestine leads to the anus. The muscular pharynx may be armed with chitinous teeth. The alimentary canal is lined by the cells of the endoderm, and the space between them and the ectoderm is occupied by the mesoderm, which contains abundant connective and muscular elements, and is excavated by the blood-channels, which sometimes have the form of wide sinuses, but in other cases are comparatively narrow vessels with definite walls.

In the Leech, this vascular system has attained a great degree of definition and complexity: it consists of (1) a median dorsal trunk; (2) a median ventral trunk, in which the ganglionic nerve-chain lies; (3, 4) two wide lateral longitudinal trunks. These anastomose with one another, and give off numerous branches, which open into a rich capillary network, situated in the dermal layer of the mesoderm, and on the segmental and reproductive organs. The fluid contained within these vessels often has a red colour. If it contains corpuscles they are colourless.

More or fewer of the segments of the body are provided with what are termed *segmental organs*. They are tubes which open externally on the ventral wall of the body, while at their other extremities they either open into the blood-sinuses by ciliated mouths (*Clepsine*), or form a closed and more or less reticulated non-ciliated coil (*Hirudo*). These obviously answer to the ciliated water-vessels of the Turbellaria and Trematoda.

The nervous system consists of a central ganglion in front of the mouth, and proceeding from that, on each side, a cord on which ganglia, corresponding in number with the segments of the body, are developed. In *Malacobdella* these cords are lateral and wide apart, but, in all the other Hirudinea they are close together, and occupy the middle line of the ventral face of the body. In the Leech, there are originally thirty pairs of post-oral ganglia, but the seven posterior and the three anterior pairs coalesce, so that only twenty-three are distinguishable in the adult. Nerves are given off to the pharynx and intestines, and the former develope special ganglia.

Eyes and tactile papillæ are usually present in the neighbourhood of the mouth, and receive nerves from the supra-œsophageal ganglia.

The elongated spindle-shaped muscle-cells of the body are abundant, and disposed in a superficial circular and deep longitudinal layer, while dorso-ventral bands pass from the dorsal to the opposite body-wall.

Malacobdella and *Histriobdella* are diœcious, but the other Hirudinea are hermaphrodite. The male organs consist of numerous testicular sacs, situated on each side of the body, and connected by a vas deferens, which usually opens into a sac, terminating in an eversible penis. The female organs, much smaller than the male, consist of ovaries, with oviducts opening into a vagina. The vaginal orifice is behind that of the penis. The eggs are enclosed in a sort of cocoon, formed by a viscid secretion of the integument.

The observations of Rathke and Leuckart on the development of *Nephelis*, *Clepsine*, and *Hirudo* show that, after the division of the vitellus into a few equal-sized large blastomeres, small blastomeres are separated from the large ones (as in the Ctenophora and *Polycelis*), and the rapidly-multiplying small blastomeres form an investment to the slowly-dividing large ones. This investment is the epiblast, and becomes the ectoderm, while the included larger blastomeres are eventually converted into the cells of the endoderm. At one end of the body the oral aperture appears in some cases—*e.g.*, *Nephelis*—surrounded by a raised lip, as in the embryo Planarian, and the embryo passes into the gastrula stage.

The body now elongates, and, on the ventral face, the mesoblast makes its appearance as a layer of cells, sometimes divided into two longitudinal bands, separated by a median interval. The mesoblast now becomes divided transversely into the number of segments of which the body is eventually composed; and a pair of ganglia, probably derived from the epiblast, appear in each segment.

Thus, in the Leeches, the segmentation of the body is the result of the segmentation of the mesoblast (which becomes the mesoderm of the adult), which may at first consist of two separate longitudinal bands, and in which the division into segments first appears on the ventral face of the body. And it is this segmentation of the mesoderm which constitutes the

most important difference between the Leech and the Turbellarian.

On the other hand, in the development of a mesoblast which undergoes division into segments, the Leeches exhibit the fundamental character of all such segmented Invertebrata as the chœtophorous Annelids and the Arthropoda.

(*To be continued.*)

ABSTRACT OF

THE CROONIAN LECTURES ON ADDISON'S DISEASE.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS, LONDON.

By E. HEADLAM GREENHOW, M.D., F.R.C.P., F.R.S., Physician to, and Lecturer on Medicine at, the Middlesex Hospital.

Lecture III.

Dr. Greenhow said that the lesion in the supra-renal capsules in Addison's disease is produced by an inflammatory exudation of low type with which these organs become infiltrated. This exudation becomes converted into a firm fibrous material, which first encroaches upon and destroys the normal tissue of the capsules; and subsequently itself, together with the destroyed elements of the organs, undergoes degeneration into purulent, cheesy, or cretaceous material. At first it would, not unnaturally, be supposed that the symptoms must result from the abolition of the proper function of the capsules. This was evidently the opinion entertained by Addison when he published his book, but since his time it has become generally recognised that the symptoms associated with the supra-renal lesion cannot proceed from mere destruction of the tissues of the organs, and consequent abolition of their function.

It has been already shown, on the one hand, that when the normal structure of the supra-renal capsules is altogether supplanted by cancer, or has undergone complete fatty degeneration, none of the peculiar symptoms of Addison's disease are produced, notwithstanding the total destruction of the organs for all functional purposes; and, on the other hand, that, in many cases of Addison's disease, the conversion of the supra-renal capsules into a mass of fibroid tissue, and even the degeneration of this latter into cheesy material, must have been almost, if not altogether, complete before the development of any of the characteristic symptoms of the disease. The paroxysmal mode of progress, characteristic of the usual chronic course of the disease, is also adverse to the probability of the symptoms being due to the abolition of the function of the capsules, for, in that case, the frequent rallyings after severe paroxysms could scarcely take place, when the nature of the local lesion must render any renewal of function impossible. Again, in the case of other symmetrical organs, such as the lungs or kidneys, it usually happens that, if only one of the two organs is rendered functionally useless by disease, the other acquires an increased functional activity, termed compensatory; and, if life be not preserved, it is at any rate prolonged much beyond the average duration of life in cases in which both organs are diseased. In Addison's disease, on the contrary, in some of the very few cases in which one capsule only has been found to be diseased, the symptoms have, nevertheless, run a course in all respects resembling the usual course of disease when both capsules are involved.

Whatever, therefore, may be the hitherto undiscovered function of the capsules, these facts would seem to justify the conclusion that the abolition of that function, by whatever lesion it may be produced, cannot be the cause of Addison's disease. That disease being, nevertheless, invariably associated with one particular organic lesion of the supra-renal capsules, we must seek for some other means by which this lesion can give rise to the characteristic symptoms which indicate its presence. Manifestly, also, the condition to which we refer the production of these symptoms must be one which is found in connexion with this one particular lesion of the capsules, and which is not associated with any of the other lesions of those organs which equally destroy their structure, but do not produce the symptoms of Addison's disease.

This condition Dr. Greenhow believes to be the extension of the chronic inflammatory process from the diseased capsules to surrounding parts, described in the first lecture as one of the characteristic features of the morbid anatomy of the disease producing dense overgrowths of connective tissue, which form adhesions between the capsules and neighbouring organs, and which, if merely by their pressure, cannot fail to effect, in a serious degree, not only those nerves which pass in and out of the capsules, but all those which are in intimate relation with them. Now, it is certain that the supra-renal capsules, which lie close to the solar plexus and the semilunar ganglia, receive a much larger supply of nerves, in proportion to their size, than any other organ in the body. And they are not only intimately connected with the chief centre of the ganglionic nervous system, situated in the abdomen, but also indirectly through that centre, and more directly through the pneumogastric and phrenic nerves, with the cerebro-spinal nervous system. It will readily be conceived that the pressure of a mass of hard connective tissue within and around the capsules, closely investing the nerves passing into those organs, and sometimes involving the semilunar ganglia and the solar plexus, must seriously interfere with the functions of the nerve-branches embedded in the contracting growth. But the injury to the nerves is by no means always limited to those branches bound up in the inflammatory new growth. The undue thickening of the nerve-sheaths must necessarily tend to produce irritation, and ultimately atrophy, of the compressed medullary portions of the nerves; and these conditions have, in fact, been verified in many cases of late years.

The first notice of a morbid condition of the nerves in Addison's disease is by Addison himself, and subsequent observations by many competent pathologists leave no doubt that the antecedent probability of injury to the nerves in intimate relation with the supra-renal capsules, from the chronic inflammatory process going on around them, is borne out by the facts.

Coming to the question, how far the various symptoms of Addison's disease can be shown to be due to these morbid changes in the abdominal portion of the sympathetic and nervous system, Dr. Greenhow thinks it must be inferred from various analogies that at least many of the more important features and prominent symptoms of the disease are produced by the morbid changes in the affected nerves.

These changes are of two kinds; and it may be presumed that the irritation producing the reddening and swelling is the primary effect of the extension of the inflammatory process to the nerves; whilst the total impairment of their functions, which must result from the atrophy or fatty degeneration, will not take place until a later period. It is obvious that irritation of the nerves, although arising from a permanent cause, would be likely to vary in degree from time to time, to subside more or less completely under favourable circumstances, and to be easily aggravated anew by comparatively trivial causes. Neither is it to be lost sight of, that fresh extensions of the inflammatory process may at any time take place irrespective of outward circumstances. Again, according to variations in the acuteness of the inflammatory process in the capsules, the extension of inflammation to the nerves may take place much later and with much less intensity in some cases than in others.

Again, the individual constitutional symptoms of the disease seem in great part explicable, either by the direct effects of the nerve lesions upon certain organs, or by their reflex effects through the cerebro-spinal nervous system. The invariable listlessness and indisposition to exertion, the extreme feebleness without corresponding emaciation of the muscles, the shallow respiration, breathlessness on exertion, and small thready compressible pulse, all point to some serious interference with the functions of the nervous system; whilst the profound asthenia which supervenes before death from Addison's disease exhibits a great analogy to the collapse which follows a fatal shock to the nervous system from some severe injury. The sighing, yawning, and hiccough, so frequent during the paroxysms of depression, are direct nervous symptoms; and the affections of sight and hearing, the numbness, anæsthesia, and tremors, the convulsive twitchings, and epileptiform and other seizures, may all be explained by reflex nervous irritation through the cerebro-spinal system. With respect to the gastric symptoms, certain physiological experiments do appear to throw light upon their production through the medium of the nervous system. Pincus states, in Funke's "Physiology," that extirpation of the solar plexus and semilunar ganglia in animals is followed by hyperæmia of the stomach and upper part of the intestinal canal, with ecchymoses and ulcerations; whilst similar results do not follow the same operations in the abdomen, if injury to the nerves be avoided. The catarrh and other

affections of the mucous membrane of the stomach, and the enlargement of the solitary glands of the small intestine, so constant in Addison's disease, would thus be shown to be due to a direct interference with the functions of the abdominal nervous centres by extension of the inflammatory process. Jaschkowitz has also found enlargement of the spleen follow the cutting through of the sympathetic—a result which would tend to explain the not unfrequent occurrence of this pathological change in cases of Addison's disease.

Although many writers have concurred in attributing the constitutional symptoms of Addison's disease to some lesion of the nervous system, they differ widely in their ideas as to the relation between the supposed nerve lesion and the disease in the supra-renal capsules, and also as to the means by which the symptoms are produced. Owing to the undue prominence which has always been given to the bronzing of skin as a symptom, the character and causes of this abnormal pigmentation have been far more fully and widely discussed than those of the constitutional symptoms. Virchow, in his works on "Tumours," expresses his belief that it is probably due to nerve disease, not dependent, however, on the nature of the morbid process in the supra-renal capsules; and other explanations have been given by Buhl, Martineau, Jaccoud, and Risel.

So far, however, as Dr. Greenhow has been able to ascertain, the composition of the blood does not undergo any important alteration in uncomplicated cases of Addison's disease.

Both the colouring matter of the uric acid and the urea have been found deficient in Addison's disease, but no inferences can be drawn from the results of these researches with respect to the production of the bronzing of skin. The deficiencies both of uric acid and urea in the urine are believed by Dr. Greenhow to be due to the diminished functional activity, and consequent diminished waste of tissue, characteristic in Addison's disease. The excess of indican is perhaps more directly owing to altered nervous influence.

Dr. Greenhow's own opinion is, that the change of colour in Addison's disease is produced, like the constitutional symptoms, through the medium of the nervous system. The paling of the discoloration, coincidently with remissions of the constitutional symptoms, and its deepening and extension with every fresh exacerbation of the illness, appear to him to afford strong clinical evidence that these two features of the disease are referable to a common cause. He is inclined to attribute it to reflex irritation through the cerebro-spinal nervous system.

Proceeding next to consider the etiology of Addison's disease, Dr. Greenhow said that the product of the chronic inflammatory process has undoubtedly analogies with tubercle, and has been termed tuberculous, strumous, and scrofulous, more often than inflammatory.

It is certain that Addison's disease of the supra-renal capsules is frequently due to extension of inflammation from diseased or injured adjacent parts.

This appears to Dr. Greenhow to be a point of much importance in its bearing on the etiology of Addison's disease.

In another class of cases there is no pathological evidence of the existence of any local lesion from which there could have been an extension of inflammation to the supra-renal capsules, but the clinical history very decidedly points to some severe strain, or blow, or physical shock, usually in the back, as the starting-point of the illness.

In four or five cases, patients have referred their illness to physical over-exertion; in about the same number of cases, to nervous shock, grief, or anxiety; and in two or three cases, to attacks of intermittent fever.

However, good health until the beginning of the fatal illness is perhaps the most frequent history; and in typical cases, the usual report is, that all the other organs were healthy.

We must then fall back upon the indirect information to be derived from the influence of sex, age, and occupation upon the development of the disease, and Dr. Greenhow was able to draw the following deductions from his data:—

The occurrence of Addison's disease is found almost exclusively in persons employed in active manual labour.

The mortality caused by it is pretty equally distributed over the laborious period of life, and to that period it is almost entirely confined.

The disease is comparatively much more frequent in persons of the male sex, whose employment naturally involves the heaviest kinds of labour.

Lastly, a preponderating number of the cases which occur in persons of the male sex are found amongst those classes of labourers whose occupations are most likely to expose them to bodily injury from accident or over-exertion.

The facts thus brought out cannot fail to suggest obvious inferences as to the probability that, in many of these cases, more or less temporary causes of local inflammation may have existed. Dr. Greenhow is inclined to believe the origin of Addison's disease, in many of the unexplained cases, to be due to traumatic causes, although its development has probably been favoured by certain constitutional proclivities.

Very little is required to be said with respect to the diagnosis and prognosis of Addison's disease. The diagnosis is founded upon the constitutional symptoms, aided, in a large majority of cases, by the presence of more or less of the peculiar change of colour in the skin. It is not always unattended with difficulty. The prognosis is, of course, invariably grave as regards the ultimate result, though it is impossible to say to what extent life may be prolonged under favourable circumstances. Rest and scrupulous avoidance of bodily or mental excitement, or any other causes of nervous exhaustion, form the essential parts of the therapeutical management of all such cases; whilst the diet and medical treatment must be carefully adapted to the inevitably varying phases of the disease.

ORIGINAL COMMUNICATIONS.

DRUNK OR DYING?

THE CHIEF CAUSES OF COMA, AND THE DIAGNOSTIC MARKS OF EACH VARIETY.

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THE attention of the profession and of the public has lately been directed in an especial manner to the means of distinguishing drunkenness from apoplexy and other forms of sudden coma. When I am addressing my pupils on the subject of apoplexy, I am in the habit of referring to the difficult question of diagnosis in the terms of the following extract from one of my lectures:—

Diagnosis.—You are called to a patient in a state of insensibility; you know nothing of his previous history, except that he has been found unconscious in the street, and you are required to ascertain the cause of his alarming condition. You must first consider what are the *possible* causes of the symptoms. He may have a clot of blood in his brain, the result of disease or a blow on the head; he may be in that comatose condition which not unfrequently follows an epileptic fit; he may be poisoned by opium or by an excess of alcohol; or he may be suffering from the effects of uræmia.

Now, you will be less likely to make an erroneous diagnosis if you continually bear in mind that in some of these cases an accurate diagnosis is not only extremely difficult, but absolutely impossible until the progress of the symptoms has been watched for a certain time. That the case is one of cerebral hæmorrhage would be rendered probable by such symptoms as extreme relaxation or convulsive twitchings of the limbs on one side, lateral deviation of the features, or inequality of the pupils; but with hæmorrhage on the *surface* of the brain none of these paralytic symptoms may be present. Marks of external injury, especially about the scalp, should be carefully looked for in every case. A black eye or a cut or bruised scalp may have resulted from a drunken man falling down, but the fall may have fractured his skull or ruptured a blood-vessel in the brain.

That the coma is a sequel of an epileptic fit might be suspected if it were found that the tongue is bitten and bleeding, and if there are hæmorrhagic spots beneath the conjunctivæ or the skin; though these signs are frequently absent in epileptic cases. Epileptic coma is usually of short duration, and the speedy return of consciousness removes any doubt that may have existed as to the nature of these cases.

In cases of poisoning by opium, one of the most striking and constant symptoms is extreme contraction of the pupils. The skin, too, is usually bathed in a profuse perspiration. With respect to the contraction of the pupils, it has been observed that in cases of apoplexy with hæmorrhage into the pons Varolii the pupils have been as much contracted as in opium-poisoning.

When the patient's breath is tainted by the odour of some alcoholic liquor, we of course suspect that he is drunk. It must not, however, be forgotten that as a drunken man is especially liable to be seized with apoplexy, and to suffer from accidental mechanical injury in the streets of a crowded city, so we may have to deal with the complication of alcoholic intoxication and cerebral hæmorrhage on a fractured skull. It is a common practice to give brandy or some form of alcoholic stimulant to anyone who has become faint or giddy, and so it may happen that an unconscious patient's breath is tainted with the odour of drink administered after the onset of an apoplectic seizure.

In cases of uræmic coma the urine is usually albuminous, and presents other physical and chemical signs of renal disease. Uræmic coma, in a large proportion of cases, is preceded by convulsions. The tongue is commonly brown and dry in these cases, and the breath has a most peculiar and characteristic fetor. Yet, even with all this evidence of renal disease, the case may not be one simply of uræmic coma; there may, in addition, be the complication of cerebral hæmorrhage, which, as we know, is a frequent result of chronic Bright's disease.

The difficulty of diagnosis between renal disease and drunkenness is sometimes increased by the fact that the urine may be rendered temporarily albuminous by alcoholic intoxication. A remarkable case of transient alcoholic albuminuria occurred when my friend and colleague Dr. Baxter was House-Physician to the Hospital. A man between twenty and thirty years of age was brought in one night by the police. He was unconscious, and breathing stertorously. He appeared to be drunk, and a large quantity of vinous liquid was pumped out of his stomach. The unconsciousness continued, and it was then suspected that he might be suffering from uræmic poisoning. This suspicion was confirmed by the fact that his urine, drawn off by a catheter, was "loaded with albumen." He was then put into bed, cupped over the loins, and a purgative was given. When Dr. Baxter visited the ward the following morning, he found the man up and dressed, and clamouring for his discharge. He said that he had been very drunk overnight, but now he had nothing the matter with him; and he passed some urine which was found to be in every respect quite normal. The temporary albuminuria was the result of renal congestion, caused by the excretion of an excess of alcohol through the kidneys.

In all doubtful cases of this kind it is better to err, if you err at all, on the side of caution and safety. Obviously it is better to allow a drunken man to recover his senses in the ward of a hospital than to send an apoplectic patient to die in the cell of a police-station. When a mistake is made on the opposite side, and a supposed drunkard dies apoplectic, it is a very natural, though it may be a very erroneous inference, that someone is to blame and deserving of punishment.

DUPLAY'S OPERATIVE METHOD FOR THE TREATMENT OF PERINEO-SCROTAL HYPOSPADIASIS.

ABSTRACTED AND TRANSLATED FROM M. DUPLAY'S ORIGINAL MEMOIR.(a)

By A. LUTAUD, M.D.,
Assistant-Physician to the French Hospital.

(*Continued from page* 606.)

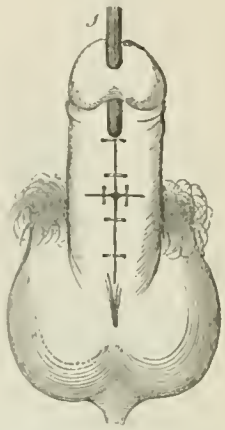
3.—*The New Operative Method.*

Taking the variety which has been previously described under the name of perineo-scrotal, two principal indications are to be fulfilled for its successful treatment—(1) To separate the penis from the scrotum, and destroy its arching, in order to allow erection and coition; (2) to construct a new channel from the abnormal urethral opening to the glans penis.

1. The first surgical indication has been much insisted upon by M. Bouisson, who proposed an excellent method to obtain it. To this method very few objections are to be made. Instead of using subcutaneous methods, M. Duplay incises transversely the cutaneo-mucous band which attaches the penis to the scrotum, and makes several sections on the envelopes and septum of the corpora cavernosa until the complete disappearance of the arching. The result of the operation is a little lozenge-shaped wound (Fig. 2), the edges of which may be united by sutures, in order to diminish the extent of the cicatricial tissue. The closing of the wound must be carefully watched, and, for preventing consecutive retraction, it is necessary to practise continual tractions on the penis, which will be done easily by fixing it to the abdomen with some agglutinative agent.

Fig. 2.

Fig. 3.



This first operation is simple, free from complications, and is always followed by good results. It is, then, hardly necessary to insist upon its importance.

Before thinking of fulfilling the second indication, it is indispensable to wait a long while, in order to acquire the certainty that a secondary retraction will not take place. The space of time necessary between the two operations is about six months.

2. The second indication—viz., the restoration of the urethra—is by far the most difficult part of the treatment; and it may be said that nearly all surgeons have failed in that way. The principle on which they based their practice was defective; most of them attempted to make the new channel in one operation (*tout d'un pièce*), which is, in the case of perineo-serotal hypospadiasis, a great cause of failure.

The new proposed method consists in first creating the new channel at the under surface of the penis, and leaving intact the abnormal urethral opening; then, when the canal is well formed, and does not present tendencies to retraction, in uniting the two portions of the urethra and closing the serotal fistula. This new proceeding presents the following advantages:—(1.) It preserves the autoplastic urethra from the contact of urine. (2.) It prevents the retraction which always happens after the usual modes of operating.

This second part of the operation may be properly divided into three stages—(1) restoration of the urinary meatus; (2) creation of the new urethra from the meatus to a short distance from the hypospadic opening; (3) re-union of the two portions of the urethra.

First Stage: Restoration of the Urinary Meatus (Fig. 3).—This part of the operation may be done at the same time as the correction of the arching of the penis. It is simple, and the result is always satisfactory. After the section of the under penian band, the lips of the little *échancrure*—which, as a rule, exists at the inferior part of the glans—are to be vivified, and stitched together by means of sutures. Before bringing the vivified lips in apposition, it is necessary to place between them the end of a catheter. If the *échancrure* is not deep enough, an incision is to be made so as to allow the presence of the catheter and the possibility of the apposition of the lips under it. On a patient presented to the Société de Chirurgie, the restoration of the meatus was so complete that it was impossible to suspect the unnatural state which previously existed.

Second Stage: Construction of a New Canal in the Under Surface of the Penis.—The flaps are to be taken from the skin of the penis in the following manner (Figs 4 and 5):—The penis being held up, two longitudinal incisions are made on its inferior surface parallel to the median line. Those two incisions are cut at their superior and inferior extremities by two other little transverse incisions, so as to form two quadrilateral flaps (*ab*, *a'b'*, Fig. 4), extended from the basis of the glans to half a centimetre of the urethral opening. The flaps must have

(a) "De l'Hypospadias Périnéo-Scrotal et de son Traitement Chirurgical." Par le Dr. Simon Duplay, Professeur Agrégé à la Faculté de Médecine de Paris, Chirurgien de l'Hôpital St. Antoine. Paris, 1874; chez Asselin.

such an extent as, when dissected and turned back, to cover a catheter (*s*, Fig. 4) previously introduced into the bladder.

The cutaneous surface of these flaps is then turned towards the cavity of the new channel, whilst their raw surface is

Fig. 4.

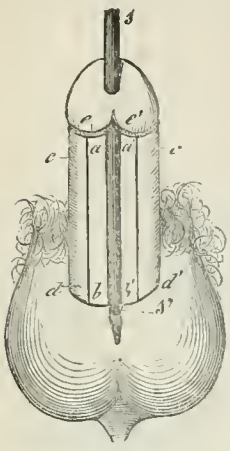
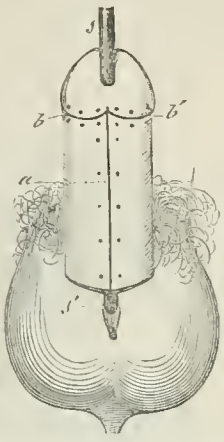


Fig. 5.



exposed to the exterior. Then a careful dissection of the skin of the penis in continuation of the transverse incisions will furnish two new flaps (*cd*, *c'd'*, Fig. 4) for covering the raw surface of the first flaps. Finally, the inferior edge of the glans is vivified in the part which corresponds to the new channel.

The flaps being now dissected, they require to be united. This will be done easily by means of pins or metallic sutures. In order to re-unite the new urethra with the meatus, the inferior part of the glans must be vivified, and the superior edges of the quadrilateral flaps brought into contact with it. It is hardly necessary to say that if, after the sutures, the skin of the penis presents an excessive tension, this may be corrected by making longitudinal incisions on its dorsal surface.

Fig. 6.

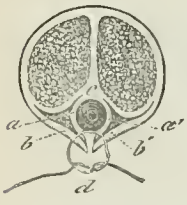


Fig. 6, which is diagramatic, represents a section through the penis after the operation. As may be seen, the walls of the artificial urethra are constituted by two flaps of skin (*aa'*, *bb'*, Fig. 6) in apposition by their raw surfaces, and presenting internally and externally an epidermic surface. This condition is the most favourable, as it prevents further retraction. The edges of the two flaps of each side are crossed obliquely by a metallic wire (*d*, Fig. 6).

In most of the cases immediate re-union will take place, and the new channel will be created at once. But, however, it is better not to rely upon this result; the difficulty of maintaining the immobility of the penis, the frequency of the erections which displace the sutures, and many other causes, may prevent immediate re-union in some points. The little operations which are then necessary to complete the restoration are very simple, and require more patience than dexterity. They may be performed without the aid of anæsthetics. If the solution of continuity is of some extent, the autoplastic proceeding just described should be used again; if not, it will be sufficient, after vivifying, to stitch the edges of the sinus with one or two sutures.

Third Stage: Apposition of the Two Portions of the Urethra.—When the artificial urethra is in a perfect state, and does not present tendencies to retraction, the closing of the scrotal fistula, which constitutes the third stage of the operation, must be performed. In one case the closing was attempted twice without success. This imperfect result is to be attributed to the extent of the fistula, and to the restlessness of the little patient, who, not understanding the usefulness of his co-operation, would not retain his urine, and was passing it continually, to the great damage of the new autoplastic channel. In the case further reported, the patient, an adult, was more reasonable, and contributed to a rapid and complete success by passing his urine with care and as seldom as possible.

The following proceeding, which is extremely simple, is to be employed. After the introduction of the catheter from the new meatus to the bladder, the edges of the hypospadic opening should be freely pared, and then brought into apposition as exactly as possible by means of deep sutures. Another suture, made with pins, and including only the superficial part of the vivified surfaces, completes the operation. The practice of making deep and superficial sutures is very useful, and increases the chances of an immediate re-union.

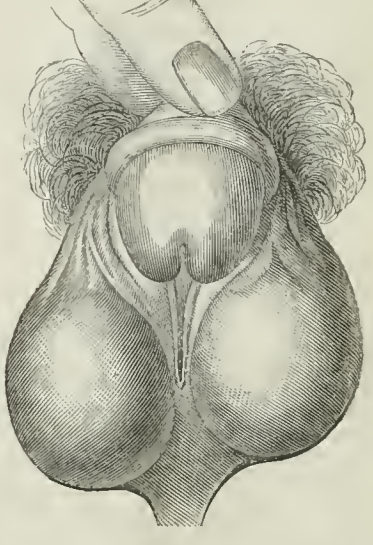
An important question is the evacuation of the urine during the third stage of the operation, which must be done with the assistance of a catheter. Whether it is best to retain the catheter or to introduce it whenever necessary is a subject for consideration. Catheterism being always attended by difficulties on account of the malformation, its frequent repetition would irritate the walls of the new channel; it is then preferable to use the retaining catheter. Injections of tepid water should often be used, in order to prevent its obstruction.

The patient should be kept constantly in the lateral position; this facilitates the passage of the urine, and prevents the collection of serosity and pus between the catheter and the walls of the urethra. The accumulation of those liquids may be equally prevented by making soft pressure on the under surface of the penis from the scrotum to the glans.

It may be asked how long the catheter should be maintained in the bladder. No fixed rule can be set down on that point. In most cases its presence will be required for two or three days, by which time the edges of the fistula become united. If the re-union does not seem complete after the withdrawal of the catheter, it should be passed again each time the patient wants to pass water.

A very important question, raised for the first time by M. Bouisson, must be examined now—viz., What is the best age for a patient suffering from perineo-scrotal hypospadiasis to undergo the operation? M. Bouisson thinks that the most favourable epoch is when the patient has attained puberty, but this opinion is subject to very serious objections. The first one is, that the correction of the arching of the penis, being done at an early age, is preferable, as it allows the complete development of the organ. The second is, that the restoration of the urethra when the patient is young presents many advantages—viz., (1) the erections are not so frequent, and not followed by a great increase in the size of the penis; (2) the moral preoccupations, which are very troublesome in an adult, are avoided in a child.

Fig. 7.



It is, then, much better to correct the arching of the penis and create the artificial urethra before the patient has attained puberty. But it is not the same with the third stage of the operation—viz., the apposition of the two portions of the urethra. The experience of the past shows that it is more advantageous to perform this part of the operation when the

penis has attained its complete development, and when the intelligent co-operation of the patient can be relied upon.

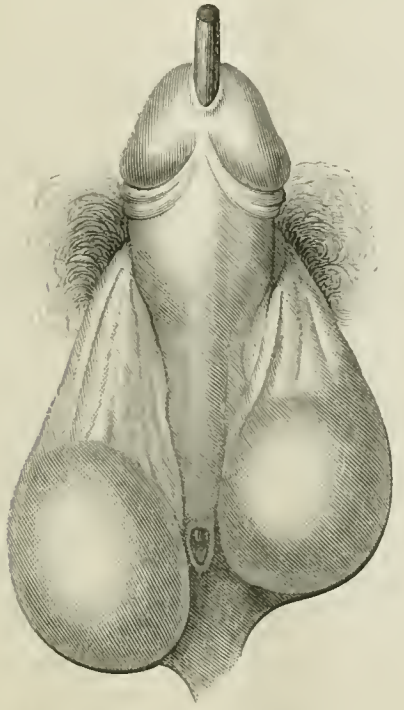
The following case, briefly extracted from M. Duplay's work, is given by way of illustration :—

G. H., aged twenty-one, suffers from perineo-scrotal hypospadiasis (Fig. 7). The penis, well conformed at its dorsal

Fig. 8.

surface, is attached by its under surface to the scrotum by a band of integument. The opening of the urethra is situated at the union of the scrotum with the perineum at the bottom of a little fissure. The right testicle is well developed, but

Fig. 9.



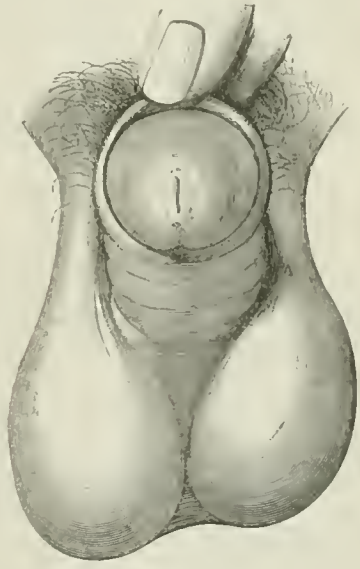
the left is a little atrophied. The patient's urine is dropped behind the scrotum during emission, and he is obliged to eject it in a crouching posture. When erection occurs, the penis takes a bent and angular direction, and the tension caused by the presence of the cutaneous band is considerable and painful.

The first operation was made in November, 1872, the patient being under chloroform. The correction of the arching of the penis and the creation of the meatus urinarius were performed at the same time, and by the proceeding just described. Two months after the operation the direction of the penis during erection was quite normal, and the patient could practise coition without difficulty. Fig. 8 represents the state of the organ at that time.

The second operation—viz., the restoration of the urethra—was performed in May, 1873, the patient being under chloroform. The method above described was employed. The immediate re-union failed in some points, and rendered complementary operations necessary. These operations were practised in July, October, and November. In January, 1874, the new channel was perfectly restored, as may be seen in Fig. 9.

The last operation—viz., the apposition of the two portions of the urethra—took place in February, 1874, with complete success. When the patient was presented to the Société de Chirurgie (March 25, 1874) it was almost impossible to imagine the deformity which previously existed. The urinary organs are in a perfect state (Fig. 10) ; the urine is ejected with force and in a normal direction : coition is possible.

Fig. 10.



Conclusions.

1. The perineo-scrotal hypospadiasis, the most advanced degree of this kind of malformation, is susceptible of surgical treatment.

2. This treatment, to be successful, must be divided into three stages—(*a*) correction of the arching of the penis ; (*b*) creation of a new canal from the urinary meatus to a short distance from the hypospadic opening ; (*c*) apposition of the two portions of the urethra.

3. The creation of a urinary meatus is indispensable, not only for the regularity of the external form, but for the regular function of the organ. The new urethroplastic method is perhaps subject to modifications and improvements, but, until a better one has been found, it seems to be preferable to others previously used.

4. The proposed treatment for the cure of perineo-scrotal hypospadiasis is *à fortiori* applicable to the less advanced degrees of the same malformation (peno-scrotal and penian hypospadiasis).

German and American Graduates in 1874.—The sum total of physicians licensed in the whole German empire for the year 1874 was only 660, while the innumerable medical colleges of the United States graduated 3000 students. The population of Germany amounts to 42,000,000, with 660 new graduates, and that of the United States to 40,000,000, with 3000. Further comment is unnecessary.—*Canada Lancet.*

REPORTS OF HOSPITAL PRACTICE IN MEDICINE AND SURGERY.

UNIVERSITY COLLEGE HOSPITAL.

HÆMORRHAGIC DIATHESIS—SYNOVITIS OF KNEE—RELIEVED.

(Under the care of Sir H. THOMPSON.)

This case, so far as it required treatment in the hospital, has no particular feature about it; to all appearances it was one of the numerous instances of synovitis of the knee-joint. But there is great interest attaching to the personal and family history of the patient, which gives value and importance to a record of it.

The father, paternal uncle, and two brothers, as well as the patient himself, are all subjected to severe losses of blood from slight injuries, and even independently of any injury whatsoever; that is, the hæmorrhagic diathesis affects two generations of the same family—but, it will be noticed, not males and females equally or indiscriminately, but only the males. In this respect it agrees with the experience of Lange, who gives statistics to the effect that this diathesis affects the males much more than the females of families. He refers to twenty-seven families consisting of eighty-seven boys and seventy-one girls, and of the boys sixty-five suffered, but of the girls there were only seventeen victims.

It has been pointed out that the term "hæmorrhagic diathesis" has been applied to two different pathological states, viz.—(1), to the tendency to great bleedings from slight causes; (2), to the grave and even fatal results of slight bleedings.

No doubt the same person may be the subject of both these conditions, and there is nothing improbable in their separate occurrence in different members of the same family. In the family of the patient under consideration there is clearly a great tendency to severe and continued bleedings, and to such capillary extravasations as produce bruises; but there would seem to be no inability on the part of the systems of these persons to bear the loss of blood, unless the two children, whose sex and the cause of whose death are not named in the report, were instances of this.

Although it would be unreasonable and quite unwarranted on our part to doubt the accuracy of the diagnosis of the disease for which the child was admitted, yet the suggestion involuntarily presents itself, that in children or adults with this hæmorrhagic diathesis any slight injury to a joint might give rise to extensive hæmorrhage into it, and that, too, without any evidence of the presence of blood within the cavity beyond more or less swelling. We have lately heard at the Pathological Society of cases of gout, in which considerable quantities of blood have been effused into the knee and other joints without exciting symptoms during life.

Charles U., aged six years and a half, admitted June 18, 1874. Patient has always been delicate and thin. About every two months the child has had violent bleeding from the nose, which continues more or less for from eight to ten days after. It is most difficult to stop. If the patient cuts himself, he bleeds very much. Once having bit his tongue, it continued to bleed for three days after. Bruises very easily, almost the least touch leaving a bruise. Grandfather and mother always enjoyed good health, and died very old. Father, aged forty-four, is quite healthy now, but when a boy suffered a good deal from bleeding at the nose. Mother has always been healthy. Father's brother is healthy, excepting that he has always suffered a good deal from bleeding at the nose. Father bruises easily. One brother, aged thirteen, had the same tendency to bleed. Another brother also bleeds very readily, though not to such an extent as the patient and the boy thirteen years old. Two children of the same family died young. About five weeks ago the patient's knee-joint first began to swell. Eight days afterwards it pained him very much for three days, and was very hot and tender. It was fomented, and the pain diminished.

June 19.—The leg was put upon a splint, and treated with evaporating lotion.

22nd.—Pain and swelling of knee seem to have decreased.

25th.—Patient able to bend knee much better; no tenderness

After a few days he left the hospital convalescent.

LONDON HOSPITAL.

OPERATION: EXCISION OF KNEE-JOINT.

(Under the care of Mr. MAUNDER.)

Mr. Maunder, at the London Hospital, recently performed excision of the knee-joint in a girl of eight, the history of whose case has been taken with much care by the dresser, Mr. Chance.

Four years ago, while at play, the child had a blow on her right knee, which made her limp for four or five days, but left no further trace of injury. Two years ago she struck the same knee, which gradually became bent, and treatment at the Devonshire and Orthopædic Hospitals over a period of several months failed to straighten it. About the middle of last December she again struck the knee, this time to be followed by redness, swelling, acute pain, and the formation of an abscess. Her family history is good. On admission to the London Hospital, on January 1, the right leg lay across the left with the knee flexed at right angles. There was marked swelling and fluctuation at the outer and posterior parts of the joint; and an incision made at the former position near the patella gave exit to a large quantity of pus. During the next few days there was copious discharge, and some increase in pain.

Mr. Maunder performed excision, after having satisfied himself by careful examination on the operation-table that the joint was already opened by disease. A horse-shoe incision was made, and the patella removed, and thin slices were taken from the ends of the femur and the tibia, together with all the cartilage. Loss of blood was prevented during the operation by Esmarch's bandage. A hole having been drilled through the ends of the contiguous bones, these were drawn firmly together and secured by a piece of stout wire. A back splint was applied, and the limb from the toes upwards was bandaged with plaster of Paris bandage, the whole being further strengthened by two lateral iron rods, with a bend in each opposite the knee to give room for the dressings. The flap was placed *in situ*, but not fastened by suture, and the wound covered with simple water-dressing.

Examination of the bones revealed ulceration of cartilage on the external condyle of the femur, and the outer surfaces of the patella and head of the tibia. A small sequestrum of bone was found in the cancellous structure of the external condyle of the femur, and a similar sequestrum in the opposing part of the tibia.

ST. THOMAS'S HOSPITAL.

CASES OF HIP- AND KNEE-JOINT DISEASE.

(Under the care of Mr. MAC CORMAC.)

Mr. Mac Cormac operates but seldom in cases of hip-joint disease in children; many cases doing well under general treatment, combined with rest and extension. In other cases an operation has seemed imperative on account of the drain on the patient's strength by reason of the profuse discharge, and the irritation produced by the dead or carious bone in the joint-cavity. Life may be thus sometimes preserved, but in only a small proportion does the limb prove a very serviceable one.

Case 1.—As an illustration of conservative or expectant treatment, the following is a good instance:—Elizabeth W. was admitted under Mr. Mac Cormac's care on November 25, 1873, with advanced disease in the left hip and incipient disease in the right. There were three sinuses communicating with the left joint; and an abscess, followed by a sinus communicating with the joint, took place subsequently on the right side. The child suffered greatly, especially at night,—so much so, that an operation seemed urgently demanded, and would probably have been performed on the left hip had not the other been also involved in disease. Splints with continuous extension were applied to both sides, and the result of careful and protracted treatment was that at the end of ten months the child was able to walk about, all the sinuses had healed, and she was dismissed to go to a convalescent hospital. She is now walking about.

Case 2.—William E., aged five, fell, some time before admission under Mr. Mac Cormac's care, injuring the hip. Admitted, with clear evidence of acute suppuration in the joint. Excision was performed. Joint full of pus; the cartilages of encrustation completely removed; and the mutual

pressure of the two exposed surfaces of bone had caused great suffering. Exactly a year after, he was discharged; wound not quite healed, but patient was able to walk a little. He has since much improved.

Case 3.—Mary Ann P., aged two years and a half, admitted August 7, 1873. Nine months prior to admission, injured left hip by falling out of bed. Six months subsequent to this, a swelling formed in region of hip-joint. On admission, large abscess in upper and outer part of left thigh, eversion of limb, flattening of buttock, fulness in groin, pain in knee, child much emaciated. August 8: Vin. ferri 3ij. ter die. 13th: Two ounces of pus withdrawn by aspirator, and twice subsequently pus withdrawn. October 16: Abscess tapped with trocar, and much thin pus evacuated. 20th: Incision, and drainage-tube inserted. November 25: Exploratory incision three inches and a half long; head of femur extensively diseased. Transverse incision made, and head of femur removed. Carbolic oil dressing. 26th: Slept well; temperature 101°; wound looks healthy. The wound continued to look healthy, and the child free from pain. Sleeps well, and temperature normal. February 21, 1874: Spiral leather splint; and patient discharged with limb in good position.

Case 4.—Alice B., aged six, was admitted, under Mr. Mac Cormac's care, suffering from the effects of acute suppurative inflammation in the hip-joint, attributed to an injury. Excision of the diseased joint was performed on September 21, 1872, and the child discharged to a convalescent hospital six months after. She has been under observation up to the present time, having made an excellent recovery. She walks well with the aid of a thick-soled boot, the limb being slightly everted.

Case 5.—Frank C., a pale delicate lad, aged six years and nine months, was admitted under Mr. Mac Cormac's care September 29, 1871. Left knee completely disorganised; tibia dislocated backwards and outwards; knee flexed to a right angle. Joint excised. Made a slow but perfect recovery. Patient was kept under observation for three years, during which time the operated limb continued sound and useful.

Case 6.—George H., aged seven years. Disease for three years in right knee; no alleged cause. Joint completely destroyed; one sinus discharging freely. Knee excised October 11, 1871. The boy made a rapid and complete recovery, being able to run about the ward at the end of twelve weeks.

Health of London.—The mortality in London last week amounted to 1323—a decrease on the average number of 63. The annual death-rate from all causes was 20 per 1000. There were 2 deaths from small-pox, 32 from measles, 41 from scarlet fever, 11 from diphtheria, 71 from whooping-cough, 25 from different forms of fever, and 29 from diarrhœa. To the seven principal zymotic diseases, 211 deaths are referred, against 201 in each of the two previous weeks. The fatal cases of whooping-cough were still in excess of the average number, although they showed a further slight diminution last week. From diseases of the respiratory organs there were 232 deaths, being 21 above the average.

Spina Bifida.—M. Laroyenne, of Lyons, having related, at the Société de Chirurgie, a case of spina bifida of the cervico-dorsal region, in a child three months old, which he had cured by means of the elastic ligature, M. Blot observed that these cases require very cautious treatment, as, in all the autopsies that have been made, branches of nerves or the tissue of the cord itself have been found spread out on the walls of the tumour. Surgical operations in such cases must, therefore, be hazardous, and are the less called for inasmuch as the tumour often disappears spontaneously, and is sometimes completely cured without any operation. M. Giraldès observed that such nervous expansions are not met with in spina bifida of this region, which may, therefore, be safely operated upon—although spontaneous cure may take place either by obliteration of the aperture of communication, or by fatty transformation of the contents. In the dorso-lumbar region this nervous expansion is observed, and operations there are very dangerous. M. Desprès observed that we may safely operate in cases in which the aperture is so narrow that the fluid cannot be returned to the canal by compression. Tumours which are easily reducible should not be meddled with. M. Hovel, however, has seen cases in which reduction of the tumour was impossible, although the orifice was large enough to admit a quill.—*Union Méd.*, June 1.

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Medical Times and Gazette.

SATURDAY, JUNE 12, 1875.

THE MEETING OF THE GENERAL MEDICAL COUNCIL.

The business that will be submitted to the General Medical Council at its first meeting for the ensuing session, on Thursday next, will be sufficiently abundant and various to afford plenty of scope for the usual difference of opinion and debate characteristic of that body. Of the practical outcome of the meeting it is impossible, we fear, to speak with equal confidence. It is obvious that the principal subject of consideration will be the Reports of the Visitors of Examinations, in continuation of those of last year. There were then provoked, as our readers cannot well have forgotten, prolonged and animated discussions, and there is every reason to expect that this year's reports, coming as they do from universities and other licensing bodies in each of the three kingdoms, will excite an amount of interest and a display of feeling not a whit less extreme. We may, indeed, expect that certain members of the Council will move for considerable modifications in the existing arrangements for conducting the visitations. Further, the Council will, to a certain extent, be compelled to re-open the consideration of the reports already received, in view of the remarks which have been passed upon them since last year by the licensing bodies to which they refer. Indeed, the Medical Council have not by any means seen the end of this undertaking; and, as we have already had occasion to remark, it evinces no particular desire to secure its early completion. There is no doubt that it will be at least another year before this can be expected. Meanwhile, it appears that some of the preliminaries to the consideration of the scheme of a Conjoint Examining Board have not been far advanced. As we state elsewhere to-day, the prospect that the enabling Bill of the College of Surgeons of England will be passed this session is exceedingly poor; and on account of the unusually early date of this year's meeting of the Council, there appears to be no hope whatever that the Act will be submitted to it for consideration. A similar fate in the House of Commons most

probably awaits the Pharmacy Bill for Ireland, in opposing which the Pharmaceutical Society of Great Britain will, we understand, pray for the assistance of the Medical Council. Notwithstanding the unlikelihood of this Bill being introduced this session, we feel bound to say that we cannot see that it is objectionable, or worthy of the treatment which the Pharmaceutical Society wish it to receive. On the whole, we are able to make a tolerably accurate estimate of the most important business that will be before the members of the Council at the forthcoming meeting. There is a fair prospect of abundant and interesting, and we may venture to add amusing, discussions, which we shall fully report from week to week. We need scarcely add that there will be many other subjects of less great and less general interest, and that numerous notices of motions may be expected from individual members. The house of the Council in Oxford-street is now quite finished, and we would again congratulate the active members of the Executive Committee who have successfully obtained and furnished a home for the Council beyond which nothing could be desired. The hall of meeting is especially excellent for the purpose—although we could have wished to see the reporters' gallery in a part of the house where they could better hear and report the speeches.

CROTON-CHLORAL HYDRATE.

In 1871, Dr. Otto Liebreich introduced into medicine a body which had been discovered the year before by Krämer and Pinner, and to which they gave the name of croton-chloral. He described it as an hypnotic and anæsthetic, which at first produces anæsthesia of the head by a special action on the cerebral nerves, while it leaves the sensibility of the rest of the body unaltered, and then in larger doses destroys reflex excitability without affecting the respiration or the pulse, and which finally kills by paralysing the medulla oblongata. He also assumed that croton-chloral acts in the living body by breaking up into dichlorallylene in the alkaline blood, just as it breaks up in the laboratory when acted on by weak alkaline solutions, the reaction being represented in the equation $C_4H_3Cl_3O + KHO = C_3H_2Cl_2 + KCl + H_2Co_2$. Dr. Liebreich's theory has recently received a heavy blow by the investigations of Dr. von Mering, of Berlin, upon the physiological and therapeutic action of croton-chloral hydrate (*Berliner Klin. Wochenschrift*, 1875, No. 21).

The latter finds that tri-chloro-crotonic acid, which breaks up just like croton-chloral with alkalies into dichlorallylene, is absolutely inert, and that as much as four or five grammes of tri-chloro-crotonate of soda can be repeatedly injected under the skin of rabbits without any hypnotic effect whatever, nor did he succeed in completely narcotising a rabbit or arresting its respiration by making it breathe air saturated with dichlorallylene. The chemical examination of the urine of patients who had taken as much as four or five grammes of croton-chloral hydrate gave equally negative results as far as the theory which makes its action depend on the formation of dichlorallylene is concerned, for no trace of the latter body could be detected in it.

Dr. Mering also examined the physiological action of croton-chloral upon the respiration and circulation in animals, and he has found that in rabbits the frequency of the respirations steadily diminishes until the animal dies, just as it does with chloral hydrate, and the respiration ceases earlier than the movements of the heart. Experiments on dogs, cats, and rabbits with croton-chloral and chloral hydrate showed that the blood-pressure was temporarily diminished by small doses, and reduced by large ones almost to zero. This phenomenon depends primarily on paralysis of the muscular coats of the arteries, and secondarily on a direct weakening of the heart's action.

The frequency of the pulse is at first considerably increased after the administration of croton-chloral hydrate, but later on it becomes much reduced below the normal rate. It should be noted that the drug affects different species of animals in very different degrees; thus, for instance, it has a powerful influence on cats, and very little indeed on dogs.

In addition to his experiments on animals, Dr. Mering has made a number of trials of the action of croton-chloral in the human subject, especially with a view to test Dr. Liebreich's statements of its efficacy in neuralgias of the fifth and other nerves, and of its superiority to chloral as an hypnotic, owing to the smaller dose of it required to produce sleep. His experience of its effect in facial neuralgia, sciatica, and one or two other cases of apparently neuralgic pains was most unsatisfactory. The patients took 0·8 grammes four times a day without any diminution of their sufferings, while they obtained immediate relief from morphia.

Still more unsatisfactory was its action as an hypnotic. Given in doses of two to three grammes to three healthy persons, it only produced sleep of short duration in one of them, whereas an equal dose of chloral acted unfailingly in all. In like manner it was given to a number of patients with mental disease—melancholia, mania, progressive paralysis, —as well as to a man with delirium tremens; and though doses of two to two and a half grammes appeared to produce sleep for a brief period in one or two instances, yet, generally speaking, the effect was almost *nil*, and in every case the rapid and long-continuing action of an equal weight of chloral left no doubt of the marked superiority of the latter drug. The general conclusions at which Dr. Mering arrives are, that the physiological action of croton-chloral on the respiration and circulation is similar to that of chloral, but that as an anæsthetic and hypnotic it acts much less powerfully, and in neuralgias it is far inferior to morphia in relieving the pain. Lastly, he differs from Dr. Liebreich in advising that it should be used with the greatest care in cases of heart disease, whereas the latter specially prefers it to chloral as less likely to depress the circulation.

Although Dr. Liebreich's theories have been thus assailed and apparently demolished by Dr. Mering, yet they have found a powerful advocate, not in Germany, but in France, in a monograph by Dr. A. Weill ("Du Croton-Chloral Hydrate: ses Propriétés—son Emploi," Paris, 1875), who has gone over much the same ground as Dr. Mering, but comes to almost opposite conclusions to his. He, too, has experimented on animals, and has never observed any very important modifications in the functions of respiration and circulation when they have been under the influence of croton-chloral. In moderate doses, according to him, it does not affect the heart's beats, nor make the respiration slower; it kills, however, in very large doses, by arresting the circulation. Dr. Weill believes with Liebreich that its primary action is on the sensory cranial nerves, that it secondarily affects the spinal sensory nerves, and that the motor branches are affected very late, or not at all. He differs from Liebreich, however, in one point, and agrees to a certain extent with Mering, for he thinks that there is a close resemblance between the physiological effects of croton-chloral and of chloral, though he considers the former the more powerful hypnotic of the two. As a medicine, he recommends it not only in neuralgias of the fifth nerve, but in those of other nerves, as well as "to combat the phenomenon of pain in general." He also gives it in various spasmodic nervous affections; to allay cough in chronic lung disease; and finally to procure sleep. The dose varies according to the age and susceptibility of the patient, but, generally speaking, half a gramme to a gramme and a half will be found necessary to begin with, and its nauseous taste is best corrected by exhibition with extract of liquorice.

Dr. Weill brings forward several striking examples of the

value of croton-chloral in facial neuralgia, hysteria, and sciatica; and the experience of several observers in this country—Wickham Legg, Burney Yeo, Gray, Ringer, and others—makes us doubt whether Dr. Mering has not been a little hasty in depreciating its efficacy, especially in allaying neuralgic pains. In Germany, Dr. Otto Berger (*Sitzung der Schlesischen Gesellschaft*, July, 1874) has strongly recommended it in sciatica, in the pains of locomoter ataxy, and in angina pectoris, in repeated small doses of 0, 1—0, 2 grammes. There seems to be little doubt, however, that the hypnotic action of croton-chloral is inferior to that of chloral. In addition to those of Dr. Mering on this point, Dr. Bouchut, of Paris, has made a number of comparative experiments on children with the two drugs, and his results are decidedly in favour of the chloral, for while three or four grammes of the latter will produce such complete anæsthesia that abscesses can be opened or teeth extracted without pain to the children, the croton-chloral, even in four-gramme doses, scarcely produces sound sleep. In concluding this summary of our knowledge of croton-chloral hydrate up to the present time, it seems scarcely necessary for us to point out how defective as yet that knowledge is. Further observations will have to explain the discrepancies between Dr. Mering's and Dr. Weill's conclusions, and to indicate with more precision the exact class of cases in which the drug is really useful. It is hopeful, however, for the future of medicine that, in the short time which has elapsed since its discovery, so much should already be known about it. The same energy which strives to fathom the properties of new remedies might do good work, and dissipate many antiquated and ill-founded notions, if it sometimes did the same with old ones.

THE ROYAL COLLEGE OF SURGEONS.

In another part of our columns will be found some notes on the professional status and distinctions of the candidates for election into the Council of the Royal College of Surgeons, on Thursday, July 1. We are glad to find that Mr. Prescott Hewett has reconsidered his intention, which we announced a while ago, of not standing, and has consented to present himself for re-election. He is a man whom we could ill afford to lose. Mr. Birkett and Mr. Spencer Smith also present themselves for re-election, and between them and the other candidates for office the electors may find some difficulty of choice, for all are good men. The most formidable of these is, we should suppose, Mr. Cooper Forster, who has recently been appointed one of the Examiners, and who last year only just missed being elected on the Council. He is a hospital colleague of Mr. Birkett's, and it may be imagined, therefore, that he does not present himself as an opponent of that gentleman. Mr. Spencer Smith is a pillar of St. Mary's Hospital and School, and though some may think that he has had his share of the honour of being on the Council, yet it may be remembered that he is approaching nearly towards the possible honour of the presidential chair—a distinction which must be rightly an object of ambition and hope with every member of the Council; and if not re-elected he loses all chance of wearing that crown of honour. Mr. Hussey represents the provincial surgeons, and has on a former occasion received so much support as to fully justify him in again standing. Mr. Smee is the well-known Surgeon to the Bank of England, and has distinguished himself in scientific researches; but it may perhaps be fairly said that he is not generally known as a distinguished representative of either the science or the art of surgery; and it may be felt that his chance of success this time is hardly so great as that of one of the prominent hospital surgeons.

The Council of the College must of course, collectively, regret that their representative on the General Medical Council will have to acknowledge that the law still prevents the College from becoming a member of the English Conjoint Examining Board, for the establishment of which the College has so earnestly laboured, and been ready to hazard so much. And it must, further, be a matter of regret to the Council, collectively, that the prospects of their obtaining the College enabling Bill this session is by no means a promising one. The motion for going into Committee on the Bill came before the House of Commons on the afternoon of Tuesday, the 8th, but had to be adjourned, as Mr. Stansfeld was still speaking against it when the hour arrived for closing the debate. Mr. Stansfeld's opposition to the Bill seems to be based, in part at least, on the ground that an English Conjoint Scheme must be imperfect and valueless so long as it stands alone, the Scottish and Irish bodies continuing to stand aside and give their several diplomas as hitherto. We must own that for ones we have the somewhat fearful pleasure of agreeing with Mr. Stansfeld.

THE WEEK.

TOPICS OF THE DAY.

We always regret to see censure cast upon sanitary medical officers, because we believe, and know, that no body of public men, as a rule, perform their duties more efficiently and satisfactorily. But that there may be exceptions to this rule is only a matter of course, and it would seem the following case is one in point. Dr. Griffiths, a man of high acquirements and long official standing in the parish of Clerkenwell, is a well-known member of the profession. An inquest has been held lately by Dr. Hardwicke, Coroner for Central Middlesex, to inquire into the death of Alice Dorrington, aged two years and eight months, who died from scarlet fever, and the inquiry was concluded at the third sitting on Saturday last. The mother, Anna Dorrington, stated that the deceased caught the fever from her brother. Dr. Griffiths was in attendance on the boy, and gave no answer when asked to look at the child now dead. Dr. Griffiths, who is Medical Officer of Health for the parish, stated it was true he was asked to see the deceased child, and, not considering her a patient, he declined to do so. He afterwards heard the girl was dead. Although there were four or five children in the room, he did not obtain the removal of the child first attacked. He had no legal power to procure such removal without a magistrate's order. But was it not Dr. Griffiths' duty, under the circumstances, to have obtained that order? After all the evidence had been taken, the following verdict was returned:—"That the deceased expired from scarlet fever, having taken the disease from another child suffering from the disease being in the same room, and the jury are also of opinion that had the child first attacked been removed, the death of this child might not have taken place." The jury also drew up the following resolution:—"That the jury desire to express their opinion that the sanitary officers of the parish who have been examined do not appear to have taken such measures as were desirable for checking the spread of scarlet fever, now shown to be prevalent in the district, and that the chief medical officer (Dr. Griffiths) has not acted in a satisfactory manner."

The Bill introduced in the House of Commons, in reference to the election of county coroners, proposes that on any vacancy of a county coronership in England, the Lord Chancellor shall issue his precept for the election, on which the clerk of the peace is to give public notice to the justices and candidates, and the justices are to elect from among the candidates a fit and proper person to fill the office of coroner. The election is to be taken from the freeholders, and vested instead in the justices of each county. We think this scheme open to grave objections, though we fully admit that the present mode of electing county coroners is far from being all

that is to be desired. We would much rather see the coroner elected by one of her Majesty's Secretaries of State, or by the Lord Chancellor, who has the appointment of magistrates throughout the kingdom; and, in the event of any dereliction of duty of sufficient gravity, has the power of summarily removing them from office. The subject altogether of the mode of election of county coroners is one demanding very careful consideration, and the promoters of the present Bill have difficulties before them which, probably, they have not taken into consideration. The tendency of the present day is not to concentrate power in the hands of the few, but rather to extend it to as wide a sphere as possible. As far as we know, no case has occurred in which a county coroner elected by the freeholders has been objected to on the score of incapacity. But a plan of election which entails on a candidate for such an office as that of coroner all the bustle, turmoil, and expense of canvassing is thoroughly bad; and the difficulty of defining who is a freeholder qualified to vote has given rise to great scandal and gross abuse. The system proposed to replace it may, on the other hand, place a coroner too much under the influence of the electing justices of the peace, especially taken in connexion with the superannuation clause of the Bill, as the justices are to have the power of determining the amount of the superannuation allowance, though a retiring coroner may appeal from the decision of the justices to her Majesty's principal Secretary of State for the Home Department. The Bill is, however, threatened with so much opposition from both sides of the House of Commons that it seems to have but little chance of passing.

The venerable Coroner for the Borough of Birmingham has resigned that important appointment. He had held the office for thirty-six years, and during that long period he never once employed a deputy, though he has held on an average 900 inquests a year. This indefatigable official graduated at Edinburgh in 1822, and became a Fellow of the Royal College of Physicians, England, in 1859. He was for many years Physician to the Queen's Hospital, Professor of Forensic Medicine, Queen's College, Professor of Clinical Medicine and Physician to the General Dispensary and Fever Hospital. He retires full of years and honour. It is to be trusted that the inhabitants of Birmingham will select a medical practitioner for his successor.

The Harveian Oration will be delivered on the 25th inst. by Dr. W. A. Guy, F.R.S., F.R.C.P., etc.

THE LECTURES ON STATE MEDICINE AT THE APOTHECARIES' HALL.—NO. IV.

The fourth of a course of lectures, which are being delivered on this subject by Surgeon-Major F. de Chaumont, before the Society of Apothecaries, at their hall in Blackfriars, took place on Saturday, June 5. The points treated of were: "Soil, in its Relation to Health; Sewage, and the Disposal of Effete Matters; and the Disposal of the Dead." The lecturer referred to the important bearing which the situation of a town or city has upon the health of its inhabitants, and remarked that it has, however, rarely happened that the site has been chosen with any regard to that point. Other considerations have generally prevailed. The influence of soil is considered by some to be paramount as a factor in the propagation of disease, and its importance as affecting both air and water must be admitted. The features of the soil which may affect the question of healthiness are—first, its gaseous contents; secondly, the water it contains; thirdly, its solid constituents; and, lastly, its conformation, and the presence or absence of vegetation. All loose soils, and even most rocks, contain air, the chief condition of which is a remarkable and greatly varying amount of carbonic acid, due to oxidation of organic matter in the soil. In the upper parts the carbonic acid is found to vary inversely as the oxygen, and it appears to accumulate chiefly during the summer months. The observations which have been made on this point show the remarkable disinfecting power of all soils. The porosity of a soil is an important point, and may be easily measured by means of a burette arrangement devised by Pettenköfer. In loose soils in Europe the porosity is about 40 per cent.; in tropical countries it is about 10 per cent. higher. The facility with which gases pass through soil depends upon the porosity. The presence of a house on any site sets up a sucking action, in consequence of the air of the house being warmer than the air of the soil beneath. Foul air has been drawn into a house from a cesspool twenty-seven feet distant, and even a fatal case of poisoning by coal-gas has originated in the same way. The chief diseases attributable to soil emanations are pyrexia, enteric fever, yellow fever, bilious remittent fever, and dysentery. It is desirable that such emanations should be intercepted by concrete foundations, and even by layers of charcoal in some cases. As to the water in soil, in addition to that which exists as mere dampness, there is the ground-water, or underground lake, which exists at a varying depth in all places. This is continually in motion, and generally towards the sea or the nearest water-course. Its height varies with the formation of the soil, the rainfall, and other circumstances, and is subject to rise and fall. It is generally admitted that a persistently low ground-water of about fifteen feet below the surface is healthy, while a constantly high ground-water is the reverse. A suddenly fluctuating level is very unhealthy. Pettenköfer holds that when the water begins to subside, after being high, disease becomes prevalent. He regards the amount of oxidation which takes place in the space left by the water as the real cause of disease, and he attributes typhoid fever, and even cholera, to this cause. Pettenköfer's observations at Munich showed that as the ground-water rose the deaths from typhoid fell, and as the ground-water fell the deaths from typhoid rose. A diagram setting forth these observations by means of two proportional curves was referred to, and the lecturer stated that these curves had been subjected to mathematical analysis, with the result that, according to the theory of probabilities, the chances of the two curves being connected were as 36,000 to 1. The correspondence, however, fails at Zürich and some other places, and hence it seems that even if the subsidence of the ground-water is a factor in the production of disease, it is in some cases overruled by some other and more potent influence. The fact that a low ground-water is good is amply shown by Dr. Buchanan's report to the Privy Council, from which it appears that not only typhoid, but even phthisis and other lung diseases, have been lessened by draining the subsoil. This improvement had been conspicuous at Salisbury. The influence of the solid constituents of soil is due partly to their chemical composition, and partly to their geological formation. Some persons are inclined to attach much importance to the geological formation. In the kingdom of Saxony cholera was shown to be worst in those districts where the soil was sub-alluvial, while on the gneiss, sandstone, and granite there was complete immunity. The drinking-water, however, is always better in the last-named formations than in a sub-alluvial district, so that the soil itself may have had only an indirect effect with regard to the disease. The primitive and metamorphic rocks, which are those forming the district where cholera was least in Saxony, are just those where the slope is greatest, and where the drainage would be good and the substances yielded to water very few. Towns are exposed to danger through being built on artificial or made soil, upon which for some time previously refuse of all kinds has been shot, in response to the customary invitation, "Rubbish may be shot here." An examination made by Dr. Parkes of such soil at Liverpool revealed the

presence of cinder refuse, potato-parings, rotten paper, rotten wood, bones, rotten straw, rotten cloth, egg-shells, fish-bones, and other matters. The heat-absorbing power of soils has a bearing on the question of health. Soil consisting of sand with some lime absorbs most heat, and humus absorbs least; the relation of the former to the latter in this respect being as two to one. The planting of trees will often improve the healthiness of a district, as shown at Hongkong and in France and elsewhere. The eucalyptus of Australia is very useful for this purpose. The beneficial effect of improved cultivation is shown by the fact that ague is now almost unknown in this country.

In reference to the disposal of excreta, it was stated that the diseases attributed to sewage emanations are—typhoid, enteric fever, cholera, dysentery, pneumonia, ophthalmia, diphtheria, and probably also scarlet fever. Phthisis and other diseases have been more or less aggravated by them. The condition of towns with regard to sewage arrangements has improved since the time of the Health of Towns Commission; but in the rural districts things are still in a very bad state, the cesspool being almost universal. Opinions are greatly divided as to the best mode of removing excreta. There are wet methods and dry methods—among the latter being Moule's dry-earth closet. It is now admitted that the practice of discharging all the material into the sea is a mistake; while the results of the irrigation which has been carried on for centuries near Edinburgh show that sewage may be utilised by irrigation without producing disease. The fertility of China has been attributed largely to the care with which the inhabitants return to the soil that which they take from it. Water is generally resorted to as the vehicle for the carriage of sewage; and it is doubtful whether sewage can be applied profitably to land when a large mass of water is mixed with it. As to the hygienic aspect of water-carriage, there is no reason why that method should not be perfectly healthy when due care is taken to prevent the escape of sewer-gases into houses. The dry methods seem to answer where the land to which the sewage is to be applied is not too far distant; but this advantage cannot be obtained in a large community, and hence these systems involve too much labour to be practicable. The recently introduced pneumatic method of Liernur has been tried on the Continent, and seems to promise well; it is about to be tried at Winchester under the direction of Mr. Scott. Dr. Parkes thinks that no one system of removing excreta will meet all circumstances.

In dealing with the question of the removal of the dead, the lecturer alluded to the state of things revealed by the Report on Intra-mural Sepulture, in 1850, after Mr. Edwin Chadwick had moved in the matter. It was estimated in that report that in various burial-grounds in London, comprising in all 218 acres, a million and a half of dead bodies were crammed in every thirty years. This state of things has been remedied in large towns, but it is becoming more and more difficult to dispose of the dead. After considering the various plans which have been suggested to replace the present mode of interment in this country, the lecturer gave it as his opinion that cremation, if properly conducted, possessed most advantages, and must ultimately supersede our existing usages.

THE POLLUTION OF RIVERS BILL.

That a great deal of good to the public may be expected to eventuate from the Pollution of Rivers Bill could never have been doubted, and the feeling on the subject which has been stirred up all over the country proves that many of those who have long offended against the health of the community with impunity are beginning to be anxious for the preservation of their much-abused privileges. Only last week a deputation from the Manchester Chamber of Commerce waited upon the Marquis of Salisbury to explain the views they held as to the operation of the Bill in a large centre like Manchester and Salford. Sir Thomas Bazley commenced by assuring the Marquis that the Chamber did not come in a hostile spirit, but simply to point out how, as practical men, they thought the Bill would work. Several members of the deputation then proceeded to explain their views. They urged that all solid matter should be absolutely prohibited from entering the water; that the term of twelve years allowed by the Bill should be withdrawn, and any limitation should apply to works hereafter to be erected. Further, they feared that the discretion of the county court judge would be too wide and general, and that his decision should be reviewed on a case stated, either of merits or procedure; that drainage into sewers, as required by the Bill, might be very undesirable, and, as regards existing sewers, might in some cases be perfectly unsuitable. The deputation considered that water taken from rivers should be returned to them direct, and this especially applied to rivers with a small body of water, and in dry seasons. They feared that the Bill, if enforced in its present form, would be oppressive and unjust; as, whilst one manufacturer might be able to cleanse the water, in other cases it would be impracticable, and they particularly urged upon the Marquis the desirability of appointing officers as local authorities to be made responsible for the proper administration of the law.

Later in the week another deputation of the manufacturers, dyers, and tanners of Leeds waited upon the Marquis of Salisbury, for the purpose of strongly urging upon his notice the position of those manufacturers in and near large towns. Only three courses, they stated, were open to them in the event of the Bill becoming law—either to shut up their works altogether, or to turn the water taken from the river into the sewers, thus largely diminishing the stream, or, finally, to find an area for filtering and purification. In Leeds and district no area could be found for purification processes, and if they turned their refuse water into the sewers, the public health would suffer.

Both these deputations, very sensibly, appear to have regarded the forthcoming legislation on this subject as inevitable, and to have addressed the promoter of the Bill rather in mitigation of penalties to be enforced hereafter than with a view of inducing him to forego the introduction of the measure. In fact, it would seem at last to be dawning on the minds of some manufacturers that the rivers of our country are not so much private as public property; and that it is scarcely to be wondered at if legislation should step in to prevent a neighbourhood from being half-poisoned, even though the pockets of one or two individuals should suffer. The only wonder is that the polluted state of our rivers has been so long in attracting the attention of Government.

THE ADULTERATION OF FOOD ACT.

The difficulties surrounding the question of adulteration are numerous. Acts of Parliament, it would really appear, in many instances are framed in such a manner that their tendency is to mislead and confuse. We do not complain at the decision of the court in the present instance, but the question may naturally be asked, "Where shall we draw the line?" It is probable it will take a long time, and many convictions and appeals, before this question can be answered. In the Court of Common Pleas, on Monday, the case of Gibson *v.* Leaper was heard on appeal on a conviction under the Adulteration of Food Act, 35 and 36 Viet., c. 74, sections 2 and 3. The case was stated by the justices for the division of Spalding, Lincolnshire, for the opinion of the Court. It appears the appellant, who was a grocer at Spalding, upon being asked for a quarter of a pound of cocoa, delivered to the respondent an ordinary packet of Epps's cocoa, without making any verbal

statement as to its contents. Upon the face of the packet were the words, "Prepared Cocoa: for ingredients see the other side," and upon the back, "Cocoa contains a bland oil which is pre-eminent as a vitalising substance; to render the oil soluble and easy of digestion, it needs to be combined with just so much loaf sugar and West India arrowroot as will effect its perfect incorporation. In the preparation of the cocoa contained in this packet we guarantee that no other ingredients than those mentioned are used." The respondent, who bought the cocoa for the purpose, then had it analysed, and it was certified to contain "40 per cent. of cocoa, 44 per cent. of sugar, and 16 per cent. of starch." The information, under section 2 of the Act, charged the respondent with having sold, as unadulterated cocoa, cocoa that was adulterated. The justices convicted the defendant and fined him 40s., and stated this case for the opinion of the Court upon the validity of such conviction. The Court quashed the conviction, holding that, assuming the cocoa could be properly said to be "adulterated cocoa," still it had not been sold as unadulterated. The mere handing of the packet did not constitute a complete sale passing the property into the possession of the purchaser. It was open to him, if it did not correspond with what he had asked for, to reject it. And here there was a printed statement which immediately brought to the notice of the purchaser the fact that the article was a preparation of cocoa, and the ingredients of which it was composed. Therefore, whether it was true or not, as had been stated, that the mixture of some such ingredients was necessary to make pure cocoa edible, this cocoa could not be said to have been sold as unadulterated.

ARRANGEMENTS CONNECTED WITH HOSPITAL SUNDAY.

The committee to whom is to be entrusted the duty of distributing whatever sum is collected for the Hospital Sunday Fund on the 13th inst. were last week appointed by the Council. The members are:—Alderman Sir Sydney Waterlow, M.P. (Treasurer of St. Bartholomew's Hospital), Lord Ashley, Mr. Thomson Hankey, M.P., Mr. Alderman M'Arthur, M.P., Mr. Samuel Morley, M.P., Dr. W. Sedgwick Saunders (Medical Officer of Health for the City of London), Mr. W. G. Callender, F.R.S., Mr. Thomas Turner (Treasurer of Guy's Hospital), and Mr. Jervoise Smith. The Lord Mayor and the Sheriffs, together with the members of the Courts of Aldermen and Common Council, and the metropolitan Members of Parliament have announced their intention of being present at the services on Hospital Sunday—in the morning at St. Paul's Cathedral, and in the afternoon at Westminster Abbey. At St. Paul's the sermons in aid of the Fund will be preached by the Rev. Canon Miller, Vicar of Greenwich, and the Chaplain-General Bishop Claughton; at Westminster Abbey by the Rev. Canon Puckle, Vicar of Dover, the Rev. J. Eaton, of Merton College, Oxford, and the Archbishop of York. The Bishop of Ely will preach at the Chapel Royal, Whitehall; and the Bishop of Bangor and the Rev. Henry White, Chaplain to her Majesty, at the Chapel Royal, Savoy. An announcement was made in all the Roman Catholic churches last Sunday that on the 13th a collection would be made in aid of the London hospitals.

LINCOLN STILL COY AND BACKWARD.

A deputation, headed by the Mayor, attended by members of the Corporation and other residents of Lincoln, had an interview, a few days since, with the President of the Local Government Board, to urge that, in the present state of health in the town, the improvement in the system of drainage was not a pressing necessity. Mr. Sclater-Booth informed the deputation that complaints had been made by some of the inhabitants that the sanitary state of the town was simply "terrible," and he thought a death-rate of 24 per 1000 was much too high for a town situated as Lincoln was in other respects than its sanitary condition. The Mayor remarked that the high death-rate referred to could not, he thought, be proved if the deaths were calculated on the assumed present population. Mr. Sclater-Booth thought that as Lincoln had for four years been considering the subject, they ought to be prepared to deal with it. The deputation still urged for time, and suggested that Lord Salisbury's Bill on the Pollution of Rivers was likely to involve difficulties if the proposed plan for the drainage of the town was carried out. An expense of £15,000 had been incurred for the purchase of a farm for an irrigation system; it had been abandoned, because the inspector, they believed, disapproved of it, and moreover it was unprofitable. Mr. Sclater-Booth replied that the question was not a question of profit at all. He, however, would consider their application for more time, and the result should be communicated to them.

SPREAD OF ZYMOTIC DISEASE.

"The first advantage derived by annexation," the Fiji papers to March 20 announce, "is the introduction of measles, and for this the islanders are indebted to the *Dido*, which came down and discharged her diseased passengers, utterly regardless of any consequences that might ensue." The disease was making great ravages throughout the whole of the islands. Tui Levuka and other chiefs had succumbed to it, and even the mountaineers in the interior had considerable havoc made in their ranks. The germs of the disease were taken into the mountains by the chiefs who were brought over to Levuka and entertained on board her Majesty's ship *Dido*. The disease, which is always followed by dysentery, has assumed a form of plague. From New South Wales we learn that fever had broken out on board her Majesty's ship *Barracouta*, lying in Farm Cove, and the whole of the crew were put on shore, the vessel being fumigated. Thirty had been attacked by the fever, but there was only one death. The measles epidemic, which had been very general in the colony, was decreasing. By the last advices from India, cholera has broken out in the city of Poona and in some of the surrounding villages, but it is reported to be decreasing in Lucknow and the adjacent districts. The plague is stated to be prevalent along the Euphrates. Instructions have been issued from Kurrachee to have the Persian Gulf steamers examined at Guadur, Muscat, and Kurrachee.

SANITARY STATE OF LIVERPOOL.

Alderman Bennett drew attention at a meeting of the Liverpool Town Council, last week, to the gratifying fact that the town in point of health was second in the published returns of towns,—the death-rate being 20 per 1000. The suggestions of Dr. Parker and Dr. Saunders, Government Inspectors, had been carried out by the Health Committee in respect to the direct connexion of the drains from small houses with the sewers, and the lower death-rate was largely due to that fact. Much, however, remained to be done, as similar defects in the drainage of the residences of the well-to-do classes were known to exist, and were the source of a vast deal of preventable disease,—an evil which calls for an immediate remedy. Its existence was an injury to the poorer inhabitants. What has now been done to improve the sanitary condition of the cottage, appears to be in Liverpool, as is too often found elsewhere, as pressing a necessity for the preservation of health in the mansion.

GLASGOW UNIVERSITY.

The Glasgow University Court have just approved of an alteration suggested by the Senate, of adding to the number of extra-academical medical examiners. By this alteration their number will be increased from three to not fewer than seven, in addition to the professors in the Faculty of Medicine.

THE RELATION OF MICROCOCCI TO ERYSIPELAS.

According to Dr. W. Lukomski (*Virchow's Archiv*, 1874, lx.), the microscopical examination of the skin of an erysipelatous region showed that where the process was beginning or extending the lymphatics were always filled with numerous micrococci, but where it was stationary or retrograding these organisms were absent. In one case, in which the erysipelas was extending downwards, the upper edge of the wound contained no micrococci, while there were abundance of them in its lower edge. Lukomski endeavoured to produce erysipelas experimentally in animals, either by the injection of fluids containing bacteria under their skins or by bringing putrid matter containing bacteria in simple contact with a healthy wound. In the first case, in which the fluids though containing bacteria were not putrid, rapidly spreading phlegmonous inflammation was set up in the subcutaneous tissues and in the cutis itself, and it was found that the micrococci rapidly multiplied and diffused themselves into the neighbouring lymphatics. Where infection took place through an open wound, inflammation followed, which exactly resembled erysipelas in man. The lymphatics were invaded by the micrococci just as in the other experiments, and they were always found most numerous at the edge of the inflamed skin where the process was still extending. The direction in which erysipelas spreads seems to be determined partly by the course of the connective-tissue fibres, partly by the lymphatic vessels, and partly by the influence of gravity, by which the infecting substance tends towards the lowest point. Dr. Lukomski has been led by his experiments to form a decided opinion in favour of a connexion between erysipelas in the skin and the immigration of low organisms into it, and he believes that the extension of the inflammation depends on their previous development in the tissues, since the micrococci can be detected outside the inflamed parts. He has been unable to determine whether they are carried from the surface by their own movements, or by means of wandering cells, or in some other way into the lymphatic vessels, nor can he explain their disappearance as the inflammation subsides.

UNREGISTERED SHIP SURGEONS.

Captain Bedford Pim has obtained a Parliamentary Return of the "Names, ages, and nationalities of persons who have served in the British Merchant Service during the last two years as surgeons, whose names do not appear in the Medical Register." The number of persons returned is 224; the vast majority of them are natives of the United Kingdom, and their ages vary between nineteen and fifty-five. The return would have been more complete had it stated the qualifications, if any, held by each person, as it by no means necessarily follows that a person calling himself a surgeon is unqualified simply because he is not registered.

LONGEVITY.

According to the mortality returns for England for the year 1872, 195 men and 433 women died at 95 years old and upwards. Twenty-four of the men had reached 100 or upwards, and one who died in Morpeth Workhouse was registered at the age of 111 years. Of the women, 51 had lived a century or more, and 2 had attained the age of 107 respectively. One of these died at High Wych, near Sawbridgeworth, in Hertfordshire, and the other at St. James's-road, Isliugton. Of the 75 persons registered as 100 or upwards, 9 died in London, their respective ages being—two 101, two 102, one 103, two 104, one 105, and one 107.

ROYAL COLLEGE OF SURGEONS, IRELAND.

At the annual stated meeting of the College, held on Monday, June 7, the following Fellows were elected officers for the ensuing year:—*President:* Edward Hamilton. *Vice-President:* John Hamilton. *Secretary:* William Colles. *Council:* William Colles, Richard G. H. Butcher, Rawdon Maenamara, George H. Porter, Benjamin G. MacDowel, Edward Ledwich, Albert J. Walsh, Edward D. Mapother, Archibald H. Jacob, John Morgan, George H. Kidd, Philip C. Smyly, Alfred H. McClintock, John Denham, John K. Barton, William Stokes, jun., Samuel Chaplin, T. Joliffe Tufnell, and William Ireland Wheeler.

PARLIAMENTARY.—ARTISANS' DWELLINGS—PUBLIC HEALTH—ARTISANS' DWELLINGS (SCOTLAND)—SALE OF FOOD AND DRUGS.

In the House of Lords, on Thursday, June 3,

Their Lordships went into Committee on the Artisans' Dwellings Bill.

The Duke of Somerset, commenting upon the earlier clauses, spoke in favour of limiting the power of the Board of Works to displace large bodies of working people under a provisional order; and

The Earl of Shaftesbury hoped that the Government would use their influence to prevent sudden and wholesale removals of populations.

The first seven clauses, however, were agreed to without debate.

On Clause 8 an attempt was made to revive the subject of compulsory powers being used by the confirming authority where the local authority refused to carry out an improvement scheme.

Lord Napier and Ettrick was of opinion that this Bill was inconsistent with other similar measures, such as the Public Health and Pollution of Rivers Acts, where the Local Government Board have power to order a scheme to be carried out by a local authority.

Ultimately the clauses and schedules were agreed to without any alterations, except verbally in Clause 12, and the Bill passed through Committee.

In the House of Commons, on Thursday, June 3,

The House went into the consideration of the Public Health Bill as amended.

On Clause 85, which gives a definition of nuisances,

Mr. Gorst moved an amendment to the effect that the words "consume or burn the smoke" shall not be held in all cases to mean "consume and burn all the smoke," but that the justices shall not impose the penalties enacted by the Act if they are satisfied that the person summoned has so constructed or altered his furnace as to consume as far as possible all the smoke.

Which was agreed to provided the justices "dismiss the complaint."

On the motion of Mr. Cawley, an amendment was inserted in Clause 179, appointing the Local Government Board the umpire of disputed cases, instead of the quarter session.

Some further amendments, chiefly of a verbal character, were introduced, and the Bill passed the stage.

In the House of Lords, on Monday, June 7,

The Lord Advocate, in reply to Mr. Grieve, said that a Bill on the subject of Artisans' Dwellings in Scotland was prepared and printed. It would be introduced as soon as the Bill for England passed through the House.

The Duke of Richmond moved the second reading of the Sale of Food and Drugs Bill. He enumerated the Acts already passed, and indicated the main provisions of the Bill now before the House. It was an amending as well as a consolidating measure.

The Earl of Morley considered that certain clauses in the Bill required careful consideration in Committee. He thought the word "knowingly" would cause great difficulty, and that the words "prejudice of the purchaser" would cause embarrassment.

Lord Redesdale said it would be well to require the seller to state what the article was mixed with, and the percentage of the foreign ingredients.

The Bill was read a second time, and the Committee fixed for Friday, the 11th inst.

King's County Infirmary.—At a meeting of the Board of Superintendence of this institution, held on Monday, June 7, Dr. James Ridley was appointed Surgeon in the room of the late Dr. John Ridley. The Surgeoncy to the county gaol is given to the Surgeon to the Infirmary, so that Dr. Ridley now holds both these appointments.

COLLEGIATE ELECTION.

The annual election of Fellows into the Council of the Royal College of Surgeons of England will take place on Thursday, July 1, and as the time for sending in nominations has expired, we are now able to publish the following names, etc., of the candidates:—

Mr. Prescott Gardner Hewett, Vice-President of the College, who offers himself for re-election, is Surgeon-Extraordinary to her Majesty the Queen, and at St. George's Hospital has well filled the office of Professor of Anatomy and Surgery; is the author of several valuable papers, especially on injuries of the head in "Holmes's System of Surgery," and others in the *Transactions* of the Royal Medical and Chirurgical, Pathological, and other societies; he is an Honorary Fellow of the College, of which he was admitted a Member on July 15, 1836.

Mr. Henry Spencer Smith, who also offers himself for re-election, is a member of the Court of Examiners, Senior Surgeon to and Lecturer on Clinical Surgery in St. Mary's Hospital; is the author of several valuable papers in this and other journals; he translated Schwan's "Microscopic Researches on the Structure and Growth of Animals and Plants," and Professor Bischoff's work on "Maturation and Extrusion of Ova"; he is an Honorary Fellow of the College, of which he was admitted a Member on March 31, 1837.

Mr. John Birkett, the third retiring member of the Council, who also offers himself for re-election, is Consulting-Surgeon to Guy's Hospital. He is a Jacksonian Prize Essayist for his work on "Diseases of the Breast and their Treatment"; has been Hunterian Professor of Surgery and Pathology; is also the author of other essays and papers in "Holmes's System of Surgery" and in the *Transactions of the Medical and Chirurgical Society* and contemporary journals; is an Honorary Fellow of the College, of which he was admitted a Member on October 6, 1837.

Mr. John Cooper Forster, who comes forward a second time, only lost his election on a former occasion by a single vote. He is Surgeon to and Lecturer on Surgery at Guy's Hospital, and the author of several valuable contributions to the advancement of science in the *Transactions* of societies and in this and contemporary journals. He is a Fellow of the College by examination; a Member of November 25, 1844.

Mr. Edward Law Hussey is the provincial candidate, who on a former occasion polled sufficient votes to justify his friends in again proposing him. He is the Senior Surgeon to the Radcliffe Infirmary, Oxford, and has contributed some excellent and most practical papers in the *Transactions* of societies, and in this and other medical and general contemporaries. Mr. Hussey is a Fellow by examination; he was admitted a Member of the College on February 7, 1845.

The last candidate—taking them in seniority of Fellowship—is Mr. Alfred Smee, F.R.S., Senior Surgeon to the Royal General Dispensary and Bank of England, formerly Lecturer on Surgery at the Aldersgate-street School of Medicine; and as showing the wide range of his many valuable contributions to the advancement of surgical and general science, the reader is referred to that useful compilation the "Medical Directory." For some of his papers on general science Mr. Smee deservedly obtained the Fellowship of the Royal Society.

All the candidates are Fellows of many learned and scientific societies at home and abroad, and where all are so good it becomes somewhat difficult to determine whom to select for the three vacant seats.

Professor Turner, F.R.S.—On the completion of the course of lectures now being delivered in the theatre of the Royal College of Surgeons by Professor Lee, he will be succeeded by Professor Turner, of Edinburgh, who will give the first of his course of three lectures on the "Comparative Anatomy of the Placenta," on Monday, the 14th inst.; and after each lecture a microscopic demonstration of the structures described will be given. The following is the syllabus of the learned gentleman, viz.:—Lecture I., June 14.—Development, form, and structure of the chorion. Structure of the mucous membrane of the unimpregnated uterus. Lecture II., June 15.—Changes which occur in the uterine mucous membrane during pregnancy. Structure of the diffused placenta. Structure of the polycotyledonary placenta. Lecture III., June 16.—Structure of the zonular placenta. General morphological conclusions. Physiological conclusions.

FROM ABROAD.

Clinical Remarks on Diphtheria.

In a communication to the Berlin Medical Society (*Wochenschrift*, April 26), Prof. Henoch observed that, notwithstanding the frequency with which diphtheria had been discussed by this body, the ever-extending prevalence of the disease in Berlin induced him to proffer some additional observations.

It is well known that the diphtheritic exudation, or rather the diptheritic process, has been anatomically distinguished from croup by the peculiarity that the mucous membrane becomes infiltrated with the secreted matters, while in croup there is a deposition of a free membrane on the surface of the mucous membrane. But it has long been known also that these two forms of disease may co-exist in the same individual, so that the infiltrated mass which is known especially as diphtheritic is found in the pharynx, extending below the epiglottis, and sometimes as far as the chordæ vocales, while lower down still, and extending into the bronchi, a looser so-called croupous deposit is met with. This distinction is not, however, absolute, and it has been long since observed, as by Rilliet and Barthez, that the so-called croupous membrane is not always loosely deposited, it being then connected by fine adhesions to the mucous membrane, so firmly that it is not easy to detach it as a tube. Indeed, the above authors state that in certain cases, when the exudation in the larynx and trachea is confined to narrow limits, this adheres sometimes so firmly that, in attempts to remove it with the forceps, portions of the mucous membrane may be torn away. Prof. Henoch has met with two such cases at the Charité. In one of these the diphtheritic infiltration of the mucous membrane extending to the bifurcation was found; but this is a rare occurrence, for of twenty-one cases of diphtheria in which autopsies were performed in his clinic, the Professor has found sixteen cases in which free croupous deposits were found below the chordæ vocales (extending in eight far into the bronchi), while in two cases only was there diphtheritic infiltration also. In two cases there was only simple laryngo-tracheitis besides the pharyngeal diphtheria; and in one case nothing abnormal was found below the epiglottis.

If diphtheritic infiltration may thus be sometimes met with below the epiglottis, we should expect that croupous exudations would also be found in the pharynx; and, in fact, it is not rare to find this combination of infiltration and croupous deposit. With respect to the relationship of the two affections, croup—that is, the development of a peculiar croupous membrane in the larynx—was formerly described as an independent disease, and the essays on the subject, presented by the older members of the Berlin Society, have always spoken of primary croup as a completely settled point. The younger members, however, oppose this view, and regard croup as a diphtheritic process under all circumstances. The difference of opinion may be connected with the fact that at the period when the experience of the former of these was gained, diphtheria occurred much seldomer, or even not at all. Prof. Henoch himself entirely admits the existence of an independent croup. Errors, however, may easily arise when the diphtheritic affection of the pharynx occupies places not easily seen during life, and at most an angina has been supposed to exist, when laryngeal croup has suddenly appeared. Such are cases where the posterior surface of the velum is covered with diphtheritic deposit, while its anterior surface remains entirely free of this, or when the lowest part of the pharynx, just above the œsophagus, is attacked. Some cases of this kind have recently fallen under Dr. Henoch's notice. A girl a year old, admitted to the clinic for pneumonia following pertussis, suddenly exhibited the symptoms of croup. On examination, the tonsils were found free, and tracheotomy was performed. At the autopsy all the lowest part of the pharynx was found to be thoroughly pervaded by diphtheritic infiltration, as was also the posterior surface of the velum, although in front nothing was to be seen. In the second case, in a boy four years old, who had died after tracheotomy, there was found redness of the tonsils and pharynx, and in the folds at the side of the epiglottis, underneath the base of the tongue, there was diphtheritic infiltration, which extended as far as the medium-sized bronchi. In a third case there was also found diphtheritic infiltration in the folds by the side of the epiglottis, but extending no lower than this. In a fourth case the velum and the tonsils were entirely free of diphtheritic infiltration,

which was confined to the lowest portion of the pharynx, laryngeal croup prevailing below this. If, in such cases, inspection exhibited nothing in the pharynx, and the symptoms of croup suddenly appeared, they might easily be taken for examples of primary croup, the preceding diphtheria of the pharynx having been overlooked. If it be objected that the affection of the pharynx in such cases may be detected by means of the laryngoscope, it may be replied that the employment of this instrument with success in children's diseases is a difficult procedure. It may be done sometimes, but in most cases, when the child is in a state of orthopnœa, closes its teeth together, or is choked with mucus, the laryngoscope can either not be employed at all or can furnish only very unreliable results. It is especially easy to make mistakes respecting diphtheria in hospitals, for it is among the commonest occurrences for children who are convalescents or who are suffering from other diseases to become the subjects of this disease. And how is this always to be recognised? The original disease is usually itself so considerable that the first signs of diphtheria have generally been overlooked, when the symptoms of croup suddenly appear. An example of this occurred in two children who were but the day before playing in the playroom. To be assured in a hospital against the inroads of diphtheria, it would be necessary to examine the pharynx of every child daily—a procedure which it is far more easy to advise than to execute.

Prof. Henoch is decidedly of opinion that there is a primary fibrinous croup which has nothing in common with diphtheria as an infectious disease. Towards establishing the proof that a primary croup may exist, it is of service to indicate a disease one of the most constant consequences of which is the production of a laryngeal and tracheal catarrh. If, under these circumstances, we find that, without any prior affection of the pharynx, croup becomes developed from this mere simple laryngeal catarrh, we are justified in attributing to the augmentation of this catarrh the production of what used formerly to be called "plastic croup." Such a disease is measles, and when we find in it that the laryngeal catarrh, which is always present, assumes a croupal character, the pharynx remaining all the while free from disease, then we cannot but admit that a primary inflammatory croup has arisen from a simple catarrh. A boy was brought to the Charité during the efflorescence of measles with a temperature of 39°, increased to 40° in the evening, and with the catarrh so strongly developed as to lead to the belief of an actual laryngitis. Careful examination showed nothing beyond simple angina of the fauces. Leeches and antimony were employed, and next day the pulse had diminished from 150 to 116, the temperature was lowered to 38°, and the respirations numbered 32 instead of 44. The hoarseness, however, remained, accompanied by the clanging cough. So the patient passed four days free of fever, but with these laryngeal symptoms remaining, when on the evening of the fourth day the temperature again rose, and in a few hours croup was completely developed, for which tracheotomy was performed. From the aperture made in the trachea a long cylinder of lymph was drawn out, which had extended to the bifurcation, and shreds were afterwards coughed up. On the tenth day the canula was removed, and the child recovered. Such cases must be considered as proving that true croup may be developed from a catarrh; but it must be confessed that at the present time cases of genuine primary croup compared with those of infectious diphtheria are in a great minority.

In a subsequent address, Prof. Henoch made some observations on the treatment of paralysis resulting from diphtheria. It is well known that in this affection spontaneous recovery frequently takes place if we only have patience to await it, and also that electricity may be employed with advantage. The two following cases, which occurred among the out-patients at the Charité, seem to show that the cure of the disease may be much hastened by the employment of subcutaneous injections of strychnia. 1. A girl, aged eleven, was brought to the Polyklinik, having had diphtheria six weeks before. For three weeks past there had been paralysis of the palate, so that the velum and uvula remained completely motionless during phonation and inspiration. The voice was nasal, and fluids passed out at the nostrils while drinking. The accommodation power of the eye was also paralysed so that she could not read, and at a distance saw double; and there was paresis of the muscles of the nape, so that the head fell forward and she could not restore it to its position. There was, moreover, another symptom which is not easily explained. When the girl was requested to close her eyes, both eyelids exhibited a convulsive, vibratory movement, which ceased as soon as they were opened again. As the patient had already taken iron and quinine without any benefit, while these were continued a subcutaneous injection of one-thirtieth of a grain of strychnia was also employed on April 7 (1874). On the 9th a second injection was made, and by the 11th the head could be kept much more erect. A third injection was made, and by the 13th her speech was essentially better, and movements of the velum were plainly visible, but reading still continued impossible. A fourth injection was resorted to, and by May 1 she was dismissed completely cured. Altogether, one-fifth of a grain of strychnia had been injected. It is to be remarked that the vibratory motions of the eyelids persisted after all other abnormalities had been removed, so that it was probably an accidental complication. 2. This case occurred in the person of a boy, ten years of age, who was brought to the clinic on December 4, having at the beginning of October suffered from diphtheria, which confined him to bed for a fortnight. He then returned to school, and was soon found to be the subject of paralysis, presenting symptoms very similar to those of the former case, added to which was difficulty in progression. An injection of one-forty-fifth of a grain of strychnia was at once administered, and this was followed by three others of one-thirtieth of a grain each. Altogether, about one-third of a grain of strychnia was employed in ten injections, and complete recovery took place. In both children the injections were thrown into the nape, and in neither did any unpleasant symptom arise. The rapidity of the recovery plainly indicates that this was due to the remedy employed. Prof. Henoch felt some hesitation in employing this remedy in children until encouraged by the favourable report which Prof. Demme, of Bern, has made concerning the use of strychnia in infantile paralysis. Since the above cures have occurred he has resorted to the injections in numerous cases in children, not only for paralysis, but also for prolapsus ani; and it is clear, both from his own experience and from that of Prof. Demme, that mischievous consequences from the employment of the remedy, with suitable care, at this period of life are in nowise to be apprehended. That decidedly good results may ensue from the injection, the two cases related suffice to prove, and these are further confirmed by the experience of Dr. Acker at the Erlangen Clinic—which, however, relate to adult subjects.

Medical Women.

It seems that doctors must not expect to have matters all their own way upon this subject, even in their own journals; for the *Union Médicale* for June 5 contains a well-written letter from the pen of Madame Anna Puéjac, "Sage-femme en chef de la Maternité de Montpellier," in which she urges that many of the objections made to women pursuing a medical career by M. Richelot and others are characterised more by mere sentimentality than by sound judgment. Thus, much has been said upon their want of modesty; but this reproach, addressed to women who have passed the age of school-girls, and have seriously entered on the business of life with well-trained minds and with a conscience alive to their duties, is a very foolish one. In fact, it is the immodesty of the present state of things, which compels women to have recourse to the offices of men on many occasions when they would prefer those of women, that has given so powerful an impulse to the movement. And it does seem strange that the same persons, who see something so shocking in women studying the anatomy of the body or frequenting hospitals, find little or nothing to object to in their frequenting balls and assemblies in a half-naked state, amidst all kinds of sensual excitement, in their perusing the most demoralising novels, and in their attentive examination of the labours of the artist and sculptor.

We may mention that M. Richelot's papers, which are certainly the best that have appeared on the subject, have been collected into a neat little volume, entitled "La Femme-Médecine."

But the stage of controversy has been passed, and now that women have qualified and are qualifying for the profession, we shall see whether they supply a real want or merely respond to a factitious cry. The small London school has made, we are informed, a very creditable beginning, earnestness in work of a very laudable character having been exhibited, and, as the experiment will have to be tried, this is surely the best direction it can assume; for, in spite of Madame Puéjac's protest to the contrary, the education of men and women together, as practised in Paris

and Zürich, will always seem an immodest procedure in this country, and will never be tolerated amongst us. The Paris Medical Faculty has just conferred its diploma on a lady, Madame Madeleine Brés, who, judging from her thesis, seems to have well earned this distinction. It is entitled "De la Mamelle et de l'Allaitement," and is well written, and embellished with some well-executed plates of the minute anatomy of the breast—certainly a most appropriate subject for a medical woman to select.

Dr. Mary Putnam Jacobi (herself a distinguished graduate of the Paris Faculty, which has just presented her with a medal for her thesis on "Neutral Fat and Fatty Acids") publishes in the *New York Medical Record* for May 22 an interesting obituary notice of Dr. Susan Dimock—a lady-doctor who perished recently in the *Schiller*, on her way for a visit to Europe. A graduate of the Zürich University, where she studied for four years, graduating with a thesis on puerperal fever, which she had an opportunity of witnessing, she had been in practice in Boston for little more than two years. She was remarkable in this, that, though still quite young, she had selected practical surgery as her pursuit by predilection; and she had already performed operations of such difficulty and importance as the removal of a deep-seated tumour from the cervical region, and vesico-vaginal fistula. The same number of the journal, which contains Mrs. Jacobi's notice of her life, also has a paper by Miss Dimock on the surgical treatment of a case of congenital occlusion of the anus, for which so distinguished a surgeon as Dr. Cabot had already operated in vain.

"Among all the bright lives that have been engulphed in this dreadful shipwreck, none is more valuable than hers. Perhaps no woman's life of equal social value has met this tragic fate since the body of Margaret Fuller was washed ashore on the western coast of the Atlantic. For the success of the social enterprise of securing for women a place in the medical profession finally depends upon but one condition—the demonstration, namely, by indubitable practical evidence of their real fitness for each branch of its work. None are fitted for all; and both the surgical talent and the surgical training of Dr. Dimock are certainly, at the present date, exceptional among women. It is on this account that her loss is bitterly irreparable, for at this moment there seems to be no one to take her place. Many battles have been lost from such a cause. But although ours may be ultimately won, we would not, if we could, grieve less loyally for this girl so brilliant and so gentle, so single of purpose and so wide of aim, whose life has thus been ruthlessly uprooted and thrown upon the waves, at the very moment it touched upon fruition."

REVIEWS.

On the Curative Effects of Baths and Waters. Being a Handbook to the Spas of Europe, by Dr. Julius Braun, Spa Physician, Rehme Œynhausen; including a Chapter on the Treatment of Phthisis by Baths and Climate, by Dr. Rohden, of Lippspringe. An abridged Translation, with Notes, edited by Hermann Weber, M.D., F.R.C.P., Physician to the German Hospital. London: Smith, Elder, and Co. Pp. 658.

The time is fast approaching, or is already come, when thousands will be leaving these shores in search of that vigour which many months of hard work have impaired, or have even now left broken down in health, and unable to carry on their work. Of those thousands many will seek a foreign watering-place, with or without imperfect directions as to what they should do. But there are hundreds of watering-places unknown to us here in England, which have attractions of their own, both intrinsically and extrinsically, where one can live cheaply and reap as much good as at the more famous and more expensive watering-places abroad. It is only fair to confess that at the present moment the education of an English practitioner ill fits him for giving advice to a patient who wishes to go abroad, and to go through a special course of treatment. The only work heretofore available to him from English hands is the somewhat slight work by Dr. Macpherson—exceedingly interesting, but far from being complete. We are therefore all the more pleased to welcome such a book as Braun's, especially if we have along with it the notes of Dr. Hermann Weber, which render the book far more complete than it would otherwise be, inasmuch as most German writers are singularly ignorant of what England affords in the way of mineral waters and sea or inland bathing-places.

To the pursuit of such a tremendous task as to bring what is sometimes called "balneotherapy" into correlation with ordinary medicine, Braun brought no ordinary powers. Cautious and sceptical, he refused to accept the older theories advanced as the reason why such-and-such a water did good in this and that disease, but he sought to reduce all to a common scientific basis; and in this he has well succeeded. Many works on this subject have been and are now unreadable, the quantity of purely hypothetical matter introduced being to any practical mind rather disgusting than otherwise. In Braun's book this does not appear.

But to give some idea of the work itself. It is divided into three books or divisions, with a supplementary one by Dr. Rohden on consumption. The first of these books deals with general balneotherapy, and is likely to be of the greatest possible use; for, proceeding in strict logical fashion, it first deals with the effects of such health-giving measures as foreign travel, exercise, condition of mind, diet, etc. The effects of various kinds of air—sea-air, mountain-air—are also considered; whilst, lastly, the effects of hot and cold water, whether used internally for drinking, or externally as baths, are dealt with. In this way the combined effects of many causes, as seen at once at work as in a hydropathic establishment, are broken up and separated.

In the second book the effects of mineral waters used as baths are the great topic. The grouping adopted is into baths containing common salt (absurdly in this work called by their German name of *Soolbad*; the English term, which is much more appropriate, being brine-baths), sea-baths, sulphur-baths, mud (absurdly called by the German name of *Moor*), alkaline, and chalybeate baths, and pine-leaf baths,—the last of no great importance. We have no time to go into details on this chapter, but it is well worth careful study, and contains much information little known in England.

Drinking-waters are considered in the third book, and are divided thus: waters containing carbonic acid, waters containing nitrogen, waters containing carbonate of soda, waters containing sulphates, common salt water, sulphur waters, earthy waters, and iron waters, together with accounts of whey cures, grape cures, etc. This is followed by a nosological and clinical summary of the first three books,—not the least useful part of the volume.

In Dr. Rohden's part on phthisis there are many points connected with pathological medicine, rather than with a work like this; but there is also very much which is valuable. The fifth book, however, seems to us to be of unusual value; here the method of balneotherapeutic cures—diet, regimen, etc.—is considered, and fairly and fully dealt with. Thus we have sketched the contents, we might say, of the work in hand. Such a mode of procedure may seem of little value; at all events it gives some idea of the varied contents of the work, for this broad sketch will, we trust, in many instances be followed by a careful study of the book itself. So much that is new and striking is here presented to the reader as to seem to open up to him and to the practitioner another world. We should not neglect to say how much the work owes to the editor, Dr. Weber, though we are sorry we cannot say quite as much for the translator; still, even in this there is little complaint to make. It is worthy of note that in most cases the names of the resident physicians at the various resorts are given, though hardly as fully as in Valentiner's work. This is of the greater importance, as much mischief is often done by visitors carrying on a course of treatment on imperfect information.

Fracture of the Sternum by Muscular Action during Labour.—In the *Boston Medical and Surgical Journal* for April 29 Dr. Borland relates a fatal case of this accident, being, as far as he has been able to ascertain, the fifth on record.

Refreshing Atmosphere for Invalids.—The *Bulletin Français* describes the plan adopted by M. Martin in order to keep the rooms of the sick in a state of freshness. This consists in opening the windows widely, and then hanging wet cloths before them. The water as it vaporises absorbs the caloric, and lowers the temperature of the apartment by several degrees, while the humidity which is diffused renders the heat much more supportable. By adopting this plan patients find themselves, even in the height of summer, in a freshened atmosphere, analogous to that which prevails after a storm.—*Union Méd.*, June 1.

PROVINCIAL CORRESPONDENCE.

IRELAND.

Dublin, June 8.

THE ANNUAL MEDICAL MEETINGS: IRISH MEDICAL ASSOCIATION; ROYAL MEDICAL BENEVOLENT FUND SOCIETY OF IRELAND.

ACCORDING to custom, the day fixed for the annual meeting and election of officers at the Royal College of Surgeons was also selected for the anniversary meetings of the two prominent medical associations of Ireland.

As your readers are probably aware, the Irish Medical Association has just passed through a severe crisis, which at one time threatened its very existence. However, phœnix-like, it has risen from its ashes, and, if we are to judge by the proceedings of yesterday, a long career of prosperity and usefulness now lies before it.

At 9 a.m. the Chairman of Council (Dr. Humphrey Minchin) most hospitably entertained the members of the Association at breakfast in the Shelbourne Hotel, Stephen's-green. At noon the meeting took place in the Library of the Royal College of Surgeons; Dr. Henry Smith, of Donaghmore, President of the Association, occupied the chair. After a few remarks from the Chairman, Dr. John H. Chapman (honorary secretary) read the report of Council, which the *Daily Express* summarises thus:—"Your Council have to report that at the early part of the year just ended they found the financial condition of the Association in a deplorable state; but they are proud of being able to meet the members to-day and report that not only has the crisis passed, but the Association—which had narrowly escaped annihilation—has now paid off all its old debts, and, with the exception of current expenses, has no liabilities whatever. Your Council propose, in the coming year, to take up the subjects of the several grievances of the poor-law and dispensary medical officers in Ireland, and to consider the best means of having them remedied, under the following heads—viz., those of (1) poor-law and dispensary medical officers; (2), public vaccinators; (3), registrars of births, deaths, marriages, and vaccinations; (4), sanitary officers and consulting sanitary officers. The subject of an amalgamation of the Poor-Law Medical Officers' Association with the Irish Medical Association is happily settled by a fusion of the two associations into one."

Dr. Samuel Chaplin, of Kildare, proposed, and Dr. H. G. Croly seconded the adoption of the report, which was carried unanimously. Among several resolutions subsequently carried were these important ones:—"That the fees paid to registrars of births, deaths, and marriages, and to public vaccinators in Ireland, are inadequate to the duties required to be performed, and being less than those paid in England for similar services, the Council of this Association are requested to give this matter special attention; and, at the same time, to inquire into the unnecessary clerk-work imposed upon these officers, with the view to adopting such measures as may appear most advisable for the improvement of their positions in these respects."—Proposed by Dr. Whistler, of Bray, seconded by Dr. Davys, of Swords. "That the remuneration offered for the services of the sanitary officers of Ireland is not only derogatory to their professional status, but totally inadequate as compared with the duties required to be performed; that whilst those officers are determined to discharge faithfully and impartially the duties imposed upon them—and in many instances incur odium and pecuniary loss—this Association is of opinion that they should be fairly requited for their inspections and reports, and that whenever they should be required to attend at or assist in any proceedings, they should be specially remunerated for the loss of time involved in such attendance."—Proposed by Mr. W. H. O'Leary, M.P., seconded by Dr. Martin, of Portlaw. "That this Association deprecates the insufficient remuneration given by the Government to medical practioners for their attendance and professional evidence at courts of law."—Proposed by Dr. Grimshaw, seconded by Dr. Bellew Kelly, of Drogheda. "That this Association considers it a monstrous injustice to dispensary medical officers that they should be compelled to examine the mental condition of persons alleged to be dangerous lunaties, and certify as to the same, without fee or reward."—Proposed by Dr. Nugent Duncan, seconded by Dr. Carte.

The officers for the year 1875-76 were elected as follows:—*President:* Dr. Chaplin, Kildare. *Vice-Presidents:* Leinster—Dr. Darby, Bray; Ulster—Dr. Tagert, Carrickmacross; Munster—Dr. Martin, Portlaw; Connaught—Dr. Hynes, Kinvara. *Council:* Dr. Bagot, Enniskillen; Dr. C. Benson, Dublin; Dr. H. Croly, Rathfarnham; Dr. H. G. Croly, Dublin; Dr. Darley, Coolock; Dr. Davys, Swords; Dr. Faussett, Clontarf; Dr. Grimshaw, Dublin; Dr. Edward Hamilton, Dublin; Dr. Hayes, Naas; Dr. A. H. Jacob, Dublin; Dr. David Jacob, Maryboro'; Dr. J. Bellew Kelly, Drogheda; Dr. Longworth, Moate; Dr. C. G. Lyster, Kilkenny; Dr. Macnamara, Dublin; Dr. Mayne, Ballybrack; Dr. Minchin, Dublin; Dr. Molony, Tulla; Dr. J. W. Moore, Dublin; Dr. Nolan, Gort; Dr. Perceval, Stradbally; Dr. Pollock, Blackrock; Dr. George Porter, Dublin; Dr. T. Purcell, Dublin; Dr. T. Scully, jun., Clonmel; Dr. Seward, Tallaght; Dr. Smith, Donaghmore; Dr. Usher, Dundrum; Dr. A. J. Walsh, Dublin; Dr. Wharton, Dublin; Dr. Whistler, Bray.

The new President (Dr. Chaplin) then took the chair, and a warm vote of thanks to the outgoing President brought the proceedings to a close. In the evening many of the members of the Association dined together in the Albert Hall of the College of Surgeons.

The Royal Medical Benevolent Fund Society of Ireland met at four o'clock in the Library of the College of Surgeons. The chair was taken by Mr. Joliffe Tufnell. There was a large attendance.

The Chairman said it gave him great satisfaction to preside, occupying the position he did, and he was sure it would give more than satisfaction to the founder of that Society if he could hear, as the meeting would presently hear, that whilst only £1330 had been distributed last year, a sum of £1600 had been distributed during the twelve months just ended. He regretted that before he had vacated the chair of the College of Surgeons that day, he had not had an opportunity of doing what he had intended to do. Hereafter the diplomas of the College would be issued by the President, and every licentiate would receive his diploma at the hands of the President. He knew at one time an acute personage—Sir James Macgregor, who had the Army Medical Department under his control, and who always on making an appointment advised the young recipient to join the Society for the Relief of the Widows and Orphans of Members of the Medical Profession. In like manner he (the chairman) would say to the recipient of every diploma, the best operation you can perform—and it should be the first one—is not the reduction of a dislocation or the setting of a fracture of the human body, but to do an act which will reduce the wants of your brother-practitioner, and set bread before widows and orphans.

Dr. Alfred H. McClintock, one of the honorary secretaries, next read the report, which was very satisfactory. The total amount of subscriptions and of interest received up to the auditing of the accounts was £1877. The number of applications this year was ninety-eight. On analysis, it proved that fourteen were from medical men, seventy-two from the widows of medical men, and twelve from children of medical men. In eleven instances no grants were awarded; the applicants were either ineligible for receiving aid from the Society under its fundamental rules, or else were found, on careful investigation, not to be so necessitous as to give them a claim for sharing in the relief which the Society bestows. Twenty of the applications were new ones, and four of these came from medical men. Two medical men who had been relieved by the fund died within the year. Since last general meeting thirteen cases came before the Central Committee of so urgent a kind that they felt it necessary to grant some assistance without waiting for the general distribution, and in this way £182 15s. was administered, four of the recipients having been medical men. The amount of grants awarded by the Committee at its recent sittings was more than £1420 (which would be paid in the course of the next few days); and if to this be added the anticipatory grants, it was at once apparent that the total sum that will have been distributed in grants this year was upwards of £1600, which far exceeds that of any former year. It may be interesting to state that of this sum £392 goes amongst medical men, £1044 amongst widows, and £166 among orphans. It is worth remarking that India sent no less than £193 to the fund within the past year—£93 from Bengal, £60 from Bombay, and £40 from Madras. The only cloud was the long obituary list of friends of the Society. Within the year there had died—Dr. Arthur Jacob, Dr. Hargrave, Dr. Robert Law

Dr. Ireland, Dr. Jameson, Dr. Robert Adams, Professor Sawyer, Mr. Fras. L'Estrange, Dr. Thornhill (all of Dublin); Dr. H. Thompson (Omagh), Dr. Eaton (Ballinasloe), Dr. Kynsey (Athy), Dr. Vesey (Magherafelt), Dr. Ridley (Tullamore), Dr. Russell (Cashel), Surgeon-General O'Flaherty, C.B. (Bombay), Dr. Leslie (Armagh), Dr. Peter (Longford), and Dr. Robert Stewart (Belfast).

Dr. J. Magee Finny having read the financial statement for the year, the adoption of the report was moved by Dr. J. F. Duncan, President of the King and Queen's College of Physicians, seconded by Dr. Martin, of Portlaw, and unanimously carried.

Several resolutions were then put and carried, when, on the motion of Dr. Darley, Dr. T. H. Purdon (Belfast) was called to the second chair, and the proceedings terminated with a vote of thanks to Mr. Tufnell for presiding.

GENERAL CORRESPONDENCE.

SOCIETY FOR THE RELIEF OF THE WIDOWS AND ORPHANS OF MEDICAL MEN RESIDING WITHIN THE LONDON DISTRICT.

Letter from Mr. William Fuller.

[To the Editor of the Medical Times and Gazette.]

Sir,—Your last number contains a notice of the deeply-lamented death of Mr. Samuel W. Moore, Demonstrator of Physiological Chemistry to St. George's Hospital, winding up with an appeal on behalf of his family, which I trust will meet with a ready and liberal response. This case, however, is not by any means a solitary one. Your columns have of late frequently contained similar notices of early bereavement, and requests of assistance on behalf of the ill-provided-for families. If gentlemen taking on themselves the responsibilities of married life early in their professional career would only take care to attach themselves to the Society for the Relief of the Widows and Orphans of Medical Men residing within the London District, they would, by the annual payment of two guineas, make a fair provision against such emergencies, since the widows of members of the Society, if in need, receive an allowance of £50 a year, with an extra amount for each young child. It is really astonishing that, with such large funds at our disposal, so few avail themselves of the privilege of becoming members of our Society. Our secretary, Mr. J. B. Blackett, at 52, Berners-street, Oxford-street, is always ready to respond to inquiries, and to furnish forms of proposal for membership. I am, &c.,

William Fuller, Acting Treasurer.

Centenarians.—Those who are interested in the question of old age will find in the *New York Medical Record* for May 1 a table compiled by Dr. Naugle, Deputy Registrar, of ninety-eight centenarians whose deaths have been reported to the Board of Health since 1864.

Second-hand Medical Papers.—This is an appellation we do not remember to have met with before,—denoting, indeed, a practice for the attainment of notoriety with which the slower nature of John Bull has not yet become acquainted. It seems, according to the *New York Medical Record*, that it has long been the fashion in the United States for certain authors of papers to "peddle" them from one society meeting to another, so that it not unfrequently happens that these articles have been read five or six times as original productions, and at last are presented to one of the sections of the American Medical Association, taking their chance of being printed in their *Transactions*. It has come to be looked upon as one of the recognised forms of cheap advertising. So, too, with some remarkable case, the relater presents it before every society of which he is a member, until it becomes known by regular attendants of these societies as a very old story. In accordance with the general greater elevation of tone that has for some time prevailed amongst the profession in the States, it has been determined to make a stand against this impudent practice, and the Committee of Selection has determined that no paper shall be read before the American Medical Association which is not entirely new; and it is believed that all other societies will soon pass a similar resolution.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, May 11.

Sir James Paget, Bart., F.R.S., D.C.L., LL.D., President, in the Chair.

On the Histology of the so-called Nutmeg Liver.

A paper by Dr. J. Wickham Legg was read on the histology of the so-called nutmeg liver. The author, after reviewing the opinions which have been held concerning the anatomy of nutmeg liver, gave the result of his examination of twenty such livers. He found the vessels in the centre of the lobules dilated, with a corresponding atrophy of the liver cells around them, but with no new growth of connective tissue in the centre of the lobules, as Rokitansky, Frerichs, and Virchow have held. He found, on the contrary, that the growth of the connective tissue is well marked in the capsule of Glisson, and between the lobules, just as in the early stage of primary cirrhosis, and he looks upon this overgrowth as the cause of the shrinking and hardening of the liver in advanced stages of nutmeg liver. Other causes of the overgrowth of the connective tissue in organs subject to persistent hyperæmia were brought forward, and the paper ended with a protest against the name of red atrophy given to the atrophous nutmeg liver by Rindfleisch.

Dr. Thin asked Dr. Legg whether, in his opinion, the connective tissue passed in between the rows of cells. The process of hardening was not, as he thought, a very good one.

Dr. Green thought Dr. Legg regarded the dilatation of the hepatic vein and shrinking of the liver cells as the main part of the process, together with the shrinking of the connective tissue. He had not seen such an increase of this tissue.

Dr. Handfield Jones said the term "chronic inflammation" very imperfectly represented the process described by Dr. Legg. He had been accustomed to look upon it as a part of a general change, such as that of phthisis, but totally different in kind.

Dr. Legg said he would not attribute the change to chronic inflammation, a term as vague as the "extractive matters" of chemists.

On Excision of the Ankle-Joint.

Mr. Henry Lee, in a paper read by him as a sequel to one treating on this subject, previously presented, said that in his former communication, the plan of dislocating the lower extremity of the tibia and the upper surface of the astragalus outwards was advocated as the best mode of performing the operation of resection of the ankle-joint, but it was demonstrated that before this could be done the internal malleolus must be removed. A division of the internal lateral ligament is not sufficient; the projection of the internal malleolus, when present, prevents the foot being turned sufficiently inwards as long as the upper surface of the astragalus is held in apposition with the lower extremity of the tibia by the tendons which pass behind the ankle-joint. The difficulties of dislocating the bones in order to perform the operation satisfactorily were considered in all the plans which had previously been suggested. A case was given, which was believed to be the only one on record, where a complete primary resection of the ankle-joint was performed, and in which a most satisfactory result was obtained. In this case the bones had been dislocated outwards, and the extremities of the tibia and fibula were removed without any attempt at reduction being made. On January 27 last, another case fell under Mr. Lee's care, in which a similar compound dislocation of the ankle had occurred, but in this case the lower extremity of the tibia was dislocated inwards, and projected for two or three inches through the skin. The extremity of the internal malleolus had been detached, and remained connected with the internal lateral ligament. The fibula was broken about three inches from its termination. In this case the lower extremity of the tibia was sawn off, and the bone replaced in its normal position; an incision was then made over the external malleolus, and the periosteum separated from the bone as much as practicable. The external lateral ligaments were then divided, and the lower broken portion of the fibula removed. The limb was then again placed on its outer side, and the upper surface of the astragalus made to protrude as much as possible through

the internal wound. A deep horizontal groove was made by means of a small saw below its upper articular surface. This surface was then removed completely by means of the cutting pliers; the two smooth surfaces of bone were then placed in apposition, and carbolic dressings applied to the wound. A very severe attack of erysipelas occurred on the fourth day, which extended up the leg and thigh, the skin being of a very deep livid colour. It was feared that gangreno of the limb might take place, as had occurred in another patient who had the same symptoms, and who was admitted about the same time with a compound fracture of the leg. A deep incision was made on each side of the leg, from which there was soon a copious discharge of pus. The skin now assumed a bright red colour, and the erysipelas having run its course, gradually subsided. The portion of the astragalus which had been removed, had, and still has, attached to it a portion of the anterior tibial artery, which had been torn through at the time of the accident. The case previously recorded offers some interesting points of contrast with the present one. In the first the bones were dislocated outwards; in the second, inwards. In the first the internal malleolus was not removed, although detached from the tibia, and the fibula in that case was not broken; the internal malleolus, which was allowed to remain, proved to be the cause of some subsequent irritation and suppuration, and the conclusion was arrived at that both malleoli ought in this operation to be removed, whether detached or not. The principal point, however, to which the author wished to direct attention, was the much greater facility which there is in removing the upper surface of the astragalus where that bone is dislocated outwards, than where an attempt is made to displace it inwards. This, in his opinion, makes a very great difference where a surgeon can choose which operation he will perform. Even after both malleoli are removed, the powerful tendons which run behind the joint on its inner side tend to prevent the astragalus from being inverted, and are of themselves sufficient to account for the difficulty that surgeons have experienced in attempting to turn the astragalus sufficiently inwards to remove its upper articulating surface. This the author did without difficulty in the first case, by a clean section through the entire upper part of the bone; but he could not do so in the second without distressing the surrounding parts more than might be desirable. After the saw had been used to a certain extent, the upper surface of the astragalus had to be removed in three different portions by the cutting forceps.

Mr. Mac Cormac showed a boy of ten who had received a contused wound of the ankle, followed by inflammation of the joint. The malleoli and upper surface of the astragalus had been excised, with what appeared to have been complete restoration of the bone.

On the Construction and Use of a New Form of Cardiograph.

A paper by Dr. A. L. Galabin was read on the above subject. The author pointed out the liability to error which exists in Marey's cardiograph, and in the modification of it by Dr. Burdon-Sanderson, in consequence of the use of a flexible tube containing air to transmit the motion. Two effects may be produced in this way—first, the rounding off of any abrupt features in the curve; and, secondly, the introduction of oscillations. It has been shown by Dr. Rutherford that, if even a slight impulse be communicated to the instrument by the finger, oscillations do occur. The mode of verification adopted by Marey, in which a motion already known was communicated to the instrument by the rotation of an eccentric, proves only that such a curve as that described by his cardiograph can be transmitted a second time without further considerable change, and not that the orignal cardiac motion could be accurately depicted. The most perfect cardiograms hitherto obtained have been those procured by the application of the sphygmograph directly to the apex of the heart. The sphygmograph cannot, however, be generally used in this way in cases of heart disease, for two reasons. In the first place, the extent of the cardiac motion varies very widely, and when the heart is hypertrophied it becomes far too great to be recorded; and, in the second place, when the sphygmograph is applied to the chest, not only the spring-pad but the framework is influenced by the cardiac impulse in cases in which the apex-beat is diffused, and in this way the curve described becomes modified. The cardiograph invented by the author is such a modification of Marey's sphygmograph that these two difficulties may be avoided, and tracings obtained in all cases direct from the apex of the heart. In order to attain this object, the knife-edge by which motion is communicated to the recording lever is not rigidly connected with the spring-pad, but is attached by a sliding bar which can be fixed in any position by a screw. In this way the amount of amplification given to the motion can be varied from about ten to a hundred times the original. The instrument is also attached to a movable frame in such a way that the wooden bars on which it rests can be separated to a width of five inches; and the brasswork can be raised or lowered at either end. It can thus be adapted to a chest of any size or shape. In tracings obtained by this cardiograph, the thrill which accompanies a murmur is often depicted as a vibratile line in the curve, and then the exact relation of the murmur to systole and diastole is permanently recorded. The shape of the systolic part of the curve indicates the proportion which hypertrophy bears to dilatation, while aortic regurgitation is shown by a rapid ascent during diastole. In many cases of mitral contraction an increase and prolongation of the auricular elevation is seen, while in some others in which a direct mitral murmur appears to be due to the venous flow, the auricular systole is either not discernible, or it appears in its usual position and not prolonged. The cardiograph shown was made by Mr. Clark, of 3, Windsor-cottages, High-street, Lower Norwood, and instruments of the kind may be obtained through Messrs. Krohne and Sesemann, Hawksley, or Weiss.

CLINICAL SOCIETY OF LONDON.

Friday, May 14.

Sir W. Jenner, Bart., K.C.B., M.D., D.C.L., F.R.S., President, in the Chair.

The Cause of some of the Eruptions which have been classed as Hydroa.

Mr. Hutchinson stated that his principal object in bringing this subject before the Society was to ask attention to a hitherto unsuspected cause of the eruption. The term hydroa had been given, he remembered, by M. Bazin, about fifteen years ago, to a peculiar bullous or vesicular eruption which, although not very common, was a disease of considerable importance, from its being liable to be mistaken for small-pox on the one hand, and for certain forms of secondary syphilis on the other. The main features of the disease were stated to consist in the rapid appearance of a symmetrical eruption affecting by preference the face, backs of the hands and forearms, and less frequently the buccal mucous membrane and fronts of the knees and legs. Its spots, at first erythematous, quickly became bullous or vesicular, tending to spread at their edges and subside at the centre, and rapidly undergoing spontaneous cure. The eruption was usually attended by little or no constitutional disturbance, or occasionally by slight rheumatic symptoms and effusion into one or more joints; finally, in some cases the disease showed a tendency to recur after long intervals. The disease appeared to have no alliance with either pemphigus or herpes, nor was there any difficulty in diagnosing it from these maladies. M. Bazin had not, so far as the author knew, offered any satisfactory suggestion as to the cause of the disease, nor had Mr. Hutchinson been able to assign any cause at the time when he published a series of cases in 1870. The occurrence of other cases, however, and a reconsideration of the facts relating to those already referred to, had induced him to believe that in not a few instances, perhaps in the majority, hydroa was caused by iodide of potassium. The fact that the iodide was universally known to cause in many persons a slight eruption of acne or lichen on the face was alluded to, and allusion was made to the severe eruptions which occasionally followed the use of the bromide of potassium. The author was not aware, however, that attention had been called to the iodide as an occasional cause of severer eruptions, such as hydroa. Drawings were handed round, illustrating several cases in which it was quite certain that the hydroa eruption had been caused by this drug, and others in which from circumstances in the patients' history its previous administration was highly probable. It was of special importance to recognise this occasional effect of the iodide, because, from the similarity between hydroa and some syphilides, it was otherwise quite possible to diagnose the eruption as syphilitic, and treat it by the very drug which had caused it. The author believed that this danger was not an imaginary one,

and that the persistent administration of iodide of potassium to patients suffering from iodide hydroa was now and then the cause of very serious ulcerating skin disease with grave constitutional symptoms. Particulars of one such case occurring in Mr. Hutchinson's practice were narrated, in which a patient presenting skin-ulcerations exactly resembling those of tertiary syphilis continued to become worse and worse while treated with iodide; and who immediately improved and rapidly quite recovered when the drug was omitted. In two cases the eruption was experimentally produced a second time. The author did not consider that iodide of potassium was the cause of all cases of hydroa, believing it probable that there were cases in which other agencies were at work. He suggested with reference to these latter that they might in the future be found to depend on other drugs, or on special articles of diet. Attention was called to the similarity between the author's drawings of hydroa and the illustrations of erythema multiforme and herpes iris given in Professor Hebra's "Atlas of Skin Diseases," which were also handed round for comparison. He also referred to a good cast of Bazin's hydroa in the museum of the St. Louis Hospital, in Paris, which had been the means of attracting his attention to the subject. He felt no doubt that this case and M. Bazin's description referred to similar cases to those which he had met with. Lastly, Mr. Hutchinson showed drawings of a form of vesicating erythema, which, although allied to hydroa, was to be distinguished from it by tolerably well-marked symptomatic differences, and was not, in his opinion, caused by the iodide.

The President asked if Mr. Hutchinson had examined the contents of the bullæ for iodide of potassium. When a patient was saturated by the drug, the saliva was found to contain a large amount of the iodide.

Mr. Hutchinson had not tested the contents of the bullæ for the salt.

Dr. Tilbury Fox perfectly agreed with Mr. Hutchinson in much of the ground he had travelled over, certainly in so far as his description of the disease agreed with Bazin's. In seven or eight cases which he had seen, there was no evidence of the patient having taken iodide of potassium. In some cases the patients had enjoyed good health until the appearance of the eruption, for which they had at once presented themselves for treatment. He could not say whether the cases of Bazin were allied to those produced by the iodide; he thought the alliance of hydroa was rather with herpes and pemphigus. He had seen hydroa with large bullæ. In one case, urticaria first appeared and bullæ afterwards came out. Herpes, hydroa, and pemphigus seemed to be nearly allied.

Acute Fatty Degeneration of the Heart.

Dr. T. H. Green read notes of the case of a girl aged nineteen, who was admitted into Charing-cross Hospital, under his care, suffering from heart disease. She had a moderate amount of mitral obstruction, with regurgitation and enlargement of the right ventricle. The girl was weakly and anæmic; but whilst she kept quiet and was well fed, her heart did its work sufficiently well to prevent the occurrence of any marked cardiac symptoms. There was no trace of anasarca or of any pulmonary symptoms. After she had remained in the hospital about seven weeks—as, with the exception of some anæmia and debility, she seemed fairly well—arrangements were made to send her into the country. At this juncture menstruation reappeared. It had been absent for three months. It was more profuse than usual, and the girl now commenced to vomit her food. The vomiting persisted, and the girl died in six days, with symptoms of exhaustion and failure of cardiac power. At the post-mortem examination the heart was found enlarged, especially the right ventricle and left auricle. The mitral orifice was contracted and funnel-shaped, and the orifice would admit a large forefinger. The muscular tissue of the heart had undergone extensive fatty metamorphosis; this was universal. The aorta was very narrow, and below the orifice of the large vessels from the arch would admit only the tip of the little finger. The vessels generally, like the heart, had undergone fatty metamorphosis, but to a less extent. The other organs presented the appearances which result from moderate but long-continued mechanical congestion. Dr. Green remarked that the points of interest in the case were—1. The rapid way in which exhaustion and death had supervened in a case of valvular cardiac disease, in which the cardiac affection was producing but few symptoms, and in which dissolution resulted without the occurrence of any acute inflammatory complication. 2. The extensive fatty metamorphosis of the heart and other vessels found after death. (The fatty metamorphosis, which caused the death of the patient, must have been due to imperfect tissue-oxidation, resulting from the condition of anæmia induced by the profuse menstruation and inability to assimilate food.) 3. The diminished supply of blood to the tissues, resulting from the mitral obstruction and the smallness of the arteries.

Absence of Pulsation in both Radial Arteries, the Vessels being Full.

Dr. Broadbent gave particulars of this case. The patient, a man aged fifty, died from cirrhosis of the liver, with ascites. For thirty years he had been known to have no pulse at the wrist, the fact having been discovered after a fall from a railway carriage in motion. While, however, there was no pulsation in the radial arteries, or in the subclavians or their branches, these vessels were evidently full of blood, and could be rolled under the finger; the venous and capillary circulation also was vigorous. By raising the arm, the blood fell back, and left the artery of the wrist empty and collapsed. Pulsation was good in the left carotid and in the femorals; feeble in the right carotid. On post-mortem examination, the peculiar condition of the circulation in the subclavian was found to be due to a slight abnormality in the mode of origin of the branches given off from the arch of the aorta. The left carotid artery arose close to the innominate, and caused a constriction at the mouth of the latter vessel; the left vertebral, again, instead of coming from the subclavian, sprang from the arch of the aorta, close to this artery, and gave rise to a constriction of its orifice. In both cases, the original narrowing was increased by a ring of atheroma round the vessel already constricted, the aorta generally and its branches being free from disease. The small and rigid opening, with a full-sized and elastic vessel beyond, perfectly accounted for the absence of pulsation without cessation of circulation; and it was interesting to find that the cause of the similar condition of the two wrists was a repetition at two separate points of a similar abnormality, instead of a single lesion, as had been expected. It was interesting, again, to see that undue strain at the narrowed orifices had caused the development of atheroma at these two points where alone disease of the arterial coats was present.

In reply to Mr. Morrant Baker, Dr. Broadbent said that they had tried to get a sphygmographic tracing, and had completely failed.

A Case of Dilated Heart from Valvular Lesion, in which the Right Ventricle was Tapped by Error, not only without Harm, but with Relief of Symptoms.

Dr. George Evans related the particulars of this case. A woman, aged twenty-seven, was admitted into the Middlesex Hospital, under his care, on February 22, 1875. She was then suffering from acute rheumatism and heart disease, the latter probably the result of a former attack of the first-named disease. The area of præcordial dulness was increased; there were murmurs at base and apex, and there was considerable dyspnœa. By the 26th the præcordial dulness had increased considerably; there was very obvious bulging of the chest-wall; the heart-sounds were "muffled"; the distress of breathing was excessive, threatening very speedy death; and, on consultation, it was determined to tap the pericardial cavity, with the hope of relieving the more distressing symptoms. A fine trocar was introduced by Mr. Hulke, to the depth of about half an inch, in the fourth interspace, about half an inch to the left of the sternum. On removing the trocar, a gush of dark blood issued from the canula, and the instrument was felt to be moved in accordance with the action of the heart. The canula was almost immediately withdrawn, not more than about a drachm of blood having been removed. During the operation no change was observed in the patient's pulse; after it she expressed herself as feeling relieved, and that night was the best that she had passed since admission. During the next few days she seemed better; the præcordial dulness gradually diminished. She had signs of pleuro-pneumonia of the right lung at the time the operation was performed, and there was some fluid effusion in the right pleural cavity, and, later, in the left. After improving in general condition for a week or two, she gradually succumbed to general œdema, four weeks after the operation. It was decidedly the opinion of those present at the operation that the trocar was inserted into the right ventricle. At the post-mortem examination the heart was found to be extremely

enlarged, with a universally adherent pericardium, the adhesions being evidently of considerable age. The interest of the case lay in the fact that (presumed) puncture of the right ventricle not only led to no ill results, but apparently gave temporary relief in a perfectly hopeless case; and it also illustrated the difficulty of diagnosing between pericardial effusion and an extremely and rapidly dilated right heart.

In reply to the President, Dr. Evans said that no cicatrix could be found in the wall of the heart or in the endocardium.

Mr. Hulke said there was no doubt but that the fine trocar entered the heart as it oscillated with the heart's motion. He thought he had chosen the best spot for tapping; it was away from the mammary artery and from the heart's apex.

Dr. Southey had seen a similar case at St. Bartholomew's, in which the left ventricle was pierced, and the patient died with the pericardium full of blood.

The President remarked that the patient did not die from the perforation alone, but from the pressure of the blood forced through the opening into the pericardium.

Dr. Broadbent thought the good effect depended not on the quantity of blood drawn, but on the stimulus of the needle on the heart's tissues.

Dr. Yeo referred to a case where the heart was punctured, and when the patient died, weeks after, a scar on the heart was found, but no adhesions.

Dr. Farquharson mentioned a case where a boy was stabbed, and the heart cut. This was followed by peritonitis and intense collapse.

The President objected to Dr. Broadbent's views. The blood removed from a distended right ventricle, however small, enabling it to contract more efficiently, might surely do good.

LEGAL INTELLIGENCE.

LIABILITY OF THE DUBLIN PORT AND DOCKS BOARD TO CLEANSE THE RIVER LIFFEY.

In the Court of Queen's Bench, Ireland, the case of James Boyle v. the Dublin Port and Docks Board is at hearing before the full Court. On May 31 the matter came on as an appeal on a case stated by one of the magistrates of police. A summons had been issued by the Corporation of Dublin as sanitary authority against the Dublin Port and Docks Board, which complained that a nuisance, within the meaning of the Sanitary Acts, existed in the bed of the Liffey and foreshores thereof, from which a foul and offensive odour, emanating from accumulations of filth between Barrick-bridge and the points of the North and South Quay wall, was emitted, and that said nuisance was caused by the default of the owners of said premises, or the defendants. That summons was dismissed, and the Corporation, acting by their sanitary officer, now sought the opinion of the Court as to the liability of the Port and Docks Board in the matter. Sergeant Sir Colman O'Loghlen, Q.C., and Messrs. Gerald Fitzgibbon, Q.C., and J. O'Byrne, instructed by Messrs. Ennis and Son, were for the appellants; Messrs. Macdonagh, Q.C., and Robertson, instructed by Mr. Henry S. Watson, were for the respondents. Without entering at length into the arguments and evidence in this case, we hope to give the decision of the Court when it is announced.

MEDICAL NEWS.

Royal College of Surgeons of England.—The following Members of the College, having undergone the necessary examinations for the Fellowship, on the 27th, 28th, and 29th ult., were reported to have acquitted themselves to the satisfaction of the Court of Examiners, and, at a meeting of the Council on the 10th inst., were admitted Fellows of the College, viz.:—

Brietzcke, Henry, L.R.C.P. Lond., H.M. Prison Milbank, diploma of Membership dated July 29, 1863, student of Guy's Hospital.
Chicken, Rupert Cecil, Nottingham, April 30, 1872, of Guy's Hospital.
Cripps, William Harrison, Pall-mall, July 23, 1872, of St. Bartholomew's Hospital.
Doran, Alban Henry Griffiths, L.S.A., Lansdown-road, Kensington-park, January 24, 1871, of St. Bartholomew's Hospital.
Eastes, Thomas, L.S.A., Folkestone, July 22, 1872, of Guy's Hospital.
Green, Frederick King, L.S.A., West Dulwich, January 18, 1864, of St. Bartholomew's Hospital.
Herman, George Ernest, L.S.A., Bethnal-green Infirmary, April 19, 1870, of the London Hospital.
Ley, John William, L.S.A., Poplar Hospital, November 17, 1869, of the London Hospital.
Lowe, Walter George, M.D. Lond., Burton-on-Trent, January 27, 1870, of St. Bartholomew's Hospital.
Macnamara, Nottidge Charles, of H.M. Indian Army, April 17, 1854, of King's College.
Pye-Smith, Rutherfoord John, Argyll-road, Kensington, July 26, 1871, of Guy's Hospital.
Rope, Henry John, Blaxhall, Wickham Market, January 27, 1870, of King's College.
Walsham, William Johnson, M.B. Aber., and L.S.A., Camden-road, November 17, 1871, of the Aberdeen and St. Bartholomew's Hospitals.

Eleven candidates having failed to acquit themselves to the satisfaction of the Court of Examiners, were referred to their professional studies for twelve months.

During the present week 312 gentlemen have been undergoing their preliminary examinations in Arts, etc., for the diplomas of Fellowship and Membership; for the former distinction there were 85 candidates, for the latter 227. The result will not be known for some weeks.

Apothecaries' Hall.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, June 3:—

Burnes, Henry Foster, Burwell-road, Highbury-park.
Croudace, James Henry, Waratah, South Australia.
Powell, Joshua, Broniwun, Newcastle Emlyn.
Smith, William Robert, Seaford, Ontario, Canada.
Turner, Walter Pickett, Stanford, Kent.

The following gentlemen also on the same day passed their primary professional examination:—

Houchin, Edward King, London Hospital.
Kay, Alfred, London Hospital.
Marsh, Edwin Addison, London Hospital.
Plews, John Menham, St. Bartholomew's Hospital.
Whitehead, George Marsden, St. Thomas's Hospital.
Wilmot, Thomas, St. Bartholomew's Hospital.

APPOINTMENT.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that place.

Palfrey, James, M.D.—Lecturer on Midwifery and Diseases of Women at the London Hospital.

MILITARY APPOINTMENT.

War Office.—Brevet.—Deputy Surgeon-General Edward Samuel Tribe, of the Madras Army, to have the honorary rank of Surgeon-General.

BIRTHS.

Bastian.—On June 8, at 3, Sutherland-road, Castle Hill, the wife of Charlton Bastian, M.D., F.R.S., of a son.

Bevers.—On June 3, at 1, Bevington-road, Oxford, the wife of Edmund A. Bevers, M.R.C.S., of a son.

Gosse.—On March 29, at Moonta, South Australia, the wife of John Gosse, M.R.C.S., of a daughter.

Hooper.—On June 4, at 21, The Chase, Clapham-common, the wife of Staff-Surgeon Alfred Hooper, of a son.

Innes.—On June 5, at 2, Rosslyn Bank, Lyndhurst-road, Hampstead, the wife of Dr. F. W. Innes, C.B., Surgeon-General (retired), of a son.

Roworth.—On June 6, at Grays, Essex, the wife of Alfred T. Roworth, M.R.C.S., of a daughter.

Sexton.—On April 24, at Poonah, the wife of E. Sexton, M.D., Surgeon-Major 8th Regiment Native Infantry, of a son.

Strong.—On March 30, at Sydney, New South Wales, the wife of W. E. Strong, M.D., of a daughter.

MARRIAGES.

Armstrong—Moore.—On June 3, at Harton Church, Joseph Foster Armstrong, L.R.C.P. Edin., M.R.C.S. Eng., of South Shields, to Jane, only daughter of Joseph M. Moore, Esq., Town Clerk of South Shields.

Bayer—Tolley.—On March 11, at Christ Church, North Adelaide, Ernest Henry, second son of the late Frederick Charles Bayer, M.D., to Harriett Barbon, eldest daughter of Albiou James Tolley, Esq., Brougham place, North Adelaide.

Bennett—Thompson.—On June 3, at St. Pancras Church, Henry Seife Bennett, M.B. Cantab., of 53, Upper Berkeley-street, Portman-square, eldest surviving son of Dr. J. Risdon Bennett, F.R.S., to Jessie Adeline, only daughter of Henry Ayscough Thompson, Esq., of 42, Tavistock-square.

Bradoyll—Birch.—On June 2, at the parish church, Long Eaton, Henry John, eldest son of the late Edward S. B. Richmund Gale Braddyll, Esq., to Mary, fifth daughter of the late William Birch, F.R.C.S., of Barton-under-Needwood.

Bowmar—Crane.—On June 3, at St. Margaret's Church, Leicester, Walter Hammond Bowmar, Esq., of Belgrave, to Emily Alice Lydia, daughter of Joseph Wyatt Crane, M.D., of Leicester.

Burman—King.—On June 3, at St. James's Church, Devizes, James Wilkie Burman, M.D., Medical Officer and Superintendent of the Wilts County Asylum, to Mary Weare, only child of the late George King, Esq., of Devizes.

GREGORY—SMITH.—On June 8, at St. George's, Campden-hill, Kensington, the Rev. John George Gregory, M.A., of 29, Redcliffe-gardens, South Kensington, minister of Park Chapel, Chelsea, to Marian, only daughter of the late John Smith, M.R.C.S., of Coventry.

SEATON—WAYGETT.—On June 3, at St. John's Church, Notting-hill, Edward Seaton, M.D., of Nottingham, eldest son of Edward C. Seaton, M.D., of Surbiton, to Florence Ann, eldest daughter of John Waygett, M.D., of Notting-hill, W.

SKERRITT—HEELAS.—On June 2, at St. Paul's Church, Wokingham, Edward Markham Skerritt, B.A., B.S., M.D. Lond., of Leicester Villa, Clifton, to Mary Dora, eldest daughter of John Heelas, jun., of Woodlands, Wokingham.

DEATHS.

ALDRIDGE, EMMA, beloved wife of John Petty Aldridge, M.D., of Shirley House, Dorchester, on June 3, aged 68.

BLACKMORE, JAMES NEWNHAM, J.P., Under-Treasurer of the Province, son of Edward Blackmore, M.D., late of Bath, at The Club, Adelaide, South Australia, on April 7.

CARDELL, GEORGE, M.R.C.S., late Assistant-Surgeon Army Medical Staff, at Wincanton, after a short illness, on June 2, aged 41.

CASSON, FRANCIS WOOD, M.R.C.S. Eng., L.S.A., at The Refuge, Aulaby-road, Hull, on June 1, aged 56.

FRANKS, ELIZABETH ANN, widow of the late Moses Franks, M.R.C.S., L.S.A., formerly of Heckington, Lincolnshire, at Ratcliffe House, Peckham-rye, on May 31, aged 56.

JONES, ANNIE, beloved wife of G. T. Jones, M.D., F.R.C.S., at Downton, Herefordshire, on May 31, in her 36th year.

LOWDELL, EDWARD ALFRED, son of Surgeon-Major Charles Lowdell, H.M. Bengal Army Retired List, at Beech-hill House, Wadhurst, on June 2, aged 10.

TRESTRAIL, ANNIE, widow of the late Surgeon-Major J. C. Trestrail, Bombay Army, at Cheltenham, on June 7, aged 40.

WILLIAMS, E. A., M.R.C.S. Eng. L.S.A., at Bromley, Kent, on May 31, aged 74.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

BRADFORD INFIRMARY AND DISPENSARY.—Physician. Candidates must be duly qualified. Applications, with testimonials, to Mr. Charles Woodcock, Secretary, 65, Market-street, Bradford, on or before June 12.

BRISTOL GENERAL HOSPITAL.—Physician's Assistant. Candidates must possess a registered qualification. Applications, with testimonials, to Henry Fox, Esq., R.N., Secretary, on or before June 24.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON.—Resident Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before June 23.

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.—House-Surgeon. Candidates must be unmarried, and duly qualified. Applications, with testimonials, to the Secretary, on or before June 17.

HOSPITAL FOR SICK CHILDREN, DYKE-ROAD, BRIGHTON.—Surgeon. Candidates must be graduates in surgery of one of the Universities of the United Kingdom, or F.R.C.S. Eng., and registered under the Medical Act. Applications, with testimonials, to the Secretary, on or before June 14.

KENT AND CANTERBURY HOSPITAL, CANTERBURY.—Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, before June 18. Also a vacancy for House-Surgeon and Dispenser. Candidates must be duly qualified and registered. Applications, with testimonials, to the Secretary, on or before June 25.

POPLAR UNION.—District Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to Mr. J. R. Collins, Clerk to the Guardians, Board-room, High-street, Poplar, on or before June 17.

PORTSEA ISLAND UNION.—Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to Mr. T. P. Mills, Clerk of the Union, 34, Lion-terrace, Portsea, before July 7.

ROYAL FREE HOSPITAL, GRAY'S INN-ROAD.—Surgeon. Candidates must be F.R.C.S. Eng. Applications, with testimonials, to the Secretary, on or before June 28.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL.—Teacher of Physiological Chemistry. Applications to Dr. Wadham, at the Hospital.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Oundle Union.—Mr. Edward Greaves has resigned the Weldon District; area 13,448; population 2182; salary £41 10s. per annum.

Poplar Union.—Dr. Herbert J. Fausset has resigned the Western District; salary £125 per annum.

APPOINTMENTS.

Ashby-de-la-Zouch Union.—Michael Coote, M.R.C.S. Eng., to the Second and Third Districts.

Dolgelley Union.—Daniel Ferguson, L.R.C.S. Edin., L.R.C.P. Edin., to the Mallwyd District.

Gravesend and Milton Union.—Henry W. A. Sandell, L.R.C.P. Edin., M.R.C.S. Eng., to the Milton District.

Honiton Union.—Frederick A. Gray, L.R.C.P. Lond., M.R.C.S. Eng., to the Fourth District.

Oldham Union.—Thos. Patterson, M.D. & M.C. Queen's Univ. Irel., to the Workhouse.

Pontardawe Union.—David Thomas, M.D. Edin., M.R.C.S. Eng., L.S.A., to the Eastern District. Griffith Griffiths, M.R.C.S. Eng., L.R.C.P. Edin., to the Western District.

Sherborne Union.—Horace Nutt, M.R.C.S. Eng., to the North-West District.

Southwell Union.—Campion Calvert, M.R.C.S. Eng., L.S.A., to the First District and the Workhouse.

CASE OF BULIMIA.—Dr. Lubelski, of Warsaw, has forwarded to the Paris Académie de Médecine the particulars of a remarkable case of bulimia occurring in a woman twenty-six years of age, usually enjoying good health. She had been married but two months when she was seized suddenly with nervous symptoms, which were at first attributed to probable pregnancy. But at the same time came on an insatiable appetite and devouring hunger, so that the woman would eat from fourteen to sixteen pounds (Russian?) of meat daily. Neither sugar nor albumen were found in the urine. She grew enormously fat, so that she became unable to walk, and weighed about 250 lbs. All known therapeutical agents were tried in vain, and it was found that there was quite an abnormal tolerance of poisonous substances. Neither tænia nor any other form of helminthiasis existed, nor, indeed, any pathological condition which offered a clue for treatment, although the occurrence of convulsive paroxysms when she was not supplied with food seemed to indicate some kind of nervous affection. M. Lubelski, wishing to have the opinion of the Academy on the nature of the case and the treatment to be pursued, a committee was appointed to report upon it, consisting of MM. Béclard, Personne, and Vulpian.

TESTIMONIAL TO PROFESSOR HENRI ROGER.—The law which limits the holding hospital appointments after the sixtieth year of age having compelled M. Roger to give up the post at the Hôpital des Enfants, his pupils and ex-pupils resolved to present him with a valuable gold medal, subscriptions for which were to be confined to themselves. A fine work of art has accordingly been executed, having the appropriate device, "*Præsidium pueris, discipulisque pater*," alluding to his long physicianship (1851-74) at the hospital and his popularity with the pupils. The medal was presented at a banquet given by M. Roger at his villa to the subscribers, with the interchange of several affectionate speeches. M. Roger observed that by the operation of what is a very just law he is separated now from the pupils he had so long been attached to, and pointed with pride to the list of subscribers to the medal, comprising prize-holders in great number, thirteen hospital physicians, three professors, and five *agrégés*. At the commencement of his career in 1836, he observed, he had received a gold medal from his masters in the Faculty, and now in 1875 one was presented to him by his grateful pupils, and he need not say which he valued most; for while the one was but the hope, the other is the consecration of his career. He still hoped to see his young friends as they presented themselves at the struggles of the *concours*, and demanded admission into the Academy; and he presented each with a bronze copy of the gold medal as a remembrance of happy days passed together.—*Union Méd.*, June 3.

LECTURES AT THE ROYAL COLLEGE OF SURGEONS.—The following is the syllabus of six lectures on Syphilis, and on some Local Diseases affecting principally the Organs of Generation, which will be delivered in the Theatre of the College, by Henry Lee, F.R.C.S., Professor of Surgery and Pathology to the College, on Mondays, Wednesdays, and Fridays, at 4 p.m., commencing on Monday week, the 31st ult., viz.:—1. Introduction. 2. Hunter's idea of life. 3. Life of the blood. 4. Morbid poisons. 5. Animal poisons. 6. Different modes of action; constitutional; local; mixed. 7. Inoculation of poisons. 8. Inoculation of blood. 9. Transplantation of teeth. 10. Inoculation of syphilitic blood. 11. Hunter's conclusions. 12. Reinfection. 13. Inoculation by simple contact, by means of a blistered surface, by the lancet, by hypodermic injection, by transplantation of teeth. 14. Vaccino-syphilis. 15. Digital inoculation. 16. Legal liability. 17. Hereditary syphilis. 18. Morbid processes. 19. Local and constitutional. 20. First manifestations of syphilis. 21. Secondary manifestations. 22. Inoculation of the secretion of the first manifestations in uncomplicated cases. 23. Period of incubation. 24. Characterised by the adhesive inflammation. 25. Inoculation of the secretions of the secondary manifestations of syphilis. 26. Characterised by the same morbid process. 27. Secondary manifestations of syphilis characterised by different forms of adhesive action in uncomplicated cases. 28. Reinoculation of syphilis during its earliest stage. 29. During its later stages. 30. Modified results of reinfection. 31. Syphilitic inoculation modified by the structure of parts. 32. Inoculation of syphilitic patients. 33. With common pus. 34. With the secretions of secondary manifestations in other patients. 35. Inoculation as a means of diagnosis. 36. Adapted only to one form of venereal disease. 37. Syphilitic disease of the mucous membrane of the urethra. 38. Mistaken for gonorrhœa. 39. Test by inoculation fallacious. 40. Hunter's experiment. 41. Secondary syphilitic urethral discharges. 42. Recurring after marriage. 43. Medico-legal questions. 44. Inoculation of urethral and vaginal discharges. 45. Modified results in syphilitic patients. 46. Opinions of Swediaur, Hunter, and Ricord. 47. Treatment of different forms of syphilis. 48. Classification of morbid processes. 49 Hunter's classification. 50. Mr. Pearson's views. 51. Mr. Rose's practice. 52. Opinions of Boerhaave, Sir B. Brodie, Mr. Walker, Mr. Cutler, and Mr. Langston Parker. 53. Internal administration of mercury. 54. External administration. 55. Inunction. 56. Fumigation. 57. The calomel bath. 58. Treatment of primary syphilis. 59. Treatment of secondary syphilis. 60. Treatment of particular and modified syphilitic affections. 61. Hunter's division of constitutional symptoms. 62. Ordinary cutaneous eruptions modified by syphilis. 63. Syphilitic cutaneous affections. 64. Produced

by the adhesive form of inflammation. 65. Produced by the suppurative form. 66. By ulceration. 67. Ulceration of skin from reflex nervous irritation. 68. Mortification of the skin. 69. Treatment. 70. Phagedænic ulceration. 71. Treatment. 72. Syphilitic affections of mucous membrane. 73. Treatment. 74. Secondary affections of mucous membranes. 75. Salivation as a symptom of syphilis. 76. Affections of the nose and throat. 77. Treatment. 78. Secondary affections of the areolar tissue. 79. Second stage of Lues venerea. 80. Affections of non-vascular tissues. 81. Affections of the bones and their treatment. 82. Affections of the brain. 83. Mental excitement. 84. Syphilitic disease of the skull. 85. Disease of the membranes of the brain. 86. Syphilitic disease of the tongue. 87. Review of general treatment. 88. Iodide and bromide of potassium. 89. Iodide of mercury. 90. Sarsaparilla. 91. Guaiacum. 92. Opium. 93. Local suppurating sore. 94. Action of caustics. 95. Treatment of the local suppurating sore. 96. Syphilisation with the secretion of the local suppurating sore. 97. Syphilisation with the secretion of indurated sores. 98. Twofold inoculation. 99. Lymphatic absorption 100. Venous absorption. 101. Amygdaloid glands. 102. As a test of a patient being syphilitic. 103. Reinfection. 104 Suppurating glands. 105. Amygdaloid glands as a means of diagnosis. 106. Lymphatic absorption. 107. Hunter's experiments. 108. Majendie's and Segalas' experiments. 109. Action of lymphatic glands. 110. Physiological absorption. 111. Three forms of venereal inoculation. 112. Urethral discharges. 113. Different causes of. 114. Increased virulence of discharge produced by admixture of blood. 115. Stricture as a consequence of syphilis. 116. Treatment of gonorrhœa. 117. Different kinds of urethral discharges. 118. Difficulties of diagnosis. 119. Mercurial treatment in cases of syphilitic urethral discharges. 120. Prostatic discharges. 121. Secretion of the vesiculæ seminales. 122. Mistaken for seminal weakness. 123. Prostatic abscesses. 124. Opening into urethra. 125. Opening in the perinæum. 126. Opening in the loins. 127. Strumous disease of the prostatic portion of the urethra. 128. Secretion of the vesiculæ seminales distinct from that of the testes. 129. The ducts distinct in several kinds of animals. 130. The secretion of the vesicula seminalis natural where the corresponding testis has been removed. 131. The secretions of the vesiculæ seminales and testes absorbed when not required. 132. Seminal discharges in animals very rare except during intercourse. 133. Practical importance of the Hunterian doctrine. 134. Vesiculæ seminales in the horse, the boar, the rat, the beaver, and the guineapig. 135. Vary in size in the same manner as the testes in some animals that have their seasons for propagation. 136. Vesiculæ seminales regarded in some animals as a bifid prostate. 137. Cowper's glands. 138. Voluntary and involuntary muscles connected with the organs of generation. 139. Both governed by nerves of sensation. 140. Local paralysis of nerves of sensation. 141. Constitutional treatment. 142. Local treatment. 143. Relaxed veins. 144. Treatment. 145. Warts and excrescences. 146. Pathology. 147. Influence of blood on growth of. 148. Treatment. 149. The elastic ligature. 150. Clamp and cautery.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

Amicus.—*Medical Times and Gazette*, 1856, p. 650.

C. G. C.—1. We cannot give the exact quantities without reference to authorities which are not at hand. 2. 300. 3. No; the lower groups of both are by some included under the common name of *Protista*.

Devon.—We dare not take upon ourselves the responsibility of giving you advice in such a matter. Briefly we are wont to put it thus:—On entering the Indian Medical Service, a man at once steps into an income which is sufficient for the use of a single man, and is secured with merely ordinary good behaviour to the day of his death. The risks in private practice are in many respects greater, but many domestic comforts are insured which are either impossible or unadvisable to the medical officer.

Dr. Campbell.—The celebrated poet, the Rev. George Crabbe, was apprenticed to Mr. Page, a surgeon at Woodbridge, a market town about seventeen miles from Aldborough, Suffolk, where he was born.

An Old Member.—You will find the whole affair well described in the interesting "Autobiographical Recollections of the Medical Profession," by Mr. J. F. Clarke, published by Messrs. Churchill.

Dr. Beck.—Mr. J. F. South, a twice-elected President of the Royal College of Surgeons, has been for some time engaged in writing a history of that institution, and also of his old hospital of St. Thomas.

M.D.—The celebrated Garrick wrote of Sir John Hill the following epigram:

"For Physic and Farces
His equal there scarce is;
His Farces are Physic,
His Physic a Farce is."

Hill was supposed to be a natural son of the Duke of Richmond.

Obstetrician.—The Dr. Samuel Merriman to whom you refer died in 1818, at the good old age of eighty-four. There is a portrait of him engraved by Corner.

A Provincial Fellow.—You will receive a list of stewards and full particulars from Mr. Allingham next week; and, as already announced, Surgeon-General Longmore, C.B., has consented to act as chairman at the Fellows' dinner, which will take place on the day of election at the Albion Tavern.

H. M., Exeter.—Mr. Spencer Smith did good service on the Contagious Diseases Commission, of which we believe he was the honorary secretary; he is a "Bartholomew's man."

Gresham.—Professor Quekett's lectures on Histology will be found in volume xxiv. of the *Medical Times and Gazette*.

Dr. O'T.—A competitive examination of candidates for admission into the Medical Service of the Royal Navy will take place on August 9. Apply at the Medical Department of the Navy, New-street, Spring-gardens.

Royal Medical Benevolent College.—The successful candidates for the pensionership were Mrs. Darlington (6590) and Mrs. Wilson (6503). The foundation scholars were Farr (7169), Sharman (5888), Knight (5783), and Ball (5380).

Arthur C.—In the *London Medical and Physical Journal* for 1826.

L.S.A.—No medical description of the epidemic catarrhal fever was found, we believe, before the year 1510.

Medicus.—Dr. David Macbride, a physician, was born at Ballymony, in the county of Antrim, in 1727. His "Experimental Essays," published in 1764, attracted the attention of the faculty, and procured for the author a doctor's degree from the University of Glasgow.

F. F., Exeter.—Dr. Cheyne mentions the case of a soldier who exhibited deaf-dumbness for no less a period than five years, but recovered his speech upon being discharged from the service. On one occasion this man was accidentally shot in the ear by an awkward recruit, on which occasion he "expressed pain and consternation by a variety of motions and contortions, but never spoke."

Midas.—Out of 147 cases of gunshot wounds of the neck admitted into the English hospital in the Crimea there were only six deaths—a mortality of 4·08 per cent. The mortality in the French army was much greater. Dr. Chenu's returns show that out of 385 patients with gunshot wounds of the neck in the French ambulances, 101 died—a mortality of 26·2 per cent. It is difficult to explain such a different result.

Nicholas.—The first quack medicine advertisement is stated to have appeared in a newspaper called the *Mercurius Politicus*, November 16, 1660. It was an advertisement of Mr. Theophilus Buckworth, Mile-end-green, offering for sale "lozenges or pectorals" made by himself. Our correspondent will, perhaps, be astonished to find what an ancestry some of the quack medicines of the present day have had.

S. F., Jersey.—The well-educated French midwives of former days sometimes aspired to become regular doctors, and if they could pass the usual examinations they were permitted to receive diplomas; indeed, a woman might receive a diploma without having previously exercised the profession of a midwife. The last of these licences was granted in 1794 by the Faculté de Médecine de Montpellier, which gave the title of Officer of Health (Officier de Santé) to Madame Castanier, who was remarkable for her knowledge of her profession. Madame Castanier practised until 1813 in the department of Ardèche, where, in spite of her advanced age, she never refused to attend a patient.

Silus.—The Romans, it is recorded, had, in the second century of our era, tables for calculating the value of annuities; in other words, they recognised that there was such a thing as a probable duration of human life capable of being valued in money. Also that, chiefly through investigations carried on during last century and the beginning of the present one, the existence of a law of death was universally recognised by scientific men by the end of the first quarter of the present century; that is to say that, taking a large number of persons of known ages under average conditions of health, it was found possible to calculate how many would die at different ages within a given period. From this period life assurance became a science.

Felix.—In 1863, the Lords of the Privy Council directed a medical inquiry into the food of the poorer labouring classes, and the result appears in one of those Blue-books in which Mr. Simon makes his report as Medical Officer annually on the subject of health and disease. The protection to labour first applied to agriculture was the "Agricultural Gangs Act, 1867." This Act did not apply to Scotland or Ireland.

A Strychnia Eater: Strychnia an Antidote to Alcohol.—Dr. Morey, of Gilroy, Cal., United States, sends the following remarkable account of a case in his practice to the editor of the *Chicago Medical Journal*:—

"The reported strychnia eater is a man about fifty-two years of age, about five feet eight inches in eight, and weighs about 158 pounds; dark complexion, very plain in appearance, very eccentric and peculiar in his habits, and always keeps his own counsel; has a good intellect, but a limited education. I first became acquainted with this man in the fall of 1861, and soon learned of his habit of eating strychnia, after a long and continued debauch, and in a condition bordering on delirium tremens. The first time my attention was particularly called to it, he wished me to give him a bottle of strychnia, which I did at night about bedtime. He took the bottle, pouring the strychnia into his hand, and threw it into his mouth as carelessly as though it were salt; and, in the course of half an hour, not feeling the effects from it that he wished, he repeated it, and continued to do so until he became perfectly sober. The quantity required would correspond to the length of time he had been drinking, and the quantity of whisky he had drank. I was struck with the wonderful effect it had to so completely sober him, and leave his system so entirely free of any nervous disturbance, and without the reddened and bloated appearance of the face, the dull, heavy eyes, and irritable stomach of the drunkard. After a two weeks' drink, with all the appearances of approaching delirium tremens, he got up in the morning with his mind clear, his eyes bright, his skin clear and fair, and with all the appearances of a man in perfect health and vigour, and ate as hearty a breakfast as usual, and went to his work as though he had never taken a drop of whisky in his life. My curiosity being excited

at what seemed so unaccountable an occurrence, I began questioning him as to when he commenced its use, and what induced him to take it, but found him very reticent, and have not, to this day, ascertained the causes that first led him to its use. All he will tell is that he commenced its use in 1856. From 1861 to 1867 I saw him very frequently, and almost as often have seen him take the strychnia, until it ceased to be a curiosity, except to study its physiological action. In every instance when he took it, every appearance of dissipation would disappear in a very short time. Whether strychnia is an antidote to alcoholic poison, and *vice versâ*, was a study for which I could find no authority to guide my conclusions. From 1867 I did not see him until the month of November, 1874, when he came to this place and called on me for strychnia, as of old. I told my clerk (Mr. Martin) to give him all he wanted. He gave him a bottle, from which he took about twenty grains. In an hour he was all right, and sober as ever. This caused Mr. Martin to write the article you can find in the *Druggists' Circular* of December, 1874, and from that article arose the newspaper articles. I have experimented with strychnia and nux vomica as antidote to the effects of alcohol, and invariably with beneficial results."

COMMUNICATIONS have been received from—

The Registrar of the Apothecaries' Hall, London; Professor Huxley, Edinburgh; Dr. Hughlings-Jackson, London; Mr. J. Chatto, London; Dr. G. Johnson, London; Mr. W. D. Wilkes, Salisbury; Mr. C. J. Cullingworth, Manchester; C. G. C.; Dr. A. Hill, Birmingham; Devon; Mr. A. Smee, London; Dr. Gavin Milroy, Richmond, Surrey; Dr. Lawson, Wakefield; Messrs. Barkka and Sons, London; Mr. W. Fuller, London; Messrs. Arnold and Sons, Smithfield; Dr. De Voogt, Pau; Mr. Johnson, Croydon.

BOOKS AND PAMPHLETS RECEIVED—

Haigh on the Potato Disease and the Curl Disease in Potatoes—Pavy on Food, second edition—Ames on Sex in Industry: a Plea for the Working Girl—Ziemssen's Cyclopædia of Practice of Medicine, vol. iii.—The Workhouse and its Medical Officer, by A. Sheen, M.D.—Annali Universali di Medicina e Chirurgia, vol. ccxxxii.—The Pathologist's Report to the House Committee of the London Hospital—Report of the Health Officer of the City of Oakland, California, U.S.A.—Des Propriétés Physiologiques du Bromure de Camphre, by M. le Dr. L. Pathault—Hill's Report on the Health of the Borough of Birmingham—How we Die in Large Towns, a Lecture by Balthazar Foster, M.D.—De l'Arthrite Tuberculeuse, par M. le Dr. J. Roux—Etude sur l'Hypertrophie Générale de la Glande Mammaire chez la Femme, par M. le Dr. E. Labarraque.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—National Food and Fuel Reformer—Philadelphia Medical Times—Pharmaceutical Journal—Centralblatt für die Medicinischen Wissenschaften—La France Médicale—Iron—Wiener Medizinische Wochenschrift—Journal des Sages-Femmes—Sunderland Daily Echo—Edinburgh Courant—Sunderland Times—Liverpool Daily Post—Nordiskt Medicinskt Arkiv, Sjuade Bandet, Första Häftet.

APPOINTMENTS FOR THE WEEK.

June 12. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

14. *Monday*.

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic 1½ p.m.

15. *Tuesday*.

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Statistical Society, 7¾ p.m. Meeting.

16. *Wednesday*.

Operations at University College, 2 p.m.; St. Mary's, 1¼ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

17. *Thursday*.

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.

18. *Friday*.

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

Medical Microscopical Society, 8 p.m. Meeting for the Exhibition of Normal and Pathological Histological Specimens.

VITAL STATISTICS OF LONDON.

Week ending Saturday, June 5.

BIRTHS.

Births of Boys, 1128; Girls, 1130; Total, 2258.
Average of 10 corresponding years 1865-74, 2017·5.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	686	637	1323
Average of the ten years 1865-74	676·2	618·7	1294·9
Average corrected to increased population	...	...	1386
Deaths of people aged 80 and upwards	...	...	47

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	1	3	6	6	7	1	8	1	2
North... ...	751729	...	7	5	1	15	...	2	4	8
Central ...	334369	...	1	2	...	9	...	...	1	3
East	639111	...	12	7	2	14	5	1	...	8
South... ...	967692	1	9	21	2	26	...	2	...	8
Total	3254260	2	32	41	11	71	6	13	6	29

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·839 in.
Mean temperature	59·9°
Highest point of thermometer	83·3°
Lowest point of thermometer	36·6°
Mean dew-point temperature	46·2°
General direction of wind	E.N.E.
Whole amount of rain in the week	0·00 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, June 5, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1875.)	Births Registered during the week ending June 5.	Deaths Registered during the week ending June 5.	Temperature of Air (Fahr.) Highest, during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3445160	45·7	2258	1323	75·0	46·6	59·9	15·50	0·00	0 00
Portsmouth ...	122632	27·3	88	51	...	...	...	...	...	...
Norwich	82842	11·1	48	43	85·0	38 0	57·4	14·11	0·10	0·25
Bristol	196186	44·1	129	107	81·6	42·6	57·5	14·17	0·00	0·00
Wolverhampton ...	71718	21·1	46	25	...	...	...	...	...	...
Birmingham ...	366325	43·6	274	175	80·5	37·2	55·9	13·28	0·00	0·00
Leicester	109830	34·3	83	42	84·2	38·0	58·0	14·41	0·00	0·00
Nottingham ...	92251	46·2	71	50	79·2	34·6	55·5	13·06	0·00	0·00
Liverpool	516063	99·1	375	215	78·0	44 6	56·5	13·61	0·11	0·28
Manchester ...	356626	83·1	274	163	...	...	...	...	...	...
Salford	135720	26·3	136	58	80·4	33·0	55·7	13·17	0·20	0·51
Oldham	87437	18·7	94	59	...	...	...	...	...	...
Bradford	168305	23·3	138	63	74·4	37·5	55·3	12·95	0·13	0·33
Leeds	285118	13·2	230	124	77·0	38·0	55·2	12·89	0·14	0·36
Sheffield	267881	13·6	233	124	78·0	35·0	57·5	14·17	0·01	0·03
Hull	133932	36·8	117	75	...	...	...	...	...	...
Sunderland ...	106342	32·2	94	32	...	...	...	...	...	...
Newcastle-on-Tyne	137665	25·6	111	61	64·0	40·0	49·7	9·83	0·00	0 00
Edinburgh	211626	50·5	138	82	65·0	43·5	53·3	11·84	...	...
Glasgow	534564	88·6	425	312	70·1	42·0	54·3	12·39	0·12	0·30
Dublin	314666	31·3	164	158	71·5	35·5	55·5	13·06	0·08	0·20
Total of 21 Towns in United Kingdm	7742889	37·0	5525	3347	85·0	33·0	55·8	13·23	0·06	0·15

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·84 in. The highest was 30·01 in. on Tuesday evening, and the lowest 26·69 in. on Friday afternoon.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

MEETING
OF THE
GENERAL MEDICAL COUNCIL.

HELD AT THEIR HOUSE, OXFORD-STREET, W.

FIRST DAY—THURSDAY, JUNE 17.

OPENING ADDRESS BY DR. ACLAND, F.R.S., PRESIDENT.

At the last session of the Medical Council a review of the work of the Council was made by our late President. The absence of Dr. Paget from the chair and from the Council is felt by us all as a grave loss. There was something in the gentle wisdom of that sterling man which gave us the confidence we feel when crossing slippery paths with a sure-footed mountain guide. Only one change has taken place in the Council since we parted. Oxford sends us no stranger in one who brings, from the sister University to that which Paget adorns, mature experience for our common duties. Only a third of the members of the Council who formed it in 1858 remain. Not half, therefore, know how great is the change which has come over the opinions of the medical profession since eighteen representatives of nineteen Universities and Corporations, all distinct, some in admitted rivalry, met six nominees of the Crown as representatives of the public at large, and proceeded to construct a sound and uniform system of medical education, general, scientific, and professional. It is well known in the Council, how rapidly, though silently, the promotion of the general good superseded solicitude for particular interests, and how soon the arduous task of harmonising diversities in national sentiment, of seeking the good in every existing system, of purging the evil from every usage, however time-honoured, became the aim of every member of the Council. It would ill become me to dwell on this topic, or even to have touched on it, but for the purpose of our strengthening each other's hands in the discharge of our complex duties. The construction of the Register, the removal of offenders from it, the completion of the Pharmacopœia, the visitation of old institutions, and freely reporting on them,—all, a few years since, arduous tasks in prospect,—seem now to us a matter of course, and a page in history. What the old universities would have thought twenty-five years ago of giving up their examination-papers to strangers without resistance, it is not easy to realise. They now heartily recognise our endeavours, and aid in promoting our success. I am far from wishing to be understood as implying that our work is nearly done. That is not my opinion. On the contrary, it would seem we have only lately made our tools, and sharpened them for their work. A glance at the subjects to which the attention of the Executive Committee has been drawn during the recess, and at the programme of business, will show this. The Committee has had a correspondence with the Registrar-General, on his invitation, as to the working of the certificates of death under the new Act. The machinery of the Council, and your individual care and attention, enabled the President to forward a final answer, which was the result of much thought by representatives of opinion all over the country, without the labour to you of a meeting of the Council. The Committee has had occasion to address the Home Office on the subject of legal proceedings for offences under the Medical Act. They hope that the letter sent on behalf of the Council will meet your approval. They have also been compelled to draw the attention of the Local Government Board to Article 178 of the General Consolidated Order of the Poor-law Board, which is contrary to the spirit of the Medical Act. It excludes from certain important professional duties all surgeons not being members of the College of Surgeons of London. The Board have undertaken to reconsider the clause. The various letters thus addressed will be laid before you. It is within the knowledge of the Council that the Executive Committee was summoned in April last to consider the effect of two Bills, brought in by private members, for the amendment of the Medical Act. First, the Bill of Sir John Lubbock, to enable the College of Surgeons of London to take part in the Conjoint Scheme of Examination in England, was to be opposed by Mr. Stansfeld, in order, if we are to believe report, to make it compulsory on that College, or on the Conjoint Scheme, to admit women to their examinations. Whatever may be the merits of this real or supposed act of justice to women, it could not receive your sanction or approval, that a conjoint scheme, an admitted good for England, should be impossible except under a condition to which many entertain the strongest objection. His Grace the President of the Council having received the Executive Committee, clearly appreciated the force and the fairness of this view, and promised the fullest attention of the Government. The second Bill, that of Mr. Cowper Temple, to compel the Council to register degrees granted to women by certain foreign universities, was open to still graver objection on grounds of public policy. The effect of this Bill would be fatal to two principles of the Medical Act of 1858. That Act makes the Medical Council responsible for the courses of study and examination undergone by all persons placed on the Register. It is clear they could not, without much diplomatic negotiation and great expense of visitations, if at all, be responsible for foreign degrees; and, secondly, it would be impossible to refuse to men so dangerous a privilege if it were accorded to women. His Grace the President of the Privy Council, and Lord Sandon, the Vice-President, considered with courtesy and prolonged attention this subject also. They undertook to lay the matter before the Cabinet. They further assured your Committee that no steps would be taken in respect of medical legislation, except after the fullest communication with the Medical Council. To the subject of these Bills we shall have to return. Since we parted, medical and surgical examinations in the Universities of Oxford, Cambridge, Durham, Edinburgh, Aberdeen, St. Andrews, Dublin, and examinations in the College of Physicians and College of Surgeons in London, and the College of Physicians, the College of Surgeons, and the Society of Apothecaries in Dublin, have been visited. The reports on them have, for the most part, been already circulated among you, and will all shortly be laid on the table. We have to thank the visitors, both those of the Council and those appointed by the Council, for their cordial co-operation. When all the arrangements are complete the matter seems simple enough, but the Council owes a debt of gratitude to Dr. Quain and Dr. Bennett, for the pains they have bestowed on the work assigned by you to the Executive Committee. It has been truly said, that the Medical Council is limited in its powers. It is no doubt bound, and happily, within the four corners of the Medical Act. Nevertheless, the functions which have to be discharged by the Council are wide enough, as the various subjects already enumerated show, heavily to tax our time and attention. Yet these subjects imperfectly represent what is still before us. When I said just now that we had been much employed in making tools, implying that much work had still to be done, I had in my mind many other things which will come before the Council, as year by year it considers what it is the public want from the medical profession, and lays down the conditions under which the profession can fulfil the just expectations of cultivated men. We have only to take three instances from progressive subjects before Parliament—the duties of officers of health; the qualifications of analysts; the medical duties of women. It may be reckoned as certain, that the eminent and experienced persons who from all the seats of medical study come to sit round this Council-table will sooner or later have to consider the due qualification of all these persons, under their several heads. For 1st, As to the highest sanitary officers,—are they to be all on the Register, all debarred from practice, all equally experts? and if so, how educated, examined, and certificated? 2nd, Are analysts, who are to arbitrate in doubtful cases of chemical analysis, to adjudicate without appeal on what is and what is not injurious to health?—a subject on which we have certainly much yet to learn in this country;—or are they to judge only of the purely chemical question of adulteration? 3rd, Are midwives to be licensed? if so, by whom, how educated, how examined, how certified? The Council will not fail to remember that these questions have been the subjects of special reports by committees of the Council. The Report on Public Health, 1869, the Report on the Medical Education of Women, 1873, and the Report with reference to Public Analysts, 1874, show that the Council is not unprepared whenever public opinion or Government inquiry calls upon it for advice. Such reports, however, and such visitations are but the framework, or mould, or machinery by which our work is to be proved. They are not the work. When once the public is satisfied that the preliminary and most obvious end has been gained, of securing perfectly righteous examination, then, indeed, two difficult problems

still remain: how to secure good teaching, and what to teach. Unjust, indeed, would it be to say that the question of teaching, as far as professional subjects is concerned, has not been handled. The Report of 1869 on Professional Education, condensing the reflections of no less than 131 teachers of experience, has laid down certain definite principles from which few bodies dissent, and, on the whole, few schools depart. The consequence is that teaching, though not perhaps uniform throughout the country, is, without doubt, greatly improved, and the results attained most encouraging. For many deficiencies that captious critics might point out, for usages prior to 1858, and for the transitional character of the age we live in, neither the medical profession nor the Medical Council is responsible. The State has endowed no medical schools, and but very few medical teachers. It has maintained no medical colleges. All has been done by voluntary and unconnected effort. Hence our freedom and our success, but also the cause of our failings. When, however, the testing machinery, for which the Council is responsible, is in perfect order, there will be much need of sober thought as to the period, quality, plans, and extent of literary, scientific, and professional instruction to be absolutely required of all youths destined for the medical profession. Not seldom is there a tendency to require too much of youth. We see clearly what is needed in the profession as a whole; we ought not to expect that whole to be found in every unit of it. The method of optional subjects is becoming urgent. In the optional subjects limitation of range is every year more necessary, although we must not forget that the average children of modern educated races acquire the higher knowledge more readily than the children of the past. When the Council, now sixteen years ago, decided to leave the education in Arts to the national educating institutions—*i.e.*, mainly the universities,—it did so in the conviction that they would represent the full experience and wisdom of the age. Yet opinion is by no means settled, even in the universities, as to the basis on which the scientific mind should be moulded. Neither the opponents nor the disciples of Bentham, Mill, Darwin, or Herbert Spencer have said their last word on the whole theory of human existence and human aims. When men are divided on the fundamental conception of humanity, they will not be agreed on the objects of practical life in the world. And yet we here have to fit men for some of the most practical, most necessary, most human, most beneficent work, for every climate, for every race,—as well for the millions of all castes in India and the protected negroes of Africa, as for our own poor, our own nobles, and our toilers and defenders by sea and by land. While educational theories are being discussed, we have to act. I have touched upon these topics, however slightly, because a motion will be brought before you referring to the whole of the Reports upon Education; and because the Council has from the first emphatically laid stress on the supreme importance of general education; has delegated in full confidence to the national educational bodies the charge of that education; and has maintained its right to inquire into the mode in which that education is carried on. It were not to be desired that we should, with all our other duties, be needlessly entangled in this thorny path; but once the professional examinations arranged, their extent and their method happily agreed upon in the three branches of the kingdom, this fundamental work may not be forgotten. The general, nay the scientific education of the lower and the middle classes is making enormous strides. For the sake of our successors in our profession, we must not use the standard of our younger days as the touchstone for their attainments in general culture; not if we mean them to keep their place in the brotherhood of true and thoughtful men. The withdrawal of Lord Ripon's Bill in 1870—however necessary that withdrawal was, under circumstances which accidentally complicated it,—has no doubt delayed the consideration of several important subjects. Perhaps no real harm has ensued. Time is an element in all healthy growth. The progress which has been made since the Reports to the Council on Professional Study in 1869, is shown by the Report of 1873 to have been great indeed. The papers which will be laid before you, together with your own opinions, as expressed up to last year (1874), and the Reports of your Committees on Education in 1869, 1870, 1871, 1872, may be brought by a committee into a condition for your full discussion, and indeed form a very complete statement as to the present condition of the attainments of the medical students in this country. Nor, I am convinced, need you shrink from the survey. I wish I could say that I am as convinced that the energy, knowledge, high character, and opportunities of our staff of teachers were arranged with the least loss to the students or waste of power to the teachers. The observations of the Teachers' Association, in Appendix II. of the Report of 1869, will partly illustrate this. I return now, as I promised, to the subject of two Bills at present before Parliament—viz., Sir John Lubbock's and Mr. Cowper-Temple's Bills. It was important that you should meet in time to express an opinion, should you desire it, on these Bills. These Bills touch the very eye of the Medical Act. Sir John's Bill, if passed, will make at length possible the combination of all the licensing bodies in England. There may then be one pass examination uniform for all England. If defeated, it would be defeated, so report says, because it does not enter into the question of the registration of women, which it leaves unaltered. Your Executive Committee had reason to hope that the Government would not permit so important a measure to fall on a collateral issue. I am happy to say that the Bill passed through Committee on Tuesday night last, the Vice-President of the Privy Council having satisfied Mr. Stansfeld with respect to the intentions and the effects of the Bill. The effects of Mr. Cowper-Temple's Bill have been already described. A letter bearing upon it, written by direction of the Lord President of the Privy Council, will be laid before you. His Grace requests that at this meeting of the Council the Bill shall be brought under consideration, and that the Council will make to him their observations upon it. He is of opinion that Mr. Cowper-Temple's Bill, though very limited in its direct scope, can hardly fail to raise in Parliament the general question whether women ought to be able to look to medical practice, or certain branches of it, as open to them equally with men as a profession and means of livelihood; and as Government may have to express an opinion on this general question—with regard on the one hand to women who desire to obtain legal status as medical practitioners in this country, and on the other hand to the examination-rules or other conditions which prevent them from accomplishing their wish, he desires that our observations should not be restricted to the particular proposal of Mr. Cowper-Temple's Bill, but should discuss, as fully as you may see fit, the object to which that proposal would contribute. One more topic—that of the public health—must be noticed. On no question of first-class social importance has the public mind changed more in the memory of most of us than in this. The prevention of diseases, as a subject of common, national interest, strange as it now may seem to us, is but of comparatively recent growth, except as regards our prisons, our armies, and our fleets. Foresight would have prevented evils which have grown up unnoticed, both in our villages and in our towns, and are now causing great labour in the removal, as well as greater trouble in the prevention in future. The prevention of disease has become a great branch of our profession. The universities have taken the matter up as well as the profession and the public at large. Education, certificates of qualification to practise, and diplomas already exist in Dublin, Edinburgh, London, and Cambridge, and are in preparation at Oxford. I forbear to dwell on this topic any further than to say that it may be a question whether the Council should ask for power to regulate this education, and enter these diplomas or certificates on the Register. The desirability of Conjoint Boards of Examination in this branch of knowledge may also demand consideration. And now I have performed, as simply as I am able, the honourable task which you have in your goodness imposed on me, of opening a new session of the Medical Council. I ask of you that which you will certainly grant, your support, as I endeavour to second your efforts. Our hope is, by the agency of ancient and progressive institutions, to make medical education uniformly adequate through the whole kingdom; to bring former experience into harmony with the lessons of true culture and modern science; and to provide, as far as human agency can provide, a constant supply of persons qualified to promote the individual and the public health in a nation, whose destiny calls her children to every form of human labour, in all climates, and every condition of human life.

Naval Surgeons.—An examination of surgeons in the Royal Navy who are eligible and desirous of qualifying for the rank of staff surgeon will be held at the Royal Naval Hospitals at Haslar and Plymouth on Monday, July 19 next.

ORIGINAL LECTURES.

NOTES ON THE INVERTEBRATA

FOR THE

USE OF STUDENTS OF ZOOLOGY.

BEING AN OUTLINE OF A COURSE OF LECTURES DELIVERED FROM THE CHAIR OF NATURAL HISTORY IN THE UNIVERSITY OF EDINBURGH.

By THOMAS H. HUXLEY, LL.D., Sec. R.S.

[*Continued from page* 629.]

THE *Oligochæta*.—The Earthworm and fresh-water worms, which are included under this name, are closely allied with the Leeches in the essential points of their structure and development, much as they differ from them in habit and appearance.

They have elongated, rounded, segmented bodies, often divided by many superficial transverse constrictions into rings, which are more numerous than the proper segments. There are no limbs, but each segment is usually provided with four sets of longer or shorter chitinous setæ, which are developed and lodged in integumentary sacs. The outermost layer of the ectoderm is a non-ciliated chitinous cuticle.

The mouth is situated close to the anterior end of the body, but a "cephalic lobe," not unfrequently projects beyond it on the dorsal side. The anus is at the opposite extremity of the body, and the straight alimentary tract which connects the two and is lined by the endoderm is usually divided into a pharyngeal, œsophageal, and gastro-intestinal portion, the latter being often produced laterally into short cæca. The mesoderm presents well-developed transverse, longitudinal, and dorso-ventral muscular fibres, as in the Leeches, and is excavated by a spacious perivisceral cavity, which contains a colourless corpusculated fluid, and is divided by muscular membranous mesenteries, which stretch from the intestine to the parietes, and thus break up the perivisceral cavity into partially separate chambers. In addition, there is a system of pseudhæmal vessels, like those of the Leeches, with contractile walls, and containing a red non-corpusculated fluid. No communication has been ascertained to exist between these vessels and the perivisceral cavity; but there can be little doubt that, as in the case of the Leeches, the vessels must be regarded as a specially differentiated part of the general system of the perivisceral cavity.

In the majority of the segments there are, as in the Hirudinea, paired segmental organs, which are ciliated and open into the perivisceral chamber.

The nervous system consists of præ-oral "cerebral" ganglia, continued backwards, on the ventral aspect of the body, into a double chain of closely united ganglia.

These animals are hermaphrodite. The generative organs are situated in the front part of the body, the male organs being anterior to the female. In the aquatic *Oligochæta* (*Nais*, *Tubifex*) the genital glands have no proper ducts, but the segmental organs of the segments in which they are contained convey the generative products outwards. In the terricolous forms (*Lumbricus*) the vasa deferentia are continuous with the testes, which are very large. The ovaries, on the other hand, are minute solid bodies attached to a mesentery, and the oviducts are separate tubes with funnel-shaped mouths, which open into the cavity of the segment.

The development of the Oligochæta has recently been carefully investigated by Kowalewsky. The eggs of the earthworm are laid in chitinous cocoons, secreted by a specially modified part of the integument. In addition to the eggs, they enclose an albuminous fluid, and packets of spermatozoa. The vitellus is invested by a membrane, and contains a germinal vesicle and spot. Complete yelk-division takes place, and eventually the blastocœle becomes reduced to a mere cleft. The blastomeres are disposed in two layers—one consisting of small, and the other of large, blastomeres. The embryo thus formed becomes concave on the side formed by the large blastomeres, until it assumes the form of a sac, ciliated externally, with an opening at one end, the future mouth; the cavity of the sac being the primitive alimentary canal, and the layer of large blastomeres, the hypoblast. Between the two, a mesoblastic layer appears, but the exact manner of its origin is not known. On one face of the saccular embryo the mesoblast becomes divided into a series of quadrate masses, like the protovertebræ of a vertebrate embryo, disposed symmetrically on each side of a median line, which corresponds with the future ventral median line of the body. Along this line, the epiblast becomes thickened inwards, and the thickening is converted into the ganglionic chain. At the same time, each quadrate mass of the mesoblast is excavated by the development of a cavity in its interior, whereby it becomes converted into a sort of sac. The adjacent anterior and posterior walls of successive sacs unite, and give rise to the mesenteric septa, and their cavities to the chambers of the perivisceral cavity. The segmental organs commence as cellular outgrowths from the posterior face of each septum thus formed, and only subsequently become excavated and communicate with the exterior.

The development of the Earthworm, therefore, closely resembles that of the *Hirudinea*, and more especially that of the Medicinal Leech, in which the digestive cavity of the embryo would seem to be formed, as in the Earthworm, by a process which is, in a sense, invagination. The first formed aperture is the mouth; the anus is a secondary perforation; and the segmentation of the body commences in the mesoblast.

In the fresh-water Oligochæta, *Euaxes* and *Tubifex*, the vitellus also becomes divided into large and small blastomeres. The latter extend over the larger blastomeres, and form the epiblast (= ectoderm). A mesoblast (= mesoderm), divided into two broad longitudinal bands, is developed, and the oral cavity is said to be formed by invagination of the epiblast between the anterior ends of the two bands of the mesoblast. The innermost layer of large blastomeres becomes the hypoblast (= endoderm).

The Polychæta.—Except that the *Polychæta* are almost invariably diœcious and marine, while the *Oligochæta* are monœcious, and inhabitants either of land or fresh water, it is hard to say what absolute characters separate these two groups. The lowest forms of the *Polychæta*, such as *Capitella* and *Polyophthalmus*, might be regarded as marine diœcious *Naidæ*. But, in the higher Polychæta, each segment of the body developes lateral processes—the *parapodia*, or rudimentary limbs, usually provided with abundant strong setæ; a distinct cephalic segment, the *præstomium*, appears in front of and above the mouth, and bears eyes and tentacles, while those parapodia which lie in the vicinity of the mouth may be specially modified in form and direction, foreshadowing the jaws of the Arthropoda. Ciliated, sometimes plumose, processes of the dorsal walls of more or fewer of the segments may perform the function of gills; and, sometimes, the dorsal surface gives rise to flat shield-like processes, the so-called *elytra*.

In many cases, the mouth leads into a muscular eversible pharynx armed with strong chitinous teeth. The gastro-intestinal division of the alimentary canal is almost always straight, but it may give off lateral sacculi. It is fastened to the parietes of the body by mesenteries, as in the Oligochæta. A pseudhæmal vascular system is very generally present, and may contain a green- or red-coloured fluid, which is rarely corpusculated. If branchiæ exist, they are supplied with pseudhæmal vessels; segmental organs are very commonly present.

The nervous system consists of præ-oral ganglia and a double ganglionated chain, the two series of ganglia being sometimes far apart—as in *Sabella*,—but more generally closely approximated. Eyes are usually present, sometimes confined to the dorsal face of the præstomium, sometimes seated at the ends of the branchial plumes (*Branchiomma*), sometimes occurring in pairs in each segment of the body (*Polyophthalmus*). Auditory sacs sometimes occur.

The reproductive organs are not distinct glands, with ducts, but cellular outgrowths of the walls of the perivisceral cavity, which become converted into ova or spermatozoa, and make their way out in a manner not yet understood. The ovum undergoes division, and is converted, as in the case of the Oligochæta and Hirudinea, into blastomeres of two kinds. This contrast between the two components of the embryo commences with the division of the vitellus into two, inasmuch as the first fissure is usually so directed as to divide the yelk into two unequal portions. Both subdivide, but the smaller much faster than the larger; so that the former becomes converted into very small blastomeres, which gradually envelope the larger blastomeres, which result from the subdivision of the latter. The larger included blastomeres are destined to form the alimentary tract; the smaller peripheral ones, on the other hand, give rise to the walls of the body, the muscles,

and the nervous system.(a) As in the Oligochœta and Hirudinea, again, the mesoblast forms a thick band on each side of the median ventral line, and its transverse division gives rise to the segmentation of the body. But the development of the *protosomites*, as these segments might be called, generally does not occur until some time after the embryo has been hatched.

The embryos of the Polychœta, however, differ from those of the Oligochœta and Hirudinea in being ciliated. In some cases, the cilia form a broad zone which encircles the body, leaving at each end an area, which is either devoid of cilia, or, as is frequently the case, at the cephalic end has a tuft of long cilia. Such larvæ are termed *Atrocha*.

In other embryos the cilia are arranged in one or more narrow bands, which encircle the body.

A very common arrangement is one in which a band of cilia encircles the body immediately in front of the month, the region in front of the band bearing eyes, and becoming the præstomium of the adult. In such embryos there is very commonly a second band of cilia around the anal end of the embryo, and a long tuft of cilia is attached to the centre of the præstomum. These larvæ are called *Telotrocha*.

In other cases, one or many bands of cilia surround the middle of the body, between the mouth and the hinder extremity. These are *Mesotrocha*.

In the telotrochous larva of *Phyllodoce* a shield-shaped mantle-like elevation of the integument covers the dorsal region of the body behind the præ-oral ciliated ring. In the larvæ of the *Serpulidæ* a mantle-like process of the integument grows out behind the mouth, and surrounds the anterior part of the body of the larva like a turned-back collar. It persists, as a kind of hood, in the adult.

The series of forms represented by the Turbellaria, the Hirudinea, the Oligochœta, and the Polychœta illustrates the manner in which a type of organisation, which exhibits but little advance upon a mere gastrula, passes into one in which the body is divided into many segments, each provided with a pair of appendages or rudimentary limbs.

The segmentation, or serial repetition of homologous parts, extends to the nervous system, and, more or less, to the vascular and reproductive organs in the higher forms of these "Annulose" animals; from which a further extension of the same process of segmentation leads us to the *Arthropoda*.

But before passing to the Arthropods, it will be convenient to consider a number of groups, some of which are closely allied to the Turbellaria and Annelids, while others, resembling them in their embryonic condition, depart more or less widely from them in the course of their development.

The Rotifera.—The "wheel-animalcules," as they were termed by the older observers, on account of the appearance of rotation produced, as in many Annelid larvæ, by the working of the vibratile cilia with which the oral end of the body is provided, were formerly included among the Infusoria. However, they are true Metazoa, as their vitellus undergoes division into blastomeres, and the tissues of the body are produced by the metamorphosis of the cells into which they pass. They are free or adherent, but never absolutely fixed animals, which do not multiply by gemmation or fission. The oral end of the body is usually broader than the opposite extremity, and presents the form of a disc, sometimes produced into tentacle-like prolongations. The edges of this "trochal" disc are fringed with long cilia, but the general surface of the body, instead of being ciliated, as in the Turbellaria, is formed by a dense, generally chitinous, enticular layer, which is sometimes converted into a kind of shell, and variously sculptured. Transverse constrictions, which are slight in the anterior part of the body, but may become more marked towards its posterior end, give rise to an appearance of segmentation, which, however, extends no further than the integument. The mouth is a funnel-shaped cavity, situated in the middle or on one side of the trochal disc. The walls of this cavity are abundantly ciliated, and at the bottom is a muscular pharynx, or *mastax*, provided with a peculiar armature. This generally consists of four pieces—two lateral, the *mallei*, and two central, constituting the *incus*. The contraction of the muscular masses, to which the mallei are attached, causes the free ends of the latter to work backwards and forwards upon the incus, and crush the prey which is taken into the mouth.

A short œsophagus, provided with cilia or vibratile membranes, leads into a digestive cavity lined by the endoderm. The anterior or gastric part of this cavity is usually dilated, and gives off a large cæcum on each side. The posterior narrower intestinal part usually opens externally into a cloacal chamber; but, in some Rotifers, the alimentary cavity is a blind sac; and in the males, so far as they are known, the whole alimentary canal is aborted, and represented by a solid cord.

A spacious perivisceral cavity occupies the interval between the walls of the alimentary canal and the parietes of the body. The latter contains circular and longitudinal muscular fibres, which may be smooth or striated.

Opening into the cloaca there is usually a large vesicle with rhythmically contractile walls; and, in connexion with this, are two delicate water-vessels, which pass forwards, often giving off short lateral branches, and eventually break up into numerous ramifications in the trochal disc. The branches are open at the ends, so that the cavities of the water-vessels are in communication with the perivisceral cavity on the one side and with the surrounding water on the other. Here and there, in the course of the main trunks and at the ends of the branches, long cilia—which, by their constant undulation, give rise to a flickering motion—are situated.

The nervous system is represented by a relatively large single ganglion placed on one side of the body, near the trochal disc. One or more eyespots are sometimes seated on the ganglion, and there are other organs which appear to be sensory. Such are the ciliated pit and the spur-like process (*calcar*), provided at the end with a tuft of setæ, which occur in many Rotifers, and are more or less closely connected with the ganglion. In some there is a sac filled with calcareous matter (otocyst?) attached to the ganglion.

The ovarium and the testis are simple glands which open into the cloaca, and are always placed in distinct individuals. All the males at present known, differ from the females in being much smaller, and in having no alimentary apparatus, the digestive canal being arrested in its development. The males copulate with the females, and the eggs are sometimes attached to, and carried about by, the latter—*e.g.*, *Brachionus*.

In some Rotifers, asexual multiplication is effected by the formation of what have been termed "winter ova," which are enclosed in a peculiar shell, and developed without impregnation.

The egg undergoes complete yelk-division, and the embryo gradually passes into the adult form. Whether the alimentary cavity is formed within the morula by delamination or invagination is not clearly made out, but probably the former method obtains.

Some of the modifications of the general structure thus described in the different groups of the Rotifera are of considerable interest.

Thus, in the tubicolous Rotifera, the body is elongated and terminated posteriorly by a discoidal surface of adhesion, and the animals (of which a number are often associated together), fixed by this disc, enclose themselves in cases, the foundation of which is a gelatinous secretion. The intestine is bent upon itself (*e.g.*, *Melicerta*), and opens upon the face of the body opposite to that upon which the ganglion is placed. The peduncle of attachment is therefore a process of the neural face of the body. In these Rotifera the trochal disc is sometimes produced into long ciliated tentacula, which surround the mouth symmetrically (*Stephanoceros*), or its edges may be provided with two circlets of cilia, one in front of, and the other behind, the oral aperture; and it may be bilobed or horseshoe-shaped, as in *Melicerta* and *Lacinularia*.

In the free Rotifera, the body may be rounded, sac-like, and devoid of appendages, as in the genus *Asplanchna*, which has neither anus nor intestine. In *Albertia* and *Lindia*, on the other hand, the body is elongated and vermiform. Most of the free Rotifera are provided with a segmented and sometimes telescopically-jointed "foot," usually terminated by two styles, which can be approximated or divaricated like pincers, and serve to anchor the body. This foot is a median process of that face of the body which is opposite to that on which the ganglion is placed, so that it is not the homologue of the peduncle of the tubicolous forms.

Polyarthra and *Triarthra* possess long symmetrically-arranged movably articulated setæ, and *Pedalion* has median appendages proceeding from both the neural and the opposite faces of the body, as well as lateral appendages.

In most of the free Rotifera the trochal disc is large; it may be bilobed or folded upon itself, or its surface may give rise to ciliated processes. In *Albertia* and *Notommata tardigrada*,

(a) Claparède and Mecznikow, "Beiträge zur Kenntniss der Entwickelungs-geschichte der Chœtopoden." 1868.

however, the trochal disc is reduced to a small ciliated lip around the oral aperture; and there is no trochal disc in *Albertia*, *Lindia*, *Taphrocampa*, and *Balatro*. Some few Rotifera are parasitic. Thus *Albertia* is an enteparasite, and *Balatro* an ectoparasite, upon oligochœtous Annelids.

Under the name of *Gasterotricha*, Metschnikoff and Claparède include the curious aquatic genera *Chætonotus*, *Ichthydium*, *Chætura*, *Cephalidium*, *Dasyditis*, *Turbanella*, and *Hemidasys*, the last of which alone is marine. These animals have been united with the Rotifera, but they differ from them in the absence of a mastax and in the disposition of the cilia, which are restricted to the ventral surface of the body. It appears to me that they form an annectent group between the Rotifera and the Turbellaria, which last approach the Rotifera by such forms as *Dinophilus*.

The free Rotifera present marked resemblances to the telotrochous larvæ of Annelids. The appendages of *Triarthra* and *Polyarthra* may be compared to the lateral bundles of long setæ of the larvæ of *Spio* and *Nerine*, and the pharyngeal armature is essentially annelidan. On the other hand, in the sessile tubicolous Annelids, the trochal disc assumes the characters of the lophophore in the Polyzoa, and of the tentacular circlet of the Gephyrean *Phoronis*. Of crustacean affinities in the Rotifera, I fail to see any evidence.

(To be continued.)

ORIGINAL COMMUNICATIONS.

TWO CASES OF CHRONIC DYSENTERY.

WITH REMARKS.

By C. HANDFIELD JONES, M.B. Cantab., F.R.S.,
Physician to St. Mary's Hospital.

Case 1.—*Chronic Dysentery—Great Improvement from use of Red Gum—Discharge—Relapse—Failure of Remedies—Death—Autopsy.*

J. K., AGED twenty-four, soldier, admitted January 15, 1872. Has been in tropics; was quite healthy before he went out. Was three years in Madras, where he used to drink a good deal of spirits. After twelve months he got diarrhœa and dysentery, and then liver disorder. Had a slight touch of fever and ague in Burmah; was sent home invalided. Has been at home two years, and has had repeated attacks of dysentery since his return. Has passed slime and blood. Now, everything he takes seems to go through him directly; his stools are slimy, but not bloody. Has great tenderness over the region of gall-bladder; not much in other parts of abdomen. Sometimes the purging stops, and then he is without a stool for three or four days. Has cold feelings now and then—ague-chills. Is very weak. Pulse 100, small and weak; temperature 98·6°. Feet are stone-cold and numb the last three weeks. Liver-dulness extends from fourth space to margin of ribs. Ordered simple diet, and milk with ground-rice pudding, and three ounces of brandy. ℞. Gummi rubri gr. x., glycerinii ʒj., aq. ℥j., quater die.

On January 18 he had pain in lower right side, increased on inspiration. A continuous poultice was ordered.

On the 24th the bowels were acting eight times a day, but the stools were much more consistent than they had been, and contained no blood or slime. The right side pain was almost gone. Brandy exchanged for port, two ounces.

On February 1 there were only two stools a day; he was up; ordered fish.

17th.—He went out apparently well. His weight had increased from 113 pounds—which it had been, he stated, a little before admission—to 133 pounds.

He was readmitted on April 22. Two or three days after he went out he was taken with severe pain at the lower part of right side, extending down to hip and up to scapula. He continued to suffer from the pain a month. The dysentery returned very soon after the pain commenced. However, he got better and went to work again for a little while, the dysentery continuing all the while he was at work, but getting steadily worse and worse. When admitted, he was in an extremely exhausted state, emaciated, cold, and almost pulseless. Bowels were constantly acting. The night after admission he lost about a pint of blood, and it was stated that he had lost as much three or four times a day or two previously. The abdomen was very tender, not at all distended; there was much pain in the region of liver. The red gum was again given, but quite failed. Lead enemata and lead internally had no better effect. Blood was passed again per anum, and he had pain in passing urine, and soreness and tenderness of his testes. There was much thirst and distressing cough.

On the 26th the pulse continued very weak and rapid; bowels were acting very frequently, the evacuations consisting of bloody flocculent matter with thin watery fluid, and some pieces of greenish fæcal matter of ordinary solid consistence. Blood also was passed now and then. He looked very sunken. Ordered pulv. ipecac. gr. v., opii gr. ss., in pil ij., 4tis horis.

On the 27th the hands, which hitherto had been quite cold, were fully warm; no blood had been passed, and there was less diarrhœa.

The next day he became worse, and on the 29th was pulseless. The mucous membrane of the rectum was of a full red colour, and was protruding from the anus, from which a reddish, flocculent, mucous, offensive, sickly-smelling discharge was draining away.

On the evening of the 30th he was very delirious, and died on May 1.

Autopsy.—Lungs normal, except some pleurisy at base of right. Liver weighed 117 ounces, was highly fatty, and contained several small recent abscesses, and one of the size of a large orange, at anterior right part, which was evidently of old date. The cæcum at its lower part presented a dark red congested mucous membrane eroded, at small spots into ulcers with grey bases; a little way further on these coalesced, the mucous membrane disappeared, and the whole of the large intestine was a sheet of the same grey-looking ulceration, marked here and there by streaky deposits of black pigment. Mesocolic glands enlarged, and hard and dark coloured. Spleen and kidneys pretty normal. A little peritonitis.

Case 2.—*Chronic Dysentery—Failure of Red Gum and Nitrate of Silver Enemata—Success of Ergot.*

J. P., aged thirty-two, admitted December 22, 1874. Ill six weeks; has lost much flesh. Bowels usually act eight or nine times a day; the stools are on some days loose, on others more solid; he passes a little blood at times. Abdomen collapsed; feels sore all over; the soreness is most at lower part and left side; he feels, he says, sore inside. He has nausea at times, but no vomiting. Pulse 96, open, soft; tongue pale and natural; neither liver nor spleen enlarged. Has been in India and Africa; has had some fever. Ordered simple diet, rice pudding, beef jelly; and gummi rubri gr. x., glycerinii ʒj., aq. ℥j., quater die.

December 24.—Temperature 98·6°; pulse 64; respirations 20. Stools more consistent; the last slightly streaked with blood. He feels a good deal better.

28th.—Five stools in last twenty-four hours. Two eggs. Fotus tereb. abdomini.

January 4, 1875.—Is in bed. Reports that the turpentine stupes caused the stools to be more frequent and bloody. Pt. e. mist. gr. xv., gummi rubri ad ℥j.

7th.—Has had seven stools a day since last report. Catarrh very prevalent. To have argenti nitratis gr. vj., aq. dest. ℥iv., tinct. opii ℥x., pro enemate, bis die.

9th.—Enemata have been retained fairly well, but the stools have been more frequent and bloody; one I saw was scanty, consisting of membranous shreds or flocculi and blood. Pulse 100, feeble; not much pain. ℞. Pulv. ipecac. gr. v., mist. mucilag. ℥ss., ter die.

11th.—Better. Only four stools.

14th.—Three stools a day. Is up; feels better; little or no nausea from medicine. Fish.

18th.—Four stools a day. Is up and about; ordered again to bed. Extr. ergot. liquidi ʒj., aq. ℥j., quater die.

On the 21st there were only two stools, on the 25th only one; and this improvement was maintained until his discharge (February 4), although he had been allowed to be up and about after January 28.

Remarks.—It is always satisfactory when we can comprehend the action of our remedies in a case of disease, especially when that disease is a representative one. Now, dysentery evidently represents in great measure the large family of catarrhs, although there is also something specific about it, and it is prone to become a good deal more than a catarrh. Its chief peculiarity seems to lie in its tendency to affect the "substratum" of the mucous membrane, that layer of nuclei and granular matter underlying the basement membrane of the surface, to which the solitary glands belong, and to which I specially drew attention twenty-seven years ago in the

London *Medical Gazette*, 1848. This constituent of the mucous membrane is apt to become infiltrated with exudation, while the basement membrane and epithelium perish. The causes of dysentery seem to be such as impair or annul the special endowments of arteries and capillaries. Malaria, foul air, excessive heat alternating with chilling cold to the cutaneous surface, are all very capable of producing these effects. One great feature in the dysenteric state, indeed the principal in all but the earliest stage, is the loss of the proper action of the bloodvessels. The arteries are relaxed, or very prone to become so, and the capillaries leaky; and as long as this condition persists, the symptoms, even if they subside for a brief time, are reproduced by the least provocation. To amend this defect, astringents to restore retentive power to the capillaries, and tonics to promote contractility in the arteries, seem rational remedies. But for their success it is requisite that they shall be of such a kind, and given in such doses, that they do not become irritants. This is a very important limitation of their use, and for want of due regard to it an otherwise suitable therapy may quite fail. In one case under my care, four grains of tannin and opii gr. ¼, quater die, aggravated the dysentery a good deal, but ℥ss. of tincture of Aspastic bark ter die, which contains tannin in some peculiar form, quickly cured it. Enemata of nitrate of silver are praised by Trousseau, but they made J. P. worse; so did turpentine stupes, which so often relieve a bronchial catarrh. The different success of the red gum in the two cases is noteworthy. In J. K. it was markedly beneficial; the patient would in all probability have thoroughly recovered if he had been kept sufficiently long on the same treatment, and protected from the inclement weather,—this, too, in spite of the existing abscess in the liver. At the time of his second admission he was too far gone to be rallied by any remedies. In J. P. red gum was useless, while ergot was speedily effectual. This seems to imply that the arterioles may be more at fault in some instances, and the capillaries in others. I am not aware whether ergot has been much used in the tropics, but it seems a hopeful remedy, and has been found successful by M. Luton, of Rheims (*vide Gaz. Hebdom.*, October, 1871). He says not only the hæmorrhagic element of dysentery, but the griping colic and fever, were at once relieved. I have tried ergot in some cases of inflammatory lung affection, but not with as much success as I had expected. It is more decidedly useful in hæmorrhage. The good effect of the ipecacuan during the exacerbation of the chronic disorder in Case 2 is well marked. This remedy should always be resorted to on such occasions. It acts, I believe, as a tissue sedative, and takes off that irritability of the bowel which makes it intolerant of astringents and tonics.

IS LEPROSY CONTAGIOUS?

By GAVIN MILROY, M.D., F.R.C.P.

1. The rightful determination of this question is of extreme *public*, I would even say *national*, importance, not only from its mere scientific and professional interest, but still more from its intimate bearing on the exercise of practical humanity, and of the moral obligations of communities as well as of individuals towards the afflicted. So few medical men in this country have an opportunity of ever seeing cases of the disease, and of becoming acquainted with the distressing social consequences which inevitably attend upon its occurrence in any member of a family, that this statement may possibly seem to some to be a little extravagant; but no one who has had actually to do with such instances will, I am sure, charge it with the slightest exaggeration. The appeal that was recently made in the *Times* of March 18, attested by several honoured names of the profession in the metropolis, may serve to vouch for the simple truthfulness of the above remark.

2. It will be known to all the readers of this journal that the conclusion to which the College of Physicians came from a careful examination of the mass of official documentary evidence from most parts of the world, submitted to it by the Government, was that leprosy does *not* appear to be "contagious or communicable by proximity or contact with the diseased."(a) This conclusion agreed with the results of the experience of Drs. Danielssen and Boeck, recorded in their admirable treatise on "Leprosy in Norway," published in 1848. The subsequent observations of these gentlemen have only served to confirm them in this opinion, as the following brief extract from a recent paper by Dr. Boeck shows:—

"Over a century we have had in Bergen, where leprosy does not exist, a hospital for lepers, where more than 100 patients have been received. The lepers from this hospital have been allowed to walk unhindered about the town; and, as far as I am aware, no one has ever heard of a case proving contagion. In this hospital a certain number of healthy nurses have been employed, and as yet none have been seized with leprosy. In different districts there are several married couples of which one has been leprous, but without causing infection in the other. . . . In our Christiania hospital we have always got some lepers under treatment, but have never thought of separating them from the other cases of skin disease, and have never observed any infection being caused. On the strength of these experiences it is not possible for me to believe in contagion."(b)

My own observations and inquiries in the West Indies in 1871-72 led me to the like conclusion; and the same may be said of the experience of Dr. Wortabet, of Beyrout, from his observations of the disease in different parts of Syria.(c)

3. In the last number of the *Medico-Chirurgical Review* is an elaborate original article on "The Ætiology of Leprosy," by Dr. Hansen, Assistant-Physician to the Bergen Leper Hospitals, wherein he adduces various arguments which, in his opinion, make it highly probable that contagion is one of the chief, if indeed not the main, agency in the production and spread of leprosy in Norway. He considers that far too much importance is generally attached to the supposed influence of heredity, and he seems unwilling to admit that the malady ever becomes spontaneously developed in any person from the operation of mere extrinsic endemic causes (whether locality, bad food, or any other insanitary agency), apart from and independently of either hereditary predisposition or of contagious transmission. His arguments are of a twofold nature—(*a*) theoretical, and (*b*) observational or practical.

4. *Theoretical.*—Starting with the hypothesis that leprosy is a specific disease—the term "specific" is used by Dr. Hansen to designate those diseases which are known or presumed to originate from and primarily depend upon the operation of a special morbific poison or germ on the organism—he argues that it is *à priori* probable that it, like other maladies of kindred genesis, whether these be acute or chronic, should be communicable from the sick to other persons rather in the way of direct inoculation of a material virus than through the medium of hereditary transmission. As all this is merely ingenious speculation, I feel myself unable to discuss or pronounce upon its merits, and shall only remark that I can see no greater reason for presuming the existence of a distinct or special virus or morbific parasitic germ in the system for the development of leprosy than of scrofula, rickets, cretinism, or cancer. Obviously, the case of syphilis stands quite apart; it always originates primarily from a palpable poisonous matter, cognisable by the senses.

5. *Observational.*—Dr. Hansen cites the following four instances recently observed in Bergen to show that "the most probable explanation of the origin of the disease must be sought in infection at the respective places where the patients had been in contact with lepers":—

Case 1.—A. H., aged sixty-three, labourer; tubercular form; born in Jolster; states the duration of the disease to have been about three years in 1871. Does not know any leper in the family—which is also probable, as leprosy is very rare in Jolster; and he is not related to any of the lepers who have been registered since 1856. He has been in Bergen more than twenty years; quitted thirteen years ago his service at Lungegaard Hospital, where he had been bathing attendant four years, and therefore had been in close contact with the patients.

Case 2.—A. L. S., aged fifty-one; tubercular form; came twenty years ago to Bergen. She dwelt with a sister at Starefos, a farm high up the Floifjeld, close to the Asylum No. 1 and the Lungegaard Hospital. She was washerwoman of the Asylum for ten years, and, three years after she ceased to be so, her leprosy was undoubted: but she had, however, long been suspected of not being healthy. She earned her living at that time by washing bottles in a brewery. She was born in a mountain valley about two miles from Bergen. All people there are agreed that there never has been any leprosy in the valley. It is at any rate certain that her parents, their

(a) "Report of Royal College of Physicians, 1867," p. lxix.

(b) Dr. V. Carter's "Report on Leprosy in Norway, 1874," p. 49.

(c) *British and Foreign Medico-Chirurgical Review*, July, 1873.

brothers and sisters and parents, have all been healthy, and that she is the only leper known in the families from which her parents descend.

Case 3.—J. B., aged twenty-six, sailor; tubercular form. His parents, still living, were born in Bergen. Their parents were both born in Holmedal, and they moved to Bergen, where all their nine children were born. There are dwelling in Bergen grandchildren and great-grandchildren of them, who are all healthy. The patient resided, at the age of fifteen, for half a year, 1858-59, at Spielsoen, and during that time had intercourse with the peasants about, and also with families where leprosy had existed. K. S., a girl of about the same age as the patient, had then many leprous spots, and she and the patient played constantly together. It is not supposed that any more intimate connexion took place. After his return to Bergen, about half a year, his father remarked in his son an altered complexion, which aroused his apprehension of leprosy. This apprehension became certainty when his son went to sea in 1863. The patient himself became apprehensive of leprosy at the end of 1864, after having suffered from ague at Sulina, but he did not discover any undoubted marks of the disease until 1865.

Case 4.—L. E., aged twenty-seven, carman; tubercular form. Born in Bergen, a natural son of healthy parents born in Bergen; has a healthy sister born of same parents. There are dwelling at present in Bergen not a few relations of the parents' families, and they are all healthy, excepting our patient. During part of his childhood he was taken care of at the farm Lone, about two miles from Bergen. There were no lepers here, but at the neighbouring farm Espeland there was one, and the patient was often in contact with him. The patient was badly taken care of at Lone, and suffered *inter alia* from favus and scab. About eleven years ago he came back from Lone, but was there again for a short time the year after. The patient states that the disease broke out in 1870, that is about four years ago; but his old grandmother about eight years ago called his mother's attention to a "bluish discoloration over the eye, like a shade," which she did not like, and was of opinion that the lad was not all right.

Readers will judge for themselves of the value of the evidence which the above four cases afford for the contagious origin of the disease.

6. Mention is subsequently made of a few other cases, in which the evidence is very similar in import to that in the foregoing, and also reference to the probability of leprosy having been of late years imported into Finmark, where the disease is believed not to have formerly existed, in consequence of the more frequent communication between that country and some of the leprous districts of Norway, arising from the recent great extension of the fisheries which bring the men engaged in this service much more into contact with each other than before.

Dr. Hansen states that, among the resident population of Bergen, there are always a good many persons more or less severely affected with leprous symptoms. The majority of these persons have settled in the town, either upon leaving one of the asylums where they had been inmates, or not long after arriving from some country district where the disease may exist. It does not appear that Dr. Hansen has ascertained any instance of contagious extension from the presence of such invalids in the town; so that, upon this point, we must for the present be content with the statement of Dr. Boeck already quoted.

7. In conclusion, Dr. Hansen appeals to the pamphlet of Dr. Landré, published a few years ago,(d) as affording the strongest possible evidence for the opinion which he advocates in his present paper. "There are parts in this book," he says, "the importance of which cannot be shaken, and which have hitherto met with no opposition—namely, the history of the course of leprosy in Surinam, and the cases related of the disease in descendants from European parents. Landré's representation stands to me in these respects as the most convincing evidence hitherto given of the contagious nature of leprosy." I have now carefully perused this *brochure*, and have again failed to discover any logical evidence whatever in favour of the thesis which the author has proposed to solve. Most of it is occupied with an account of the disease as it is seen in Surinam, derived from the statements of others, more particularly of his father, who was long a resident physician in that Dutch colony. He has never been there himself, nor (it would seem) in any other country where the disease is endemic; and several of his statements, in a former publication on the same subject two or three years before, were at the time contradicted by two of his fellow-countrymen, who were personally acquainted with the malady either in the Dutch East Indies or in Norway.

The cases in the descendants of European parents referred to by Dr. Hansen were twelve in number, and are very meagrely narrated at pages 51 to 55. I extract the first and last examples as specimens of the kind of evidence adduced.

Case 1.—Miss S., born of Dutch parents in the colony, became affected with leprosy in very early youth. The cause of the malady remained a secret, and it was only when she had reached the age of thirty years that it was discovered in the following manner. A female slave on her deathbed confessed to the mother that she had often brought her child, when an infant, in contact with a leprous person.

Cases 11 *and* 12.—The first symptoms of leprosy were observed in two children of between five and six years of age, a considerable interval having elapsed between the manifestation of the disease in the two. They were born, in the colony, of German parents belonging to the Moravian Mission. The first child, a girl, had a very suspicious blotch on the arm. She with her parents left the colony for Germany, and no further information is known respecting her. The second, a boy, was sent to Holland with marked signs of leprosy on him—the skin of the scrotum was swollen and thickened. This child was subsequently seen by Dr. Landré in Amsterdam; at that time, apart from the above-mentioned symptoms, there was not the slightest spot or discoloration upon the other parts of the body. Both these children had been reared in comfort; but let us not fail to remark, says the writer, that all the children of missionaries in Surinam are continually exposed to contact with negroes and mulattoes of the common people.

It must be in reference to examples like these that Hebra and Kaposi, in their late work on Diseases of the Skin, make the observation that "Landré has recently endeavoured to show that the leprosy of Cayenne is contagious; the attempt, however, is clearly a failure. He is only able to support his cases by statements of patients, etc., according to which one or other of the persons affected with the disease had played with a leper, or in some way had to do with or been touched by one."(e)

8. One very interesting fact is mentioned by Dr. Landré in his pamphlet—namely, that he has had the opportunity of witnessing in Holland no fewer than ten cases of true leprosy which had been contracted in the Dutch colonies—either in the East or in the West Indies, it is to be presumed. Most of the patients appear to have been soldiers who had returned home after service abroad. Unfortunately, no particulars are given. It would have been most instructive to have learned whether any of these patients had communicated their malady to any of their relatives or friends in Holland; and if not, what measures may have been adopted to prevent the risk of such an occurrence.

9. If this be desirable in Holland, how much more is it that something of the sort be done in this country, where so many more imported cases of leprous disease occur, and where the repeated opportunities of strict investigation of its attributes are consequently more ample. Mr. Erasmus Wilson, in his most instructive communication to the College of Physicians, published in the appendix to their Report in 1867, gave particulars of nineteen cases which he had himself carefully examined; and doubtless since that date he could add the record of at least eight or ten more. If other metropolitan physicians added their quota, there would be at the lowest computation a list of forty or fifty cases which have been observed in London during the last twenty years. Such an aggregate should go far in determining whether the disease ever manifests a tendency to contagious extension in this country from intercourse with the diseased. I take leave earnestly to commend the consideration of this grave question of hygienic medicine to the serious attention of my professional brethren.

(To be continued.)

(d) "De la Contagion seule Cause de la Propagation de la Lèpre," par le Dr. C. L. Brognat Landré. 8vo, pp. 80. Paris, 1869.

(e) English translation of the New Sydenham Society, vol. iv., 1874.

It is announced that Madame Brés has been appointed Physician to the Sultan's Harem at Constantinople. She recently read a thesis before the Paris Faculty of Medicine, and obtained a doctor's degree.

REPORTS OF HOSPITAL PRACTICE
IN
MEDICINE AND SURGERY.

LONDON HOSPITAL.

CASES OF PARTIAL CONVULSION FROM ORGANIC BRAIN DISEASE, BEARING ON THE EXPERIMENTS OF HITZIG AND FERRIER.

(By Dr. HUGHLINGS-JACKSON.)

(*Continued from page* 607.)

In the following case I diagnosed tumour of the hinder part of the first (uppermost) frontal convolution; the disease was much more extensive:—

Case 18.(a)—*Right-sided Fits, most of them limited to the Right Arm—Subsequently Hemiplegia—Double Optic Neuritis—Tumours of Left Cerebral Hemisphere.*

Thomas W., aged fifty-two, weaver, first came under care in December, 1873; died December, 1874. His family history showed nothing worthy of note. For as long as he could recollect he had suffered at irregular intervals from headache, which affected chiefly the frontal region, and was severe enough to keep him away from work. He described it as "terrific," but he was much given to the use of superlatives. He had only vomited once, but occasionally had nausea. For several years his memory had been getting bad. His personal history was carefully investigated, but showed nothing else of importance. When he first came under observation he described two "kinds" of convulsive seizures to which he was subject—one slighter, coming on about every *five* minutes, and another, of which he had only had two. The first of the latter occurred about November, 1872. For about three weeks before that fit he had a pain in the right arm, coming on once in one or two hours, and lasting a quarter of an hour,—"a dreadful aching and cramping pain, taking away all use from the arm. It began at the elbow, and flew up to the shoulder and right round the arm underneath [*i.e.*, axilla]. The arm was as if entirely dead." At the end of the three weeks he had a fit beginning with pain in the shoulder, which went "in and out," down to the knee and up to the face. The arm was entirely useless, but there was no pain in it. His head was, his wife said, turned to the right, and his mouth drawn to the right. The right arm was bent, the right leg alternately bent and straightened. After the limbs had become convulsed he became unconscious. In a quarter of an hour he became able to understand what was said to him, but could not answer. After some time he went to sleep, and awoke five hours after the commencement of the fit. He then had a "frightful" headache at the vertex and right side, a mist before his eyes, but no nausea. He also found that he could not lift the right arm, which was the seat of a "racking" pain that lasted for weeks after. The other major fit was similar. The slighter seizures occurred after the first of the two severe fits every five, ten, or fifteen minutes for many weeks. He had them every few minutes the first time I saw him in the out-patient room. They were limited to the arm. In one of these, observed by Mr. Herman, the right arm was bent at a right angle, wrist extended, first phalanges extended, second and third bent, except the thumb, which was straight. The limb was rigid in this position for about twenty or thirty seconds, and then the middle, ring, and little fingers were gradually flexed into the palm, while the index was straightened and the thumb became completely extended. The patient said that the fits began with pain in the upper arm, which went up the shoulder, down the right side, up the side again, and worked off at the fingers, leaving little finger last. The rigidity began when the pain reached the fingers. He was ordered pot. bromid. ℈j., pot. iod. gr. v., t. d., and this he took for two months, during which time the fits got less and less frequent, and finally ceased.

On May 5, 1874, he again applied for relief, saying that the fits had commenced again six or seven weeks before, and had gradually increased in frequency. First the pain came "niggling" about, and then the fits. The minor fits were of the same character as before; Mr. Herman witnessed two. The first was exactly like the one described by him before (*vide supra*); in the other the first phalanges were extended, the second and third flexed; the fingers continued rigid in this position till the end of the seizure. He had also had four major fits with loss of consciousness, each of which began with pain in the right little finger, passing across the back of the hand, up the arm, down the side, sometimes down the leg, up to the head; and then, as it drew his mouth to one side, he lost his senses. He now was admitted into the hospital, and while under observation his fits became extremely numerous, sometimes as many as eighteen in twenty-four hours. From his admission until May 24 he had 209 at least. They were of all degrees of severity, from a slight cramp in the fingers to convulsion of the whole arm. The grasp of the hand was much enfeebled, but there was no obvious paralysis except on such trials of its strength. *There was no optic neuritis.*

At the end of the month he was able to go home, much improved, but was obliged to seek readmission in July for a return of symptoms. Towards the end of August he was again well enough to go out, but three weeks after I heard that he was worse, and on going to see him found him extremely ill. He was seized with a fit, his friends said, the day after leaving the hospital, and had fits day and night for a fortnight, the last having occurred a week before my visit. Each of these fits that were noticed began with a jerking in the right hand. The jerking would go up the arm, then down the body to the right leg. The right side of the face was affected, not the left, and the eyes were turned to the right. The left side was never affected (this was carefully inquired into). The leg became affected before the face. This was no doubt correct. I never ask leading questions, and this account his friends gave exactly tallies with what one often sees oneself in such seizures. It will be noted that the seizures still began in the right hand. His speech was not affected until the last fit, since when he had not spoken. He had not spoken foolishly, nor made mistakes in words. When I saw him, his condition, as described by Dr. Stephen Mackenzie, who also was present, was as follows:—He was "lying in bed, surrounded by a circle of friends and relations. He immediately testified his recognition of Dr. Jackson by an expression of pleasure and by a series of inarticulate sounds. Unless his attention were especially aroused, he lay in a dazed or almost semi-conscious state, taking but little heed of what was passing around him or of what was said in his presence. . . . . The mouth was decidedly drawn to the left. . . . His right arm lay motionless by his side, and with his left hand he took it up and let it fall several times. . . . He moved his left leg, but did not move the right. At first it seemed as though he were speechless, and, indeed, his friends thought him so, with the exception of the word 'Yes,' which they were sure he had enunciated. On more careful examination, it was found that he could say many words when his attention was sufficiently aroused. He articulated with difficulty, but made no mistakes in words." There was no aphasia; he did "propositionise." I paid great attention to this point, and am certain that speech proper was intact. He made definite replies to particular questions. Hence Dr. Stephen Mackenzie's use of the word "propositionise." To speak is not simply to utter words; it is to utter propositions. There never was any aphasia. After his admission into the hospital I paid very great attention to this matter.

He was again taken into the hospital, and for a fortnight remained in the condition above noted. On September 19 his optic discs, which had been frequently examined, first showed signs of commencing neuritis. The neuritis gradually increased for about a fortnight until it became very decided, with considerable swelling, obscuration of the edge, engorgement of veins, etc., and then slowly subsided until at the end of six weeks from the outset of the neuritis the discs again appeared perfectly normal. There was always more change in the left than in the right disc. At the height of the neuritis his sight with each eye was $\frac{20}{50}$; and this was probably less than his usual vision; it was difficult to be sure that he read his best.

After being in the hospital a fortnight he began to improve, and very gradually he became more and more alive to what was going on around him. Little by little he began to talk again, but his speech did not come back in the way that the speech of a patient recovering from aphasia does. For instance, even as early as September 16 he uttered the comparatively elaborate sentence, "I wish you'd doctor me"; and

(a) As some of the cases related under the former heading bear also on Hitzig and Ferrier's experiments, it is convenient to number this and following cases in continuation from them, for ease of reference.

in reply to a question about pain, said, "Yes, in my back; dreadful pain." These, be it noted, are not ejaculations; they are veritable propositions. By October 5 he was in very fair mental condition, enough so to make an intelligent comment on a note read in his hearing; his speech was, indeed, by that time evidently absolutely perfect. Then his paralysis began to improve, the leg recovering before the arm, and the upper arm before the hand. The face recovered early, before the leg; but the paralysis never disappeared. He could never walk, and could never *use* the right arm.

On November 15 he had two fits, confined to the right hand, and on the 19th one which lasted half an hour, confined to *the right leg*. These seizures did not, however, retard his improvement. After this he had a good many local fits, affecting the arm, about two in every three days, and a few more general ones, with loss or defect of consciousness. The nurse stated positively that in one of these latter the left side alone was affected. The evidence is in favour of the truth of her statement; she noticed it carefully, for, having seen many fits affecting his right side, she was surprised to see the left side affected. This was on December 10. He had much headache.

On December 16 there was a reappearance of slight indistinctness and swelling of the edge of the left disc. On the following day he became difficult to rouse, ceased to speak, choked when fed, and showed himself generally defective, although he helped to get his clothes off when washed, and helped himself in other ways. This condition gradually deepened into complete coma, and on December 20 into death.

I am very greatly indebted to my colleague Dr. Gowers for making the following careful examination of the brain for me:—

Examination of the Brain by Dr. Gowers.—The left hemisphere contains several growths. The largest of these is situated in the upper part of the left parietal lobe, close to the median fissure. It projects from the surface, and is oval in shape, measuring two inches and a half from before back, and one inch and a half from side to side. On the inner surface of the hemisphere it is covered by the grey matter of the marginal convolution. Its deepest part is on a level with the calloso-marginal fissure. A fold of pia mater penetrates the inner surface of the tumour, and seems to be that which lies in the extremity of the calloso-marginal fissure, and on section the growth is seen to have extended on each side of this fold without invading it. The convolutions of the outer surface are displaced rather than invaded by the growth. The upper end of the fissure of Rolando is pressed forwards. The convolutions of the superior parietal lobule lie behind and outside it, and are very wide, flattened on the surface, and so softened in their interior as to resemble mere bags of fluid, the wall being formed of the grey matter. The convolutions nearest the growth lie like folds against it. The ascending parietal convolution curves round the front of the tumour, and both it, and the fissure of Rolando in front of it, are sinuous, apparently from the pressure. The intra-parietal fissure is pushed downwards, and its curve almost obliterated. The enlargement and displacement of the convolutions cause the external parieto-occipital fissure to appear much deeper and longer than it really is; an annectant gyrus bridges it not far from the median fissure, but is concealed by the prominent lips. The surface of the tumour presents a peculiar appearance, being of the colour and aspect of an ordinary fatty tumour, and on the posterior portion are many warty-looking outgrowths, some of them pyriform in shape. The pia mater is adherent to some portions of the tumour, but not inseparably. On section, the anterior part of the tumour is greyish-white, semi-opaque, pinkish in some parts; the posterior portion is loculated in aspect, harder and softer portions lying together. No capsule bounds it, but there is much adjacent softening of the white substance. In the substance of the tumour is a recent extravasation. On the outer surface of the ascending parietal convolution, a little above its centre, is a tumour the size of a small bean, attached by a narrow peduncle to the surface of the convolution, having the same aspect, tint, and consistence as the adjacent cerebral substance. A second similar tumour, rather larger and attached by a broader base, is situated farther back, above the middle of the intra-parietal fissure. On slicing the hemisphere, another tumour is found in its substance beneath the posterior extremity of the superior frontal convolution, close beneath the grey substance of which its upper portion lies. It extends downwards as far as the fibres of the corpus callosum; inwards it reaches nearly, but not quite, to the adjacent convolutions of the inner aspect. Its transverse and antero-posterior diameters are each about three-quarters of an inch. It is pink on section, firmer than the adjacent white substance in which it is placed, and with which it appears continuous. There is no adjacent softening. The structure of the last three tumours is that of gliomata. The first presents in some parts the aspect of a fibrous glioma; in others, an appearance intermediate between a glioma and an encephaloid cancer.

KING'S COLLEGE HOSPITAL.

CASE OF TETANUS FOLLOWING SLIGHT INJURY OF THE FOOT—TREATED WITH CHLORAL AND CALABAR BEAN—DEATH.

(Under the care of Dr. JOHNSON.)

For the notes of the following case we are indebted to Mr. George Batterbury, Medical Registrar.

J. L., aged twenty-eight years, gas-fitter's labourer, was admitted as an in-patient under the care of Dr. Johnson on April 22, 1875.

Previous History.—Patient states that he has always been a healthy man, but has drunk freely, principally beer. Has not had syphilis. Father died from some nervous disease after being much worried in business. Mother died soon afterwards "broken-hearted."

History of Present Attack.—Eight days ago (April 14), a blunt nail ran into the sole of the right foot about half an inch behind the great toe. It was not broken in. Next day the wound became painful and inflamed, and continued so throughout the week. Patient had no medical advice, but linseed-meal poultices were kept constantly applied during the week. On April 21 his jaws began to ache, "as if he had been cracking nuts." His jaws then became stiffened, and about the same time pain and stiffness came on in the back of the neck. He slept fairly on the night of the 21st. As the pain and stiffness of the jaw and neck were much worse on the 22nd, and the eyes also appeared to be swollen, he determined to apply for medical relief.

State on Admission.—Patient is a well-nourished man; lies on his back with his head thrown back on the pillow. Complains of pain and a feeling of stiffness in the back of the neck and in the jaws. Cannot open his mouth sufficiently to protrude his tongue, not being able to separate his teeth more than a quarter of an inch. Is perspiring profusely over the face and neck. Pulse 100; temperature 97°; tongue moist and furred; breath offensive; no thirst; bowels regular. Masseters are felt to be firmly contracted, as also the muscles at the back of the neck. Has difficulty in pronouncing words in consequence of inability to move his jaws. Heart- and lung-sounds normal. On the sole of the right foot, behind the great toe, there is a mark where the nail entered; it is painless on pressure. In front of this mark, and between the great and second toes, there is a superficial collection of pus between the epidermis and the cutis. Urine acid, specific gravity 1029; copious deposit of pink lithates; no albumen.

April 23.—Says that he is suffering more pain of the back of the neck and jaws. In the evening he was very restless, and constantly changing his position. Had an attack of opisthotonos. No spinal tenderness, except over the upper dorsal region. The wound in the foot was examined and opened up by Mr. Wood. To take a draught containing twenty grains of chloral hydrate every four hours.

24th.—Perspiring profusely over the head and neck. Unable to swallow milk. At noon he had a spasmodic attack, apparently induced by a dose of the medicine. At 3.30 p.m. he had a violent paroxysm. At 4 p.m., ten grains of chloral hydrate were hypodermically injected. Temperature 102°; pulse 100. 5 p.m.: Ten grains of chloral administered by the mouth. Had a paroxysm while taking it. There were both opisthotonos and pleurothotonos. 7 p.m.: Complains of great pain in the back every time he moves. To continue chloral, ten grains every hour by the mouth. 10 p.m.: One-third of a grain of extract of Calabar bean injected after a paroxysm in which he became nearly asphxiated. Pulse, immediately after the injection, 132. Quite unconscious. In the paroxysm all the muscles of the chest were implicated, and respiration was completely stopped for several seconds. 11.30 p.m.: Died from apnœa in a paroxysm. Temperature three minutes after death 103°.

At the post-mortem examination the whole of the spinal cord was found to be injected. A microscopical examination of the cord has not yet been made.

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Medical Times and Gazette.

SATURDAY, JUNE 19, 1875.

MEETING OF THE GENERAL MEDICAL COUNCIL.

At two o'clock on the 17th inst. the General Medical Council met in their house in Oxford-street. Their rooms are now fully finished and furnished, and certainly form a most convenient and suitable suite of apartments for all purposes of business. The hall in which the Council sit is a fine room, but its acoustic properties are not perfect, and we are glad to find that the reporters are not to be placed in the gallery which had been set apart for their use, but from which it would, we believe, have been impossible to report the debates satisfactorily. There has been only one change in the Council since their last meeting. The election of Dr. Acland to the Presidency necessitated the appointment of a new representative of the University of Oxford, and in sending up the Linacre Professor, Dr. Rolleston, that University has made a most able and worthy addition to the strength of the Council.

That gentleman having been introduced and taken his seat, the new President delivered his opening address, which we elsewhere print in full. It will be noticed that, after a graceful allusion to the loss the Council has sustained by the absence of Dr. Paget, he spoke, in terms that some will perhaps think too complimentary, of how rapidly, though silently, in the Council "the promotion of the general good superseded solicitude for particular interests, and how soon the arduous task of harmonising diversities in national sentiment, of seeking the good in every existing system, of purging the evil from every usage, however time-honoured, became the aim of every member of the Council." Some critics of the history of the Council since its first meeting will not improbably say that this represents what was to be desired more accurately than what has been; but we are content to allow that, considering the many interests, and the sometimes conflicting interests, that were represented in, and had to be considered by, the Council, that body is not undeserving of the compliment thus paid it by its new President. And it is to be remarked that he goes on to observe that the work of the Council is not nearly done, but that, on the contrary, they "have only lately made their tools, and sharpened them for their work." He spoke next of the work done by the Executive Committee during the recess. It appears that they have induced the Local Government Board to reconsider an article of the General Consolidated Order of the Poor-law Board, by which all surgeons not members of the Royal College of Surgeons of London were excluded from certain important professional duties; that they had considered the opposition offered to the enabling Bill of the Royal College of Surgeons, on the ground that it did not provide for the admission of women to the examinations; and had represented, with good effect, to the Government their opinion that the Council could not sanction or approve the idea that "a conjoint scheme, an admitted good for England, should be impossible except under a condition to which many entertain the strongest objection"; and they had also considered Mr. Cowper-Temple's Bill to compel the Council to register degrees granted to women by certain foreign universities. Their objections to this Bill were the same, and they were very obvious, that we some time ago pointed out, and their representations on the subject were considered "with courtesy and prolonged attention" by the President and Vice-President of the Privy Council, who also assured them that "no steps would be taken in respect of medical legislation except after the fullest communication with the Medical Council." The President then touched on the powers and functions of the Council, and on the various subjects which will or may have to be dealt with by them, such as the Reports of the Visitations of Examinations; the Qualifications of Medical Officers of Health; the Qualifications of Analysts; Professional Education; and the Medical Education of Women. With regard to this last subject an important letter will be laid before the Council from the Lord President of the Privy Council. His Lordship requests that the Council will take Mr. Cowper-Temple's Bill into consideration, and give him the benefit of their observations not only upon it but on the general question whether "women ought to be able to look to medical practice, or certain branches of it, as open to them equally with men as a profession and means of livelihood." It will be admitted that the President meets the Council with a very due sense of the importance and gravity of the questions they have yet to consider.

THE CERTIFICATION OF LUNATICS.

No. II.

In a previous article we commented on the errors which medical practitioners are liable to make when at intervals they are called upon to fill up certificates authorising the confinement of the insane. We pointed out that the validity of such certificates was often impaired by ambiguity of expression, by irrelevancy, by the introduction of frivolous observations, and by the use of the narrative form of writing. Numerous illustrations of errors under the first two headings were quoted from the records of pauper lunatic asylums.

In addition, however, to these blunders already referred to as resulting from misplaced information regarding the physical state of alleged lunatics, the writers of certificates manifest others of a more general nature.

Thus, one man certifies as a fact indicating a woman's insanity communicated by others his supposition that "she has been in a state of semi-insanity for some days"; another, under the same head, entertains the "hope to hear that this woman with a little attention may soon be better,"—statements which, however indicative they may be

of professional humanity and perspicuity in diagnosis and prognosis, indicate a great want of appreciation as to what observations should occupy the spaces allotted in lunacy certificates to facts indicating insanity.

In addition to mistakes resulting from an imperfect use of language and from the irrelevant disposal of well-meant observations, medical men in writing lunacy certificates lay themselves open to gentle ridicule by the introduction of insignificant items of evidence into their summing-up of facts observed by themselves and others. Under this head the most prominent feature is the numerous meaningless comments made upon the appearance of the eyes. There is no more frequent beginning to a certificate of lunacy than the phrase "a peculiar appearance of the eye," "a maniacal expression of the eye," "a fixed expression of the eye," etc.; and even when it is attempted to throw a more practical aspect over this popular characteristic, the result is seldom crowned with success. Thus it is frequently certified as "a glassy appearance of the eye," which, perhaps, is the nearest pathological approach to the

"Wild, bright, wicked diamond pair"

referred to by lyric poets. But even this expression is a very vague one, and one which might occasion disrespectful observations on people who wear spectacles or use artificial eyeballs, inasmuch as the latter, especially, could scarcely fail to yield "a glassy appearance of the eye." Still more useless as embodying evidences of insanity are those meaningless phrases like "general appearance," "impatient aspect," "general appearance of nudity" (*sic*), etc. But there is a still larger group of statements, which, though they have a certain amount of meaning, are utterly insufficient as evidences of insanity. Thus: "She refuses her medicine" is no evidence of insanity, inasmuch as there are many of the sanest of people who unfortunately "throw physic to the dogs" without the slightest compunction. Still, medical practitioners, actuated no doubt by *esprit de corps*, constantly return the refusal of medicine as a leading fact indicating lunacy. One reason, amongst others, for which a woman was sent to an asylum was "her assertion that her medicine was poison," which was by no means improbable. Another woman was incarcerated partly on the ground that "She had a great aversion to medical treatment." Of course the other evidence was amply sufficient without falling back upon this insane instance of disrespect to a learned profession. So was it also in the follow case, where it is recorded as a fact indicating insanity, observed by a medical practitioner, that "the patient had been under no doctor." Again, that "She is sixteen years old" would not be evidence of any girl's insanity, though it is found to be returned as such; but if a woman of forty were to assert that she was sixteen, the fact would be worthy of observation. Still, prudence and a knowledge of the female sex would naturally suggest the allowance of a certain amount of licence in such cases. "She is unwilling to acknowledge her relatives," is a very doubtful indication of insanity; many sane people manifest a similar reluctance. "She is very sedate," if allowed as sufficient proof of insanity, would fill the Quaker asylums. If similarly recognised, "She nods her head affirmatively sometimes," would be an evidence of insanity from which few, if any, would be free. There is something comical in a return which is made pretty frequently as a fact indicating insanity, "She rubs her chin"; "He rubs his chin and face." If this is an evidence of lunacy, it is one that has been manifested in high circles. Cicero especially is recorded as having had a constant habit of the sort.(a) "She sat in the next chair to her aunt, grinning at me," is a fact, no doubt, showing insanity, and describing a dramatic situation, in which the doctor deserves sympathy. "She says she has pain in her head when she has none" is a fact showing great professional sagacity. The patient almost deserved confinement for the great trouble it must have cost to arrive at the discovery of the latter half of the proposition. Very few people would admit that "her desiring to be dressed up" was sufficient evidence that a woman was *non compos mentis*. If allowed, the certificate would lead to the overcrowding of female departments in asylums. The doctor's domestic life is evidently unclouded who gave as an evidence of a man's insanity as observed by himself the assertion that "he thought his wife should wear trousers." Probably there are very few married men who would not undergo treatment for mental disorder if the temporary entertainment of such an idea were to be taken as distinctly insane. "He is a long time over his meals," instead of being specified by a doctor as a proof of insanity observed by himself, should be recommended as a laudable practice. That a woman "dreams a good deal" must have been rather difficult for a doctor to *observe for himself* as a characteristic of her insanity; and even if by an obscure psychological process he had observed it, many people would be disinclined to admit it as a lunatic transaction. Many able men, and notably Sir W. Hamilton, have believed that people, if asleep, are always dreaming; and such people would naturally object to a classification of lunatics which would identify them with dreamers. In the physiognomical diagnosis of insanity, medical practitioners appear also to be rather at a loss. Thus, one gives as a direct sign of insanity in a girl "her peculiar expression—her mouth in a straight line across." Many uninitiated persons, including anatomists, painters, and sculptors, hold that that direction of the mouth is not at all uncommon amongst the sane. Another disciple of Lavater adduces as evident proof of a man's insanity the observation that "the integuments of his forehead were loose and wrinkled"; and a third, amidst valid evidences of a girl's lunacy, introduced the clause, "She keeps her mouth shut," which amongst people in general would be regarded as a very rational proceeding if she had not the intention of saying anything. But of all the irrelevant and unimportant statements introduced into lunacy certificates, the most laughable are those in which the certifier introduces his own personality. Thus, for instance, "Facts indicating insanity observed by myself: I have attended her for three months." No doubt the writer aimed at enhancing the value of his certificate by showing that his opinion had not been based on mere casual examination; still, the motive, however laudable, cannot conceal the fact that the certificate reads as if the leading evidence of the patient's insanity was her having employed or approved of the employment of the certifying doctor for a period of three months. "My having known her for the last fifteen years" is the commencement of another exordium under the head of facts indicating insanity observed by the certifying doctor. Others, while doing themselves discredit by certifying that people are insane because they have undergone a more or less prolonged course of treatment under themselves, attach a clause sufficient to re-establish their professional character. Thus: "Facts indicating insanity observed by myself: My having attended her in 1857, and on carefully watching her case for a short period of three weeks, I was afraid she would become a person of weak intellect." There is something very ungallant in the certificate of the doctor who assigned as one element of insanity in a girl her great confidence in himself: "She affirms that if I think she will get better, it will be so." Was a belief in his prognosis so certain a sign of madness? The frequency of these personal commencements, and the highly ludicrous aspect which they present, justify the caution that all who write certificates of lunacy should never fail to read what they have written in connexion with the printed form

(a) "But Cicero perceiving that Herennius was hastening after him, ordered his servants to set the litter down, and putting his left hand to his chin, as it was his custom to do, he looked steadfastly upon his murderers."—"Plutarch's Lives: Life of Cicero."

which constitutes an essential part of the certificate, by throwing into the manuscript portion a precise and very emphatic meaning.

Another unfortunate form of lunacy certificate is the narrative style. With a praiseworthy intention the medical man enters into a full history of the case under consideration. In every sentence he disregards the injunctions of the Lord Chancellor. Intolerant of obstructive letterpress, he meanders at his pleasure through the mazes of a printed form till absolute necessity involves the use of an asterisk and the continuation of a long-winded story on some hitherto neglected margin of foolscap. Thus a practitioner certifies the following as facts indicating insanity observed by himself:—"That the patient came to —— to follow the business of a grocer." Only people actuated by the feelings of the high-spirited Frenchman who committed suicide on the ground that he had been "born to be a man, but died a grocer," could regard that as a proof of insanity. "That in a day or two he took dysentery." The event was unfortunate, but cannot reasonably be regarded as indicative of a grocer's insanity. "That he recovered in the beginning of October and commenced business, being still in a very weak state of health." Here, perhaps, the gradation commences. The patient manifested imprudence, which is a fault common to the insane and other people. "He appeared very anxious about business, and probably this may have been the cause of his mental disorder." In this manner the certifying surgeon establishes his own ideas as to the etiology of his patient's insanity, and completely fills the space allotted to the enumeration of facts indicating not the causation, but the existence of insanity, with totally irrelevant matter.

The examination of lunacy certificates shows, also, how much caution is required in adducing religious notions as proofs of insanity. Some medical men calmly submit as complete evidence of lunacy the existence in a patient of that state of religious dread which is regarded in certain circles as the necessary starting-point of a new and better life. Here, for example, is a copy of an entire certificate:—"Facts indicating insanity observed by myself: Religious impressions received at prayer-meetings in the Wesleyan Chapel at ——, where she lived as house-servant, with a constant dread of not being saved, and using every exertion, by singing hymns and prayer, to attain that end." The number of clergymen of all denominations who would regard that condition as a gratifying and hopeful one is by no means insignificant. It may be gratifying to such to know that the certificate was written ten years ago. "She must go to church," cannot *per se* be looked upon as evidence of a woman's insanity. "She fell down upon her knees and engaged in prayer," recalls Dr. Johnson's remarks on the similar case of his friend Christopher Smart, a poet of no small celebrity during his time—"My poor friend Smart," he said, "showed the disturbance of his mind by falling upon his knees and saying his prayers in the street, or any other unusual place. Now although, rationally speaking, it is greater madness not to pray at all than to pray as Smart did, I am afraid there are so many who do not pray that their understanding is not called in question." "She goes into people's houses, and asks them to pray with her," might have formed the text of his further remarks on the poor poet's case. "I did not," said Johnson, "think he ought to be shut up. His infirmities were not noxious to society. He insisted on people praying with him, and I'd as lief pray with Kit Smart as anyone else. Another charge was that he did not love clean linen; and I have no passion for it."(b) "She says she is a helpless sinner, and hopes Jesus will forgive her," is a state of mind which most orthodox clergymen endeavour to induce in the people under their charge; still it is returned as an indication of insanity. "She is frequently at prayer on her knees" is also a doubtful "fact" when regarded in relation to insanity; but the statement that "She devoted ten hours daily to prayer" may fairly be regarded as an indication of a woman's insanity, though certain people might even regard this practice as characteristic of the highest wisdom. "She spends much of her time in reading the Bible" is also an evidence of insanity which might be successfully controverted; and spiritualists might well dispute the confinement of a medium who was returned as insane, inasmuch as he had been "a strong believer in spirit-rapping, and was in frequent convocation with spirits." They might naturally resent the incarceration of a bright and shining light; but a superintendent would find refuge behind the further fact that "he had hallucinations of hearing, and ate or abstained according to the command of spirits."

It is a peculiar fact that the great majority of ludicrous certificates of lunacy are written about female patients. An examination of such certificates for a period of about ten years shows that for one ridiculous certificate written as proof of insanity in men, there are at least ten such relating to women. Men appear to be more direct and unmistakable in their evidences of lunacy, and seem to be much less apt in the insane condition to lead the doctor astray with irrelevant manifestations of sanity or simple eccentricity. Women, on the other hand, appear in many forms of mental disease to throw an emotional and sprightly character into their madness which in their case renders it difficult for a medical man to make a good selection of the evidences of insanity. It is notable, also, how much more in the development of their delusions men are influenced by matters of engrossing public interest than women are. Amongst the lower classes of insane patients, men manifest delusions on almost every current event of public interest. They identify themselves with leading generals in the Crimean War, draw delusions from the Franklin search, claim the personality of Tom Sayers, Muller the murderer, Spurgeon, Arthur Orton, and the advocates of cremation in a series which evolves itself in newspaper history. Women, again, tend to show delusions either of a more general form, or in relation to domestic and religious affairs.

The lessons to be learned by certifying practitioners from an extensive examination of lunacy certificates are—(1) That they should endeavour to state clearly the evidences of insanity which they have observed in patients; (2) that they should avoid the introduction of all irrelevant matter under the head of facts indicating insanity; (3) that they should abstain from recording in a lunacy certificate such trivial observations as are not direct evidences of insanity; and (4) that they should avoid as much as possible the introduction of long narratives, and guard carefully against dragging their own personality into the observations which they record regarding the insanity of others. It would be well, also, if the certifying doctor would make a point of reading his certificate carefully, and in such a manner as to connect the printed form with his manuscript additions. If the completed certificate were to be read attentively on such a plan, it would surely be impossible for medical men to certify that a man was insane because he was emotionally in love or physically constipated; or that a woman required immediate seclusion, inasmuch as she had had rheumatic fever nine years before, or because her mouth offended medical taste by lying "in a straight line across," instead of taking that oblique or vertical direction which a certifying doctor, if he were to institute inquiries, would find to be of doubtful diagnostic value, through being much more common in juvenile, mediæval, and Japanese art than in the disposition of the oral apertures of typically sane Englishwomen.

(b) Johnson makes some interesting comments on this case. "Johnson: 'It seems as if his mind had ceased to struggle with the disease, for he grows fat upon it.' Burney: 'Perhaps, sir, that may be from want of exercise.' Johnson: 'No, sir; he has partly as much exercise as he used to have, for he digs in the garden. Indeed, before his confinement he used for exercise to walk to the alehouse, but he was *carried* back again.'" —Boswell's "Life of Johnson," chapter xv.

SOME SUGGESTIONS OF HOSPITAL SUNDAY.

Apart from the pecuniary advantages which hospitals derive from the numerous collections which are now annually made on Hospital Sunday, they are indirectly benefited by the increased interest which the public is led to take in them by the eloquent appeals which are made to them by the clergy on that occasion, and the more intimate acquaintance with the working and internal administration of these institutions which they derive from their sermons. It is only just, therefore, that the authorities of hospitals and the medical profession generally should show their estimation of the disinterested exertions of the clergy in their behalf by according a special attention to any new ideas which they may bring forward, either to improve the internal details of the management of hospitals or to increase the sphere of their usefulness outside.

We are led to make these remarks by two eloquent sermons which we heard last Sunday, and which contained *inter alia* a "thought" and a "suggestion" which seem to us worthy of more permanent record and of wider circulation than they would in the ordinary course of things be likely to get. The "thought" which the preacher (the Rev. H. R. Haweis) claims as a new one is this, that one among the many functions of hospitals is, or ought to be, that of detecting flaws in our sanitary system, and, by detecting them, to point the way to their reform. To make this clearer, what is meant is that a case—*e.g.*, of typhoid fever—brought to a hospital should at once lead to an inquiry into the various conditions known to be favourable to the development of that disease in the locality whence the patient came. In the same way, a case of chronic rheumatism, or the fact of more than one existing in the same family, should lead to an investigation of the drainage, etc., of their house, with a view to more effectually drying the foundations or walls, and so removing the cause of the disease. This idea might be amplified considerably if we had the space. There is no doubt, at any rate, that it is a most valuable one, and one, we think, which has been as yet scarcely acted on at all. How much might be done to generally ameliorate the sanitary condition of the poor in London by using the clue furnished by disease, and especially chronic disease, as a guide to its remedy, it is impossible to estimate. The establishment of a system of correspondence between the medical officers of hospitals and the various medical officers of health and sanitary inspectors seems to us distinctly called for.

We must now devote a few words to the "suggestion" to which we referred above, which is briefly this,—that a special ward should be set apart in hospitals for the dying. The preacher who put it forward from the pulpit of All Saints, Margaret-street, naturally insisted on the greater privacy which patients *in horâ mortis* would enjoy in a ward by themselves than in a general ward, and on the greater opportunities for spiritual communion which such isolation would permit. These points it would be out of our province in any way to discuss, and we can only admit their force and cogency; but we think there are other arguments in favour of wards for the dying, and the most powerful of these is this: that the effect of a death on the other patients in the ward is never inconsiderable and is sometimes serious. There is not only the moral effect on those who are very ill themselves, but also a kind of physical shock which nearly everyone feels more or less in the presence of death, and which falls with much greater violence on the weakly and diseased. In addition, there is the melancholy spectacle of weeping friends, and the hurrying to and fro of doctors and nurses; and even if the usual screens are placed round the dying person's bed, there is a kind of suggestiveness in their very presence not only unpleasant to those outside, but possibly to the patient himself if he be still conscious.

Without entering further into the subject, or enlarging on facts which would probably have long ago been remedied unless familiarity had rendered them less obvious to hospital authorities, we can only say, in conclusion, that we hope every Hospital Sunday will be the means of bringing to light ideas as good as the two we have briefly noticed, and that the present ones will not fall on stony ground.

THE WEEK.

TOPICS OF THE DAY.

In reference to the re-appointment of Dr. Macleod, Inspector-General of Hospitals and Fleets, to the charge of the Hospital at Great Yarmouth for a further term of years, our contemporary the *Army and Navy Gazette* says:—"As an instance of the conscientious manner in which the First Lord of the Admiralty discharges his duty, we may call attention to the fact that as Dr. William Macleod was precluded from promotion by the action of the Order in Council of 1869, to the operation of which he, indeed, did not think himself amenable, Mr. Ward Hunt, after having duly considered the particulars of the case, saw that a meritorious individual was inadvertently being treated with injustice, and resolved that a fresh Order in Council should be procured, so that Dr. Macleod's claims for advancement should be treated solely on their own merits; and it must be a source of congratulation to him, and to the whole of the Service, that we have a statesman at the head of the profession who is capable of performing an act by which alone zeal and merit could have been properly rewarded."

A case has been before the public recently which has attracted considerable attention. At an inquest held on the body of a child who died from scalds, the mother stated that she was kept at the Great Northern Hospital for half an hour, and could not obtain any medical assistance. The child was taken to the Royal Free Hospital, where it died shortly afterwards. The following statement from the Secretary of the Great Northern Hospital has been published in the *Times* newspaper. The document is one of importance, and we quote it *in extenso*. The Secretary states that "as soon as the child was admitted a message was sent to the house-surgeon's room, and the junior resident medical officer, who was there, at once proceeded to the surgery, but on his way there stayed some minutes to attend to a patient in great suffering in one of the wards. When he reached the surgery, where he was joined by the house-surgeon—who, though for the time off duty, had not, it appeared, left the hospital,—both officers recognised that the case was, by the extent of the scald, one of such gravity that it could not be treated as an out-patient case, and as the hospital was unfortunately so full that no extra bed could be made, the officers therefore advised the mother, who had a cab in waiting, to take her child as quickly as possible to the nearest hospital—the Royal Free. The committee regret that the very limited accommodation at the Great Northern Hospital made it impossible to admit the case, and they greatly regret that a delay of even from ten to fifteen minutes occurred before the child was professionally attended to, as it is the plain duty of a resident medical officer to proceed at once to see any casualty reported to him, or, if he cannot do so, to take care that his colleague is immediately sent for. The committee have expressed to their medical officers their opinion that an error was committed by them in not more promptly and fully attending to this poor child, and they feel sure that a mistake of a like kind will not again be made. I need hardly add that the committee deeply sympathise in the distress and sorrow of Mrs. Potter, the mother of the poor child, and regret to find that there did exist some ground for the complaint she made at the inquest."

A telegram, says the *Levant Herald* of the 2nd inst., has just been received from the Sanitary Commission sent to the district of Mesopotamia, stricken with the bubonic plague. The telegram was sent on May 23 from Bagdad, whither it had been sent by special courier from Kut-el-Haurama, where the Commission then was, and states that this fearful malady has spread beyond the country of the Montefik Arabs, infecting an immense district, and destroying a large number of lives. In three localities mentioned in the dispatch, the numbers were 500, 800, and 1000 respectively. Those who were struck down with the disease generally succumbed on the second or third day after the premonitory symptoms had set in. In some districts the epidemic was disappearing, but it was breaking out in others not yet visited by the Commission.

In the House of Commons, on Wednesday evening, Mr. Coope called attention to the action of the Metropolitan Asylums Board, with reference to the proposed erection of a permanent hospital for contagious diseases near Hampstead Heath, and moved for a Select Committee to inquire into the powers of the Asylum managers to acquire and dispose of property for the purposes of the Act. Mr. Torrens proposed as an amendment that the Committee should inquire whether any new general hospital for infectious diseases is necessary. Mr. Sclater-Booth said that the Government wished to be quite neutral in the matter; and if the House desired that there should be an inquiry as to whether the managers had rightly exercised their powers, Government would not oppose the appointment of a Committee. But he observed that the House was asked to rip up the most important parts of one of the most important Acts affecting the metropolis passed in our generation; and pointed out that the clauses to which Mr. Coope had taken exception had produced the most admirable results, both with respect to the rate-payers and the poor. He also alluded to and eulogised the personal services and sacrifices of the members of the Asylums Board in the discharge of their onerous and sometimes dangerous duties. He stated that his distinct opinion is that the pleasure-seeekers on Hampstead Heath were no more prejudiced by the existence of the hospital than the pleasure-seekers in Kensington-gardens or Battersea-park; but he had inspected the third alternative site offered, and thought it in every respect very suitable, while he evidently was not at all impressed by Dr. Frankland's suggested fear that the water of the neighbouring reservoir might be infected, and carry disease, death, and desolation to Grosvenor-square. He further declared that it is a mistake to suppose that it has been determined to build a permanent hospital at Hampstead. In all probability the Homerton and Stockwell Hospital would be sufficient; at any rate, no permanent hospital can be erected at Hampstead without his sanction, and that he had no intention of giving. Mr. Talbot of course defended the Asylums Board, and deprecated the occupation of the time of the House with a comparatively local matter; but then went on to show that the matter was one affecting the welfare of the whole metropolis. In the end, it was agreed that a Select Committee should be appointed "to inquire into and report upon the conduct of the Asylums Board with regard to the establishment of a fever and small-pox hospital at Hampstead."

The Government have come to the aid of Sir John Lubbock, and the Royal College of Surgeons will obtain their enabling Bill this session. On the order of the day for resuming the adjourned debate, on going into Committee on the Bill, on Wednesday last, Mr. Stansfeld asked for some statement of the views of the Government on the right of women to study and practise medicine in this country. To which Viscount Sandon replied that that great question would not be prejudiced by Sir John Lubbock's Bill, the sole object of which was to enable the College of Surgeons to do what the Medical Act, 1858, was intended to give them power to do. As to the subject of the medical education of women, Lord Sandon added, the Government would consider it carefully during the recess, so that they might be prepared next year to express an opinion whether legislation is desirable or not.

The annual distribution of prizes at St. Mary's Hospital Medical School will take place in the board-room of the Hospital on Wednesday, June 23, at 3 p.m. Mr. Grant-Duff, M.P., will preside.

Dr. Fincham and Dr. Sturges have been appointed joint Lecturers on Medicine at the Westminster Hospital Medical School. For the Chair of Materia Medica, vacant by the resignation of Dr. Sturges, there are already several candidates. Mr. Malcolm Smith, M.B., M.C. Edin., has been appointed Demonstrator of Anatomy. In the Dental Department, Dr. Dupré, F.R.S., has been appointed Lecturer on Metallurgy; and Dr. Allchin, Teacher of Dental Anatomy and Histology. The second Dental Surgeon shortly to be appointed will probably be elected Lecturer on Dental Mechanics.

STATE MEDICINE.

The topics treated of by Surgeon-Major de Chaumont in his lecture at the Apothecaries' Hall, on Saturday, the 12th inst., were—food and beverages, the relation of food to work, and the limitation of work by State interference. The lecturer began by reminding his hearers that in the matter of food we have to contend against not only ordinary and, perhaps, unavoidable causes of unwholesomeness, such as exist in the case of air and water, but also wilful sophistication practised for the sake of gain. Besides this, as food is to the body as fuel to the steam-engine, we must have regard to its productive character as a source of force. The enactments relating to the wholesomeness or soundness of food are almost entirely directed to articles of a perishable character. Power is given to the inspectors to seize such articles if they appear to be unfit for the food of man. This condition may arise from decay, or, in the case of animal food, from the animal having been diseased. It is difficult to say how far the power should be exercised with regard to the question of decay. While "high" beef, mutton, and poultry are regarded as unwholesome, venison and grouse in a similar condition are eaten with positive relish. The Chinaman swallows bad eggs, and the Indian disputes a foul carcase with the prairie dog. The tenderness of meat, which makes it enjoyable, is a sign of incipient decomposition; hence the extent of decay to be tolerated is a question rather for experience than for strict scientific rule. The question of interference, however, becomes a different one where the animal is diseased, and, on the whole, it is fairly dealt with by the Legislature; but the existing powers require extending to include all articles of food.

The question of adulteration is one of greater difficulty, and, besides requiring more scientific knowledge, strikes at more interests. Though, doubtless, long practised, it is only in recent times that the falsification of food for gain has risen to the dignity of a fine art. The difficulties which stand in the way of the detection of adulteration are the discrepancies of opinion among experts, and the reluctance of the Legislature to grant adequate powers. Until recently there was no field for the extensive practice of the analysis of food and beverages; and it is, therefore, a matter of congratulation that so many fairly competent men have been found for the work. We may venture to warn even the "dodgiest" of the adulterators that their days are rapidly drawing to an end. The reluctance of the Legislature is shown in the fact of certain sophistications being permitted by legal enactment, and by the *onus probandi* resting on the public as far as showing that the adulteration was knowingly practised. The present law is based on the old

maxim, *caveat emptor*, in its most objectionable form. This ought to be superseded by a stringent measure whose principle is *caveat venditor*. Adulteration is as much a matter of theft as picking a pocket. If the penalties are made to fall smartly on the retail trader, he will come upon the wholesale, and so the remedy will work until it reaches the original source of the sophistication. In the matter of food analysis the name of Dr. Hassall stands prominently forward, and to him must be ascribed much of our present knowledge and the present enactments on the subject.

At the time he began his inquiries, adulteration was very general. It now seems to be confined to a few articles, though they are among the articles in most extensive use. Fortunately, to an analyst of decent acquirements no cases present any formidable difficulty except those of butter, and of alum in bread; and, even in these cases, recent observations are clearing up the difficulties, while the Society of Public Analysts is doing good work in this direction. Milk suffers by dilution with water; while as to tea, the principal sophistication is the use of leaves which have been already partially exhausted. The palate of the tea-taster is the most useful means to detect tampering. Green tea is simply ordinary tea faced with Prussian blue, or some similar colouring matter. The men who perform the operation of facing, first apply the colouring matter to their arms, which are already moist with the natural exudation, and then cause the leaves to take up the colour by rubbing them on their arms. Hence Chinaman's sweat is one ingredient of green tea! The stalks and twigs of the tea-plant are added to the leaves to increase the weight. The State can check the adulteration of tea by inspection and the destruction of worthless consignments.

The adulterations practised on coffee, cocoa, beer, wines, and spirits were then alluded to, the lecturer expressing his belief that in the case of wine, as in that of tea, the palate of the taster was, for practical purposes, the best means of judging of the quality and value.

As to the dietetic properties of food, the knowledge of the kinds of food necessary for the animal economy was merely empirical until within the memory of some now living; but the researches of Liebig, Gay-Lussac, and others have shown positively what are the chief nutrient principles required for the preservation of life and health. These principles consist of organic matter and mineral matter, the organic being divided into nitrogenous and carboniferous, and the mineral consisting chiefly of chlorides and phosphates. The chlorides are required to supply the hydrochloric acid needed for digestion, and the phosphates are needed to preserve the requisite rigidity of the skeleton. Nitrogenous food may be divided into assimilable and non-assimilable. In the former class are albumen, fibrine, caseine, gluten, and legumine. The chief non-assimilable nitrogenous substances are gelatine and the juice of meat. Substances of this class must be looked upon as stimulants rather than nutriments, and they are ranked as non-assimilable because of themselves they are incapable of supporting life. The carboniferous matters may be divided into fats and carbo-hydrates, the latter including starch and sugar. The fats and the carbo-hydrates may take each other's place to a certain extent, but they cannot do so entirely. No single nutritive principle can support life beyond a very short period; but one nitrogenous and one carboniferous principle will serve for a long time, though eventually the addition of mineral salts would become necessary. The only substance which, unsupplemented, can support life properly is milk; and of other substances that which most nearly approaches the same quality is bread. As to stimulants or neurines, alcohol can be dispensed with by many persons, though it is useful in moderation. It ought to be considerably diluted, and not more than from one to two ounces of absolute alcohol should be drunk during the twenty-four hours. The fullest meal or the end of the day is the best occasion for its consumption. But little is known of the action of tobacco; but this article appears to afford so much enjoyment to some persons that it ought not to be condemned upon such evidence as has been hitherto adduced. The action of tea, coffee, and cocoa is admittedly good, but much dyspepsia is caused by the too free use of tea.

Up to a quite recent date there was an absence of any satisfactory theory as to the relation of food to work, and it was supposed that bodily force was due to a chemical change in the muscles themselves, and that the nitrogenous matter in food repaired the waste. But the researches of Joule, Playfair, Frankland, and others on the conservation of energy have led to the conclusion that active force is produced chiefly by the potential energy stored up in the carboniferous food, and set free by oxidisation. Hence it was seen that to credit the chemical changes in the muscles with the origination of force in the body, was not more philosophical than to credit the force exerted by a steam-engine to the wearing away of its wheels and pistons.

The lecturer then proceeded through a large number of elaborate calculations, based upon actual observation, for the purpose of showing the ordinary amount of productive work of which a man of average height is capable, and its equivalent in foot-tons—a foot-ton representing the amount of force required to raise one ton one foot high. It appears that the work done in walking three miles an hour is equal to about one-tenth the work done by direct ascent. Three hundred foot-tons a day is a fair day's work for a man of average height. This would be equivalent to walking fifteen miles in a little over five hours. A hard day's work would be equivalent to walking twenty-four miles in eight hours. Dr. Parkes mentions an extreme case in which a man in a copper-mill did as much as 723 foot-tons in a day, his average work being 443 foot-tons. The ordinary work of a military prisoner is 310 foot-tons. The velocity at which work is done, and the consequent resistance, greatly affect the quantity of potential energy required for its accomplishment. For the production of any amount of what may be termed productive work, a much larger amount of potential energy has to be expended. Professor Haughton, of Dublin, has calculated that of the total potential energy produced in the body, 260 foot-tons are required for the action of the heart. Then the animal heat absorbs from 2000 to 2500 foot-tons or more. According to Helmholtz, about five times as much energy is used in the internal work of the body as is expended in ordinary productive work. In the case of severe work, the proportion of internal work to productive work is still greater. Supposing the work performed by a man to consist of walking, the most economical rate, both as regards the amount of food required to sustain it, and the amount of potential energy expended on the body itself, is about three miles an hour. Both above and below that speed there is a decrease in the amount of active work as compared with the non-productive energy. A man walking fifteen or sixteen miles a day, or doing an equivalent amount of work in another form, would require 23 oz. of food, composed of albuminates 4·6 oz., fat 3 oz., starch 14·3 oz., and salts 1·1. This would yield a potential energy of 4430 foot-tons, and allow 300 foot-tons for productive work. A mere subsistence diet for a man at rest would be 15 oz., but with this amount a man would lose weight. About 7000 foot-tons a day of potential energy is about the greatest amount which is possible as a permanency. This would yield 600 foot-tons of productive work. These calculations apply only to men in health. In the case of children, a much smaller proportion of work ought to be demanded of them, even allowing for the difference between the weight of a child and that of an adult. A similar limitation ought to be placed on the work of women. A woman must be looked upon, in certain respects, as an arrested male, and, generally speaking, must be regarded as

equivalent in strength to a boy of sixteen or seventeen. Her work, therefore, ought to be proportioned according to that consideration. State interference ought to take place for the protection of those who are unable to protect themselves; but even employers of labour are beginning to find out that it is a true economy to give proper opportunities for rest and recreation.

TESTIMONIAL TO DR. A. P. STEWART.

On the evening of Tuesday, the 15th, a considerable number of members of the Metropolitan Counties Branch, and some provincial members, of the British Medical Association met at the house of Mr. Curling, the President of the Branch, to assist at the presentation of a testimonial to Dr. Stewart, on his retirement from the hon. secretaryship. The *raison d'être* of the testimonial, the shape it has taken, and the feelings towards Dr. Stewart which actuated those who have presented it, are so well described in Mr. Curling's admirable little address to him that we gladly give it almost in full. After stating that the pleasing task of presenting the testimonial devolved upon him as President of the Branch, he went on to say—"The testimonial, though originating, on your retirement from the office of honorary secretary to the Branch, in a wish to acknowledge your exertions in establishing and promoting the interests of the Branch, and your arduous untiring labours which contributed so greatly to the success of the annual gathering of the Association in London in 1873, as well as the courtesy and kindness manifested by you in all your relations with the members of the Association, has, let me add, a wider significance. We desire to evince our sense of the public spirit which led you, at the cost of valuable time, and at the sacrifice of private interests, to suggest and promote measures calculated to advance sanitary reform and to raise the position of the medical officers in the Public Services; and still further to mark our high appreciation of the additions you have made to medical knowledge, particularly in the important distinction of fevers. It will be very gratifying to you to know that the appeal which elicited the testimonial has been responded to with a unanimity and cordiality beyond the sanguine expectations of its promoters. A large number of the members of the Association in the provinces as well as in London, and some gentlemen not belonging to our profession, have spontaneously and heartily joined in this tribute of their esteem and goodwill. The subscribers, though deferring entirely to your views in the application of the sum collected, were desirous that the whole amount should be appropriated to a personal testimonial; but whilst, agreeably to our wishes, you have consented to receive some useful personal gifts, with a noble self-denial, in accordance with all the acts of your public life, you have devoted the bulk of the fund to founding a grant, which we propose to call the 'Stewart Grant,' for the purpose of encouraging researches into the origin, spread, and prevention of epidemic diseases—a subject which you have helped so greatly to enlighten, and with which hereafter your name will be indissolubly connected." Dr. Stewart, in a few well-worded phrases, expressed with much feeling his sense of, and gratitude, for the honour done him and the affectionate consideration shown for his services, and then spoke of some of the work which he thought might most usefully be undertaken by the Association, alluding especially to the advancement of measures for the cure and reformation of habitual drunkards. The sum collected, and very easily collected, for the testimonial, amounts, we believe, to some £500; and of this at least £400 is to be devoted to the purpose of founding the "Stewart Grant." The personal testimonial which Dr. Stewart has with difficulty been persuaded to accept, consisted of a handsome silver tea and coffee service, and very elegant breakfast and dinner services. All who know Dr. Stewart will rejoice in this recognition of his services and character, and will cordially join in the hope expressed by Mr. Curling that he "may long enjoy the relaxation from public toils which he has so richly earned, and that most cheering and gratifying of all human rewards—the sense of a life spent in doing good to his fellow-creatures."

THE CONVERSAZIONE AT THE ROYAL COLLEGE OF PHYSICIANS.

On the evening of Tuesday last the Fellows of the Royal College of Physicians gave their annual *conversazione* at their College in Pall-mall, when a large number of the most eminent members of the medical profession in London and several distinguished physicians and surgeons from the provinces attended to pay their respects to the President. There were also present, among the visitors, the Duke of Wellington, Bishop Claughton, Sir Edward Ryan, the Rev. Dr. Coghlan, Captain Boyton, and other men of distinction. As usual, there was a large display of objects of interest in the various rooms—as the spectrum of the metal indium; a large automatic spectroscope; a gold nugget from Ashantee; the Colorado or potato-beetle, and other allied beetles; busts of Sir Roderick Murchison and Professor Sedgwick; paintings, etc.; and Captain Boyton most obligingly responded to the interest taken in the C. S. Merriman life-saving dress and apparatus. One of the most interesting works of art shown was Mr. Weekes' model of a statue of Harvey, one of the statues it is intended to place under the portico of the College. It was very generally, and we think deservedly, admired. The likeness and the attitude are, altogether, excellent; but we would venture to object to the treatment of the left hand,—it is posed over the cardiac region, as though feeling for the beating of the heart, we imagine; but the hand is made to *clutch* at the breast, and conveys, it seemed to us, a sense of agony or spasm. Harvey, who stands in a meditative attitude, holds a human heart in his right hand; and it was objected, by a highly distinguished anatomist and physiologist, that the heart ought not to be entire, as it is in the statue, but laid open so as to exhibit the valves—thus marking that Harvey's special interest in the organ was the valvular arrangement, by which the course of the blood through it is directed. To this, however, it may be replied that the statue will be placed above the line of sight, and that minute details will therefore not be visible. If Mr. Weekes' statues of Linacre and Sydenham are as good as this one of Harvey, both the artist and the College may well be congratulated on the results of his labours. The *conversazione* of the College is always highly interesting and enjoyable; but we trust to be pardoned if we venture to remark that the refreshments provided by the Fellows for their guests were not on this occasion so excellent as has been customary. The Royal College of Physicians used to be pleasantly famous for the liberality and high standard of excellence of their arrangements in this respect, and it seems rather to be regretted that at entertainments given by such a distinguished body any falling-off from superiority should be observed on even such a point as this.

THE PLAGUE IN THE EAST.

Last year we commented on an outbreak of plague in the neighbourhood of Bagdad, and at the present time we regret to have to report an extensive spread of this disease on the Lower Euphrates. On the present occasion it has become prevalent over a district occupied by extensive marshes, in the midst of which numerous Arab families live, occupying reed huts, and living by the cultivation of rice, communication between the different settlements being maintained by boats. In former outbreaks of plague in Northern Africa and Western Arabia the population have always been suffering considerably from famine. In the beginning of last year, heavy rains flooded the valleys, and converted the ordinary camping-grounds of the tribes into dismal swamps. The excessive moisture acting upon the inhabitants, already dreadfully reduced by famine, combined to develope this disease, and from

that time it may be said never to have entirely disappeared. At this date, however, there has been no mention of want amongst the Arab tribes attacked, and its increase must be attributed to the want of sanitary precautions so conspicuous amongst these nomadic tribes. A report on the outbreak of plague in North Africa has been recently published by the Sanitary Administration of the Ottoman Empire, on data furnished by Dr. L. Arnaud, who visited the infected district for the purpose of making inquiries and suggesting means for its suppression. By this report it appears that isolated cases of the disease had occurred in the district several months before, but in April of last year it spread from encampment to encampment in the district by communication, and appeared in the small town of Merdj and the monastery of Kefanta. Eleven tribes and localities were affected, having a total population of 731, of whom 533 were attacked and 208 died. The *Times* calls attention to the fact that seven outbreaks of plague have occurred since the seeming cessation of the disease in the Levant in 1844—namely, one in Eastern Arabia in 1853, one in Benghazi in 1858, one on the Lower Euphrates in 1867, one in Persian Kurdistan in 1870, and three during the year 1874 on the Lower Euphrates, in Western Arabia, and in Benghazi.

PAUPER NURSES.

Dr. Dudfield, Medical Officer of the Kensington Workhouse, has brought before the Guardians of the St. George's, Hanover-square, Union a difficulty which in the sick-wards of pauper establishments is too often a source of considerable trouble and annoyance to the medical attendant. He complained of the difficulty he had in managing the pauper helps, and the want of proper assistance in the infirmary. The question had been before the Visiting Committee frequently, but no solution had been found, or the difficulty solved only temporarily by a few able-bodied women being sent there, they having the liberty to take their discharge at any moment—a liberty they availed themselves of regardless of the wants of the infirmary—the probable cause of which, he thought, was the absence of any remuneration for their services. He submitted that there were in the present state of pauperism in the Union only two ways by which the wants of the infirmary could be supplied—either by increasing the staff of paid nurses, or selecting out of the able-bodied paupers a number of respectable women and paying them a small salary, with a uniform, to induce them to stay. The matter was referred to the Visiting Committee, who, we hope, will at length make such regulations as will provide an efficient staff of nurses, on a footing likely to meet permanently the present difficulties and deficiencies.

DR. STOKES, OF DUBLIN.

The decoration of the Prussian Order "Pour le Mérite" has just been conferred on the distinguished Regius Professor of Physic in the University of Dublin. Last Friday week Dr. Stokes received a congratulatory letter from Count Münster, the German Ambassador at the Court of St. James's, announcing that the Emperor and King had been graciously pleased to confer upon him this high honour. The Ambassador's letter was accompanied by a diploma from the Emperor of Germany, and by the decoration of the Order. The Order "Pour le Mérite" was originally founded by Frederick the Great of Prussia, and was granted only for military services in the field. In 1842, however, King Frederick William IV. made the Order a civil one, and granted it for proficiency in science and art. The Knights are sixty in number, thirty of them being Germans, and thirty foreigners. Professor L. von Ranke is Chancellor, and Professor H. W. Dove, the celebrated meteorologist, is Vice-Chancellor of the Order. Amongst the Knights are the following Englishmen:—Professor Owen, Sir H. Rawlinson, Professor Airey, Sir Edward Sabine, Professor Darwin, Sir Charles Wheatstone, and Thomas Carlyle. The Irish Knights are—The Rev. T. Romney Robinson, D.D., of Armagh Observatory; the Rev. Humphrey Lloyd, D.D., Provost of Trinity College, Dublin; and Dr. Stokes. The "Auslandische Ritter" nominated in 1875 are—Theodor Schwann, "Professor an der Universitat zu Luttich"; George Bancroft, "Historiker zu Washington"; Henry Longfellow, "Dichter in Amerika"; and William Stokes, "Professor an der Universitat zu Dublin."

THE HOSPITAL SUNDAY COLLECTION.

The various amounts collected last Sunday for the Hospital Fund are beginning to be paid in at the Mansion House: so far it would seem that, although not in excess, they are about on an average of the collections of the past two years. The following were some of the principal sums received:—St. Paul's Cathedral, £152 6s. 8d.; Quebec Chapel, £318 11s. 8d.; the Church of the Annunciation, Chislehurst, £250; St. Michael's, Chester-square, £264 16s. 6d.; St. Andrew's, Wells-street, £180 13s.; St. Thomas's, Stamford-hill, £133 2s. 8d.; Christ Church, Highbury, £100 4s. 8d.; the Corporation of London, £105; St. Bartholomew's, Sydenham, £74 2s. 2d.; St. Luke's, West Holloway, £66 5s. 2d.; St. Matthew's, Denmark-hill, £73 6s. 6d.; Holy Trinity, Kilburn, £55 12s. 6d.; Christ Church, Gipsy-hill, £50 6s. 4d.; St. James's, Camberwell, £52 12s.; Westminster Abbey, £400; from Messrs. Moody and Sankey, collected at their services at Camberwell, £182 2s. 6d.; St. James's, Westmoreland-street, Marylebone, £132 16s. 8d.; Trinity Church, Marylebone, £145 6s. 10d. Regent-square Presbyterian Church, £110; Union Chapel Islington, £96 2s. 5d. Up to last Wednesday afternoon the total sum received at the Mansion House amounted to about £5000.

THE HOSPITAL SATURDAY MOVEMENT.

The promoters of the Hospital Saturday movement held a meeting at the committee-rooms of the Fund, 28, Leicester-square, on Saturday evening last, to arrange the preliminaries for this year's collection, which has been fixed to take place on July 31 next. From the particulars communicated to the meeting it appears that 2400 collection-boxes have already been issued to various taverns and coffee-houses, whilst 5000 collection-sheets and books have been distributed. Permission has also been obtained to place collection-boxes at the stations of the Metropolitan and Metropolitan District Railways, and these, it is stated, are to remain all the year round. On July 31, tables are again to be placed in the streets for the purpose of inducing passers-by to contribute. The proceeds of this movement are to be distributed, if possible, by August 31, and the plan to be adopted in making the various awards is to be similar to that of the last year. As the Hospital Saturday movement is therefore to be continued, it is to be hoped that the promoters will take a lesson from the management of the Hospital Sunday Fund, and show a proper spirit of economy in the expenses attendant upon the collection and distribution of whatever sum they may realise by their exertions.

ACCIDENT TO DR. HELSHAM.

It is with regret we have to announce that an accident of a serious character has occurred to Dr. Helsham. On returning in his carriage, on Tuesday, from the funeral, at Norwood, of the late Mr. John Mercer, a surgeon, of Effra-road, Brixton, the horses became frightened and unmanageable, and ran against a wall. Dr. Helsham jumped out, and unfortunately in doing so fractured his skull and broke his wrist, and sustained other injuries. He was conveyed to St. Thomas's Hospital, it is stated, in a dangerous condition. One of the horses was killed on the spot, and the other broke his leg, and had to be destroyed. The coachman escaped uninjured.

FROM ABROAD.

Opium-Poisoning.

Dr. Andrew Smith, in a paper read at one of the New York medical societies (*Record*, May 1), observed that the symptoms are generally so well marked that there is but little room for error. One of the most constant and most valuable of these is contraction of the pupil. This is usually symmetrical, and in this respect differs from that induced by irritation of the membranes of the brain, in which case the pupil seldom contracts equally. As, however, in some cases of opium-poisoning it also contracts unequally, this symptom must not be accepted as diagnostic unless confirmed by other symptoms. In the last stage, too, the pupils usually become widely dilated. The respirations usually diminish in frequency, and it is this symptom that has been insisted upon as a criterion of danger in the administration of opium, especially in peritonitis. Prof. Alonzo Clark has established a rule, now generally observed, that opium may be continued until the respirations are brought down to twelve in the minute, unless the symptoms have yielded before this point has been reached. It is, however, very important to bear in mind that the most dangerous narcotism may be present while respiration is going on at or near the normal rate; so that the contraction of the pupil and the general condition of the patient should put us on our guard, even when the respiration is only slightly affected. The changes in the pulse are more slow in appearing than those of the respiration.

The diagnosis from apoplexy may be difficult when the patient is comatose and no history can be obtained; but in a large proportion of cases the two conditions may be distinguished as follows: In apoplexy the pupils are rarely contracted equally, which they almost always are in opium-poisoning. In apoplexy the patient cannot be aroused, but reflex movements may usually be induced; while in opium-poisoning the patient can generally be aroused for a moment; but reflex movements cannot ordinarily be induced. If the patient be carefully watched, any movements that occur will be found to be restricted to one side of the body in apoplexy, and when these are not present a condition of relaxation affecting one side can generally be easily recognised. In apoplexy there is stertorous breathing, and pulsation in the carotids can be seen. In drunkenness the pupils are not contracted, and on arousing the subject of it he babbles incoherently, while in opium-poisoning he at once lapses into sleep again.

Prognosis is highly favourable under proper treatment, and while any signs of life remain efforts should not be relaxed. Dr. Smith has rescued a patient in whom the respirations were as slow as one in two minutes, and persons have been restored after taking five, six, and eight ounces of laudanum. As emetics, mustard, alum, sulphate of zinc or copper may be used, antimony being improper, and ipecacuanha too slow. Where much nausea exists, sudden pressure on the epigastrium may induce vomiting. When the narcotism is extreme, emetics may fail, and then the stomach-pump should be used, or, in absence of this, some indiarubber tubing can be employed as a syphon. When a battery is at hand, electricity is by far the most serviceable means of arousing a patient. The faradic current, and perhaps very powerful, may be applied to all parts of the body—the weakest current being used that will provoke muscular contraction. Of the means of restoring respiration, artificial respiration and electricity are the most important. The latter may be applied over the phrenic nerves, an inspiration induced, and this repeated fifteen or sixteen times in a minute. The negative pole always excites a stronger action than the positive, and metallic electrodes are much more efficient than sponges. By this agent some desperate cases have been saved when all other means have failed. It must be borne in mind, however, that muscular contraction can be exhausted by a too free application of the battery, and such exhaustion must not be mistaken for symptoms of increasing narcotism. Oxygen is a very efficient agent, respiration, when it is very slow, being kept up artificially while the gas is administered, in order to get a sufficient amount into the lungs to act upon the blood. It stimulates the capillary circulation, and thereby aids in relieving the right side of the heart. There is no chemical antidote for opium, nor is there any complete physiological antidote, but we have two agents, coffee and belladonna, that may be used with great benefit. As to the mode of using belladonna, valuable information is to be found in Dr. Mary Putnam's paper in the *New York Medical Record* of 1873. We must in the use of atropia be guided by the amount of narcotism present, giving it in tentative doses until the pupils begin to dilate. It is commonly used hypodermically in doses of one-thirtieth to one-fortieth of a grain. Danger has not passed away in opium-poisoning when consciousness has been restored, there being liability to relapse until reaction is fully established, and the circulation has been restored to something near its normal volume and steadiness. And even then there is ulterior danger from consecutive pneumonia.

The Price of an Amputated Limb.

The *Lyon Médical* gives an account of probably a unique attempt to make money of an amputated limb. A gentleman, seventy-seven years of age, underwent an amputation of the leg, which was entirely successful. It seems that he had desired his gardener to bury the entire limb, but one of the three surgeons who were present at the operation wishing to dissect the foot, cut it off and carried it away in a newspaper. Nothing was said about this at the time, but some months after, when another of the three demanded payment of his services, the patient protested against the mutilation his limb had undergone, precluding him the satisfaction of having one foot in the grave, and required as a compensation that the claimant as *particeps criminis* should reduce his demand from 720 to 500 francs, the third surgeon having reduced his claim by 100 francs in order to avoid unpleasant disputes. This proposal being declined, the case was taken before the tribunal, which decided that the full amount must be paid without abatement, and stigmatised the conduct of the defendant in not raising the question of the value of his limb until payment was asked for services rendered.

Rupture of the Urethra.

At a recent meeting of the Société de Chirurgie (*Gaz. Hebd.*, June 4), M. Notta put the following question for discussion: "What conduct should the surgeon pursue in cases of violent contusion of the perineum with rupture of the urethra without external wound, but complicated with retention of urine?" When we consult the classical authors we find ourselves greatly embarrassed, for while some of them advise supra-pubic puncture, others practise incisions in the perineum, and others, again, recommend antiphlogistics first being had recourse to. In presence of such divergencies, M. Notta relates three cases that have terminated successfully, and which he believes are of interest. In the first the patient had received violent kicks in the perineum, and at the end of thirty-six hours urinary infiltration had spread into the scrotum. Free egress was given to this by a large incision, and three days after a catheter was passed and left in (*sonde à demeure*). Fifty days after, the man was discharged cured. In the second case, contusion of the perineum was produced by the fall of an enormous stone, and four hours afterwards the perineum was found distended, and a catheter could not be passed. The urine was at once discharged by a button-hole operation in order to prevent infiltration, but the patient was lost sight of during three weeks, no catheter having been passed during that period. He was now menaced with retention by the cicatrisation of the perineal wound, and a laborious dissection of indurated tissues became necessary to find the two ends of the ruptured urethra and pass a *sonde à demeure*. After several months of treatment, and the performance of internal urethrotomy, the patient was cured. In the third case, a mason fell astride a joist and exhibited the signs of rupture of the urethra, the distended bladder rising up to the umbilicus. A perineal incision gave issue to the urine, and a week after a *sonde à demeure* was introduced, and in five weeks after the accident the patient was cured, passing his urine freely by the urethra.

Thus, in these three cases, as soon as catheterism was found to be impossible, a large perineal incision was practised in the perineum. Supra-pubic puncture was not resorted to, for a great number of cases that have been published show that this has not prevented the formation of abscess in the perineum, which has compelled the surgeon to resort to the perineal incision, with which he had better have commenced. After from three to eight days the wound becomes sufficiently cleansed to allow of the *sonde à demeure* being passed for the purpose of re-establishing the integrity of the canal,—the

introduction of this being much facilitated by employing a long flexible whalebone bougie as a conductor. M. Notta always employs vulcanised caoutchouc catheters, which, being little acted upon by the urine, can remain a long time in the bladder without being changed. The incision into the perineum often requires to be very deep, in consequence of the great tumefaction that has taken place, and M. Notta has had to plunge his bistoury to a depth of ten centimetres.

M. Guyon observed that he had often met with these cases, and pursues a practice very like that recommended by M. Notta. It is dangerous to endeavour to penetrate into the bladder by the urethra, for the lacerations may be increased and considerable hæmorrhage produced. Sometimes, indeed, the bulb has been torn. We must, therefore, act through the perineum, and a true external urethrotomy has to be performed without a conductor. Immediately afterwards a bougie is passed in at the posterior end, and is then carried from behind forwards into the urethra, serving as a conductor for the *sonde à demeure*, the compression of which assists in arresting hæmorrhage. Just as performing external urethrotomy without a conductor is a difficult procedure in a degenerated and fistulous perineum, so it is a simple operation after recent injury. M. Sée has recently met with two cases in children who fell astride bars of wood. In both there was effusion of blood and urine, and retention. In one case a catheter was introduced, and large incisions of the perineum were practised, and all bad symptoms at once disappeared. In the second case, in which the effusion was great, a catheter was also passed, but, slipping out, could not be replaced, and incisions were not practised until a few hours before death. M. Giraldès related the case of a boy who had crushed his perineum by a fall on a carriage-wheel. There being complete retention, the bladder was punctured above the pubes, and a litre of bloody urine having been evacuated, a *sonde à demeure* was passed through the same aperture into the urethra from behind forwards, and thence into the perineal wound which had accompanied the injury. The patient did well. M. Le Fort believes that a distinction should be made in these cases. Sometimes the contusion is accompanied by a considerable effusion of blood and urine, while at others there is but a slight effusion of blood, and yet the patient cannot pass urine. In the first of these cases, incision should at once be performed, for, if this be delayed, diffused phlegmon will be set up, for which it will have to be resorted to. In the slighter cases the bladder may be punctured, and, some days after, a catheter may be passed. M. Notta observed that in the slighter cases spoken of by M. Le Fort there is no rupture of the canal, the retention being then dependent on the compression caused by the effused blood. In such cases puncture may be used as a means for gaining time. M. Guyon observed that when there is very great tumefaction of the perineum, rupture of the urethra is present. In the other cases the catheter is passed with difficulty, but it can be made to enter.

Monument to Morgagni.—This monument, the expenses for which, it is said, were provided not by public subscription, but from the savings of an enthusiastic admirer—Camillo Versari, Professor of Pathology at Bologna,—was inaugurated with great pomp at Forli on the 27th ult. A grand procession passed through the town, in which deputies from the various Italian universities and learned societies took part, the only drawback, it is stated, having been the intolerable length of the addresses.

Health of Birmingham.—Dr. Hill, Medical Officer of Health for the Borough of Birmingham, in his annual report for 1874 shows that the death-rate was 2·45 per 1000 higher than the average of the nine years 1865-73 inclusive. To the seven zymotic diseases were attributed the deaths of 2652 persons—a considerable increase on the previous year. The total deaths registered in the borough during the year were 9665—4933 males, and 4672 females,—equal to an annual death-rate of 26·78 per 1000. In 1873 the number was 8990, giving a rate of 24·81 per 1000. Dr. Hill observes that "vaccination still fails to reach a large proportion of the population, as is proved by the fact that 10·45 per cent. of the cases which occurred during the year were found to be unvaccinated. It is remarkable that this proportion is nearly the same, whether taken for the year 1874 or for the whole period since November, 1871, as during the latter term the percentage is 10·5." During the year 637 fatal cases occurred from small-pox.

GENERAL CORRESPONDENCE.

MEDICAL RELIEF TO THE POOR (SCOTLAND).

Letter from Dr. J. Rogers.

[To the Editor of the Medical Times and Gazette.]

Sir,—Would you allow me through your columns to inform medical gentlemen holding office under the several parochial boards in Scotland that I propose to read a paper at the British Medical Association at Edinburgh, in August, on the anomalies and deficiences of the existing system of medical relief to the poor of Scotland, and to make suggestions for the amendment of the same. Although I have in the annual reports of the Board of Supervision, and the reports of the Select Committee on Poor Relief (Scotland), 1871-71, ample materials on which to found a case, yet I should be obliged if any poor-law medical officers in Scotland would furnish me with any facts showing the hardships inflicted on the sick poor or on themselves by the present system.

As a matter of course, all such communications would be treated as strictly confidential.

I am, &c., Josh. Rogers,
Formerly President of the Poor-law Medical Officers' Association, England.

33, Dean-street, Soho, London, June 14.

REPORTS OF SOCIETIES.

OBSTETRICAL SOCIETY OF LONDON.

Wednesday, June 2.

W. O. Priestley, M.D., F.R.C.P., President, in the Chair.

The Relation of Puerperal Fever to the Infective Diseases and to Pyæmia.

Dr. Savage: I was quite prepared to commence the discussion this evening; but as I hear with great satisfaction that we are favoured with the presence of Dr. Farre, I should much prefer to listen to any observations that he may make.

Dr. Farre: I am very sorry if I have disturbed the order of the discussion, but I rise in obedience to the invitation conveyed to me by you, sir, and, as I understand, by the Society at large, to take part in the discussion. As an honorary Fellow of this Society, I thank you for the compliment you have thus paid me. It has occurred to me to think what are the principal objects which the Fellows of this Society had in view in promoting this discussion. Hardly, I should think, to elicit anything very new from any of the speakers; but the purpose probably was, that we should compare our observations, that we should as it were take stock of our knowledge, and incite each other to further inquiry and investigation; and with this idea, I have come to-night to take what little part I may in this discussion. In speaking of taking stock of our knowledge, I have it in my mind that we should not only compare our observations together as men of the present day, but that we should also take into account the labours of men who have long preceded us. I have no doubt that the Fellows of the Society have in their recollection those excellent works of such men as Denman, Lees, Hull, and various other workers at the end of the last century, who gave their attention to this subject. I have no doubt that a great deal of information might be evoked from a re-perusal of the works of those men. Actuated by this idea, and looking into some of these works, I have been much struck by the observations of Dr. Kirtland upon this subject in his most interesting essay, which I have no doubt is well known to the Fellows of this Society, on "Child-bed Fever." Dr. Kirtland commences his essay by inquiring, What is properly puerperal fever? and here he seems to open up the very subject we have met to discuss to-night. It is interesting to observe how a man more than a century ago took in all the points which we have now met to discuss, or most of them, and valued much in the same way as we now value these very same questions. He begins, for example, by admitting that every disease happening to a woman in childbed, connected with the act of parturition, may perhaps be properly termed puerperal fever, though some writers use this by way of eminence to distinguish that form which they think most dangerous from milk and other forms of fever connected with child-

bearing. Having admitted this, he proceeds to offer the following objections. He says, if by using the term puerperal fever these writers had chosen to fix upon any particular form, it might have answered a good purpose; but he does not see what good will arise from combining together such diseases as may happen to a woman in childbearing, as inflammation of the uterus, or putrefaction of clots within the uterus, producing fever, or a fever engendered from without by the admission of atmospheric poisons. Then he adduces several such instances as the proposer of this question has adduced. He mentions the case of small-pox occurring to a woman in childbed, hospital fever, and the like; and then he discusses the propriety of considering these as puerperal fever at all. He points out very accurately that, when we give a specific name to a disease, the name ought rather to indicate the disease than the condition of the individual in whom it occurs. Then he makes another very excellent observation, which I think we should all keep in view—namely, that when we speak of fever we are not speaking of a disease, but of a sign, or a set of signs, indicative of a mischief going on within. He then sums up by saying, "In short, the writers in the present day seem to include under this name of puerperal fever a thousand disorders." Now that, I think, is as nearly as possible in accordance with the views of the Fellow of this Society who has brought the matter under our consideration to-night. He objects to the term "puerperal fever," and thinks that we ought to distinguish the different diseases which have been classed together under this title. I suppose he had in mind some such idea as that which actuated Lord Bacon, in reminding us that we are all too much in the habit of neglecting things, and worshipping specious names. I suppose that, in the use of the term puerperal fever, we have for a long time been worshipping a specious name, and not considering sufficiently the thing which that name indicates. Having asked your attention to the works of this author, and shown how far his idea seemed to be in a measure coincident with those which are now under discussion, I would proceed to refer to a few of the circumstances connected with the definition of puerperal fever, which has appeared in the work known as the "Nomenclature of Diseases," emanating from the College of Physicians. I should not have done this if the author of these questions had not done me the honour to mention my name in connexion with the part which I took in the Nomenclature Committee of the College of Physicians in respect to this matter, as one whose business it was mainly to suggest to that Committee the various definitions that should be accepted in regard to those subjects that come particularly under my department. I think some little misapprehension must have arisen as to the objects of the Committee in framing that definition and offering it for the consideration of the profession. In order to make this clear, perhaps you will allow me to call attention to one or two observations that are made in the introduction to this work. Few men, I believe, read the preface to a book, and it may be that many of the Fellows of this Society have not read the few observations that precede the catalogue of diseases known as the Nomenclature of the College of Physicians. They begin by saying, "The object of this nomenclature is to aid in perfecting the statistical registration of diseases, with a view to the discovery of statistical truths concerning their history, nature, and phenomena." Beyond this they do not profess to proceed. They then call attention to this fact, that whilst, generally speaking, the name of a disease only is given—as small-pox, for instance, which requires no explanation,—there must naturally occur some that would seem to require explanation; and to those they have added a definition. But then they distinctly say that those diseases only have been defined which seem to require it; and the definitions have been framed for the purpose of identification only, not as explanations of the phenomena of disease. So that, when a definition is offered, it is offered under these circumstances; and there is no attempt at dogmatic teaching, or entering upon any other considerations than those which would enable practitioners, whose business it was to register diseases under their respective titles, to identify the disease that was intended. I think it is as well to keep this in view with reference to the observations made upon this subject by the proposer of these questions. Now, I would like for a minute to draw attention to this definition of puerperal fever here offered. It is defined to be "a continuous fever communicable by contagion." I ask your attention for a moment to the word "communicable," for there was a good deal of discussion upon it. It is simply meant to convey the idea that the disease may be communicated, or is capable of being communicated, but that it does not necessarily arise in that way—that it may have a more spontaneous origin. "A continued fever communicable by contagion, occurring in connexion with childbirth, and often associated with extensive local lesions, especially of the uterine system." That word "often" was also made the subject of comment; and I wish to observe, in connexion with what has gone before, that the object of introducing that word was simply to call the attention of those who would have to register disease to the frequency with which these complications arise; there was no intention of entering upon any doctrinal question, or expressing any views as to the precise nature of the disease under consideration. Then there is added a note in which those who register diseases are requested to return under the name "puerperal fever" the more important local lesions, such as peritonitis, effusions into serous and synovial cavities, and the like. That is done for the same purpose, so that nothing might escape observation, and that every circumstance connected with the disease should be carefully recorded, for the purpose of collecting facts. I will now allude to the place which this term puerperal fever occupies, because I observe that it has excited much attention. It is not placed among the fevers at all; it is placed among the general diseases, but it is placed far away from the fevers. First of all come the infective fevers—small-pox, cow-pox, chicken-pox, measles, and the like; then, lower down in the list, follow pyæmia, erysipelas, etc.; then comes puerperal fever. It was placed in this position because the Nomenclature Committee were entirely at a loss to know where it ought to come in the catalogue of diseases. It found a place of refuge at last at the bottom of the list, after pyæmia, erysipelas, etc., and the Committee had it in their minds to indicate by this place which they assigned to the disease the apparent connexion of puerperal fever with those antecedently-named diseases. I would further call attention to the fact that, independently of this, there is in the Nomenclature a list of those affections which are consequent on parturition; and this is quite apart from the subject which we have now been considering. Now, in connexion with the same subject, I would ask the Fellows to consider if there be any objection to this term puerperal fever. What is meant by the term fever at all? What are our views with regard to fever? Do we consider fever as a disease to which we ought to attach a special name? or is it only a symptom (as Dr. Kirtland long ago reminded us) of a disease? Do we regard fever—that is, the pyrexial action—as anything more than an indication of an underlying disease? If we keep this in view, we shall find the difficulties that continually occur in framing a nomenclature when we take the name of a disease to indicate that which does not signify its nature. These few observations I thought it right to offer with respect to this part of the subject. And now, as each of us is expected to answer to the best of his ability the questions put to us, I will take them in turn. But first I must confess that, in approaching the subject, I feel a great difficulty on account of the manner in which it is brought under our notice. I observe that these questions, which only profess to be questions, assume rather the form of an argument; they are rather put to us in a syllogistic form; and they are intended to lead up to a conclusion, though no conclusion is stated. Obviously, they are questions merely, and they are left to us to consider. But, if we are to follow the order of these questions, I must say it is with some difficulty that I approach the subject, inasmuch as that which we have to deal with is associated with a great deal of imperfect knowledge, and we cannot precisely formulate all the facts so easily in the shape which is offered to us. Still, with this difficulty before me, I will endeavour to the best of my ability to notice each of these three questions. The first, as you well know, relates to this—Whether there is any form of continued fever communicated by actual contagion or infection, in connexion with childbirth, which is distinctly caused by a special morbid poison, and as definite in its progress as the diseases which are taken in illustration? To that question I can return a very plain answer, and say that I am not aware of any form of contagious or infectious fever connected with childbirth which is distinctly caused by a special morbid poison (if by that be intended a specific virus), and which has a definite progress. I am not acquainted with such a disease. The next question and the following one must, I think, be taken together. "May all forms of puerperal fever be referred to attacks of some infective continued fever—as scarlet fever

or measles—occurring in connexion with childbirth, on the one hand; or, on the other, to some form of surgical fever, or to erysipelas, caused by or associated with changes in the uterus and neighbouring parts following the process of childbirth?" I am unwilling to give an answer to this question, because I wish to keep open another subject, which seems to be closed by the question which follows it. If I were to give an answer to that question, I should be shut out entirely by the form that is laid before us from giving a satisfactory reply to the third, which is this: "If all cases of contagious and infectious diseases which occur under other conditions than that of childbirth are set aside, does there remain any such disease as puerperal fever?" Now, it is to the form of this question that I wish to take exception; because it appears to me that, in this question, the several infectious and contagious diseases are treated as if they occurred in the body of a man, a non-parturient woman, or a child; whereas I wish to keep together the connexion which associates them with the act of parturition, and shows them as occurring in the parturient woman; and I think it is the separation of these two conditions that occasions the difficulty I now encounter. I cannot, consistently with my experience, agree to consider these diseases as one and the same when they occur to the non-parturient woman and the parturient woman. I think here there are several circumstances that have to be taken into account. In the first place, when any of these attack a parturient woman, she is not in the same condition as a healthy person whom they may attack. Scarlatina, measles, and the like, occurring to healthy persons, do not enter the bodies of those individuals in the same conditions as they enter the body of a parturient woman. Let us remember, in the first instance, she has been in some degree weakened by the previous confinement. It may be said, "Well, but in some cases we have a parallel—cases in which the diseases here mentioned follow after an operation." But I will go further. We have two processes going on in the body of the lying-in woman naturally, which do not occur in the person of one ordinarily struck down by one of these diseases. First, I refer to the milk process, the milk secretion, and to that attendant disturbance of the constitution which we term milk-fever. That is one element to be taken into consideration, and one disturbing force. And there is another and a much more important one, and that is the changes which go on in the uterus, and which we all know as the involution process. Nothing of this kind occurs in the body of an ordinary recipient of those diseases. This natural process, as we know, goes on in the body of the woman at a time when she is most likely to be attacked with the diseases that we have met to consider; and when any of these diseases attack a parturient woman, this process is materially interrupted. Now, we know that when this process is interrupted there is an arrest of all that eliminative action which that evolution process implies; and we may fairly conclude that, in consequence of this arrest, there is some accumulation in the body of those effete matters which ought to be expelled from the system; and this, added to the already existing blood dyscrasia, must very much aggravate the disease. Nor is it quite certain that this may not add a new form of sepsis to that which is already in the blood. Before admitting, therefore, that there is no such thing as puerperal fever, I would say that all these things ought to be taken into account. It has been thought by some that such a thing as a pure and independent puerperal fever may be found. I should be sorry to shut out that idea altogether as one that is impracticable and not to be entertained. I think it is very easy to see where we shall find a puerperal fever, if we are to look for it at all. I mean a fever not caused by any of the circumstances here suggested to us; it is quite plain that we must look for it here, in the arrest of some of these processes that I have been referring to. If we are to look for a puerperal fever at all,—one that can be properly so called, a disease which is *sui generis*,—we shall probably find it in the interruption of these healthy processes. Then, if I am not trespassing too long upon your attention, I should like to express a little more clearly my own views with regard to puerperal fever. I very much regret now that, when we were framing this definition, it did not occur to me to suggest that the term "puerperal fever" should be rendered "puerperal fevers"; and that a note should be placed to the effect that under this name is intended to be comprehended a class of continued fevers communicable by contagion occurring in connexion with childbirth, and so on. I think we should have got over a good deal of the objection taken to this word if we had considered this not as a special form of fever, as it appears to be when it occurs in the Nomenclature, but as a group of fevers connected with the act of childbirth. If I were asked how I would classify the diseases that we have been in the habit of grouping together under the name of puerperal fever, I would divide them into these three, as it appears to me, very natural classes. We have to look at this matter in a practical light, and see how we shall consider this subject, not by the teachings of the dissecting-room, but as we see it in the lying-in chamber, when asked, as we constantly are, to determine the nature of the disease that we are called in to examine and advise upon. I have been in the habit of dividing all cases that can in any shape be termed puerperal fevers into three classes. First, those simple fevers which may, for the want of a better term, be called irritative fevers; and under that name I would class that febrile action which results from simple mammary irritation, and is known as milk-fever; those simple febrile consequences of a traumatic origin which result from slight injuries to the soft parts, laceration, and the like, though those are of rare occurrence; and those pyrexial states which are of a fugitive and transient nature (I think, in a second catalogue in the Nomenclature, we call them puerperal ephemera). First, then, those irritative fevers arising from some local irritation, and not implying any blood-infection of any kind. In the second class I would place those infective fevers which are not of a specific origin, and in which the poison of sepsis does not undergo a distinct period of incubation, though I have no doubt there is a poison conveyed into the blood—in what way it is not necessary now to consider. Under the name, then, of the milder forms of infective fevers, I would class all those in which the infection is not of a specific nature, in which the process does not undergo a period of evolution, a period of development, and in which the consequences follow no definite order. Then, in the third class I would include eruptive fevers, and those which depend upon a blood-infection, the poison following a specific course, having a regular period of incubation, and terminating in those several diseases, eruptive fevers and the like, which occur of course to the lying-in woman in common with others. These I do not consider as in any way taking any part in the puerperal fever. The only fevers that I would acknowledge as in any way connected with the puerperal state are the first two. I would entirely exclude the others from the catalogue; but, in the present imperfect state of our knowledge on these questions, I would like to retain these diseases under some name corresponding to that under which we now group them together. If I proposed any alternative, I would change the name. One that I am in the habit of employing is post-partum fevers. I have long discarded the name puerperal fever, and have used the term post-partum fevers, which implies no theory at all, but simply expresses the fact that they occur to women after delivery. I think that under that head we might include all these three forms of fever. If, for the purposes of statistical registration, it was desired to know how these names should be registered, I would suggest that those cases should be registered under a separate head in connexion with childbirth, never mind in what relation they stand. I would place, for instance, "scarlatina" and "scarlatina in the puerperal form" in parallel columns; "erysipelas" and "erysipelas in the puerperal form." In this way we should satisfy the requirements of the Nomenclature Committee, and not foreclose that most important question that we have now under discussion. I dare not trespass longer upon your time. I cannot venture to offer any further observations upon this subject; but I may at some future time, if you please, further develope my ideas, and particularly call the attention of the Society to this circumstance, which appears to me to have been left too much out of consideration. It seems to me that, in considering the pathology of these cases, we have given too much attention to the influence of a blood poison, and have lost sight of that intermediate condition—or, rather, we have not attempted to determine it—which intervenes between the entrance of the poison into the blood and the development of it in the various ways and forms which give significant names to the diseases under which they are classed. I think we have too much left out of consideration the influence of the nervous system—the influence of these poisons upon the nervous centres; and I think if we were to direct our attention further to this particular, we should be able to throw a great deal more light upon these diseases, and perhaps get over some of the difficulties that now surround us.

Dr. Savage: I feel under some embarrassment after hearing

Dr. Farre. I certainly came prepared with very decided views, but they have been somewhat shaken by what has fallen from that eminent authority. With regard to these questions of Mr. Spencer Wells, I do not know that Dr. Farre finds any more difficulty in dealing with them than the rest of us. Evidently the object is to catch us at every corner, so that we might not escape from the subject in any way. I can scarcely agree with Dr. Farre in leaving the subject in so uncertain a state as he proposes. We have already had, in the course of the last two discussions, some positive statements made to us which touch closely on the real nature of the complaint. I was at an early period prepared to argue strongly against any pathological relation or affinity between fevers and these under discussion; but I listened attentively to what fell from Dr. Squire and some of our country friends, who sustained so well the argument on that point, that I think it scarcely necessary to trouble the Society with any observations of mine. I only wish to say that there seemed to be, on the part of Dr. Barnes and Dr. Braxton Hicks, a clinging to the opinion that there was a sort of connexion between scarlet fever, or the sort of scarlet fever that they had seen, and puerperal septicæmia. It could not be the orthodox scarlet fever, because it is clear that you can have in a parturient woman right down scarlet fever, and she will get over the scarlet fever and the parturition exceedingly well. I suspect these gentlemen mean some other form—a bastard form of fever—that sort of thing spoken of by pathologists, in their new vocabulary, when they say that a thing exists "potentially," and not actually. I will not criticise anything that has fallen from these authorities; I will only say that I find a difficulty in recognising the presence of any disease in the absence of its distiuctive symptoms. Now, is this fever in any sense of the word? First, we have decided that it is utterly distinct from such things as we have called fever. Is it fever? We all agree that there must be some heat of the skin, some elevatiou of the temperature in anything that you can call fever. Now, I know that you may have many of these fatal cases of septicæmia in a parturient woman running their course in eight days, without any elevation of temperature from first to last. Or it happens that there is an elevation on the second day after you discover the presence of the poisou. I agree with Dr. Farre, that a great deal may happen before you discover the presence of the poison. It is not impossible that, if we kept our eyes open and watched, we might anticipate the effect of the poison; but it is seldom done—we see the cases late, and they are generally fatal. In the matter of temperature, then, I think it is clear that the disease should not be called fever at all. Then the next point is, whether it is septicæmia peculiar to a parturient woman, not like any other septicæmia. I have seen septicæmias from operatious on silly women who are not intended to have a family, who are intended to be barren; septicæmias from the introduction of that most treacherous of all things, the uterine stem; septicæmias from legitimate operations upon the uterus; septicæmias after ovarian operations. I have seen all these, and I have also seen (but I am no authority on that point) surgical septicæmia in wards, and I can distinguish no difference between them and septicæmia in parturient women. I think it is a simple septicæmia—that is, a disease which you must set apart from every other sort of disease likely to occur in parturient women, such as the disease you call fever in connexion with the secretion of milk, and other fevers. It stands quite apart and alone, and I think it of great importance that we should consider it as such. I think if we do not, we shall be likely to overlook it in our patients; and instead of applying, as we might with some effect at an early date, some remedy, we may let the case go on until it is past hope. Now, do we know anything of the poison? Have any of us seen or touched or felt it? Mr. Wells will tell you by-and-by, if he please, that in the course of ovarian septicæmia he sometimes taps the peritoneum with great effect, and lets out a great quantity of it. There must be poison in or about it, because the woman gets better when it is let out, gets worse again when it accumulates, and again better when it is let out. Then there are the processes, which it would take too long to enter into, such as washing the peritoneum and the like. If the case be taken in time, the woman gets well. Evidently in such a case we are dealing with a poison in some shape or other. Is the whole fluid poisonous, or is there something special in it? Our German *confrères* have helped us a good deal in this way, in a negative sense. The ordinary results of putrefactive changes in dead matter should be carefully distinguished from the changes which occur in fermentation; they are two different things, but are often confounded. We have sulphuretted hydrogen, sulphuretted ammonia, and butyric acid; there are other things, no doubt, but these have been discovered. I am referring to the experiments of Billroth and Weber. They take a solution of each of these things, and throw it into the cellular tissue of dogs and horses, and produce in each instance septicæmia, the animals dying in the usual way. You could not tell whether they had chills or not; still they died, and it was clear that they were killed through septicæmia. If you inquire as to the cause, we can tell you that. I must not forget to say that sometimes the severity of the symptoms did accord with the offensiveness of the liquid. I have had my fingers in the liquid, and could not eat any dinner for a week or two; and I have no doubt that if I attended a parturient woman with my fingers in that state she would have had septicæmia. In the case of the peritoneum, it is clear that this question can be answered. What are the channels for the introduction of this fluid into the system? Unless the peritoneum is inflamed in the small vessels, it is clear it must be through the absorbents. There is an instructive experiment by Dr. Sanderson in his beautiful book lately published, in which he shows that liquids may possibly get into the system through the vessels, but what he calls particulate poisons cannot—they must enter in by the absorbents. I do not know what he alludes to by those poisous, but I refer gentlemen who wish to know more about it to the book itself. It is quite clear, then, that in the case of the peritoneum it must enter in through the absorbents—that is, if it be particulate, because it is asserted by the more recent pathologists that all septic matter is particulate; which I think is a mistake. I am sure one of Billroth's experiments shows that it is a mistake, because a solution of sulphuretted hydrogen cannot be particulate. Let us apply this to the uterus. We are first in some difficulty unless you acknowledge the existence of absorbents such as you have them in the peritoneum. I think these absorbents are denied. Dr. Farre seems to deny them in his book, but then that was long before Robert Lee's discoveries. They are denied also in a recent communication to our *Transactions*. Still, they do exist. I make this remark the more because there was a theory started by Dr. Graily Hewitt the other day (as I saw by the report) about what he called the burglar-theory; that is, he said he had no doubt that in the majority of instances there was an imperfect contraction of the uterus, a clot within it—clots withiu the veins—and the locks being taken off the doors, and the doors thrown wide open, the thief stepped in. In the first place, I can scarcely imagine such a state of the uterus without considerable hæmorrhage. He also spoke of sinuses of the uterus. Now, there are no sinuses of the uterus, in my opinion. I do not know of any open sinuses after parturition at all. I know it is exceedingly difficult in the dead subject to separate the placenta from the uterus without tearing into the veins. Nothing is so easy as to separate the placenta—that is, placenta prævia; you come in contact with one of the large veins, and you feel the small arteries, veins, and absorbents yielding; you separate the whole, and there is the uterus in a dilated state, and no hæmorrhage. That could not be if there were open sinuses. Even if you have got clots in the veins, it is a matter of demonstration, since Virchow's discovery of the true mechanism of embola, that clots in the veins do not get into the circulation by themselves—they never break up. That was the old opinion of Dr. Lee, whose name has not been sufficiently mentioned except by Mr. Hutchinson. Dr. Lee showed incontestably that one of the concomitants of this disease, septicæmia, was a clogging of the veins; but it was Virchow who demonstrated (it was quite a demonstratiou) that the clots will not break up; that is not the way that the clots get in and disappear. Books on pathology, especially German books, describe how the veins empty themselves, but time will not permit me to refer to that. We have arrived at this: that you cannot get the poison through the veins. We have, then, to do with another channel: the lymphatics. Now, the lymphatics have been shown by Lee to be very peculiar in the mucous membrane of the uterus. The surface is highly absorbent, and the small vessels of the uterus are invaginated in these lymphatics. It is a very curious arrangement shown in Leopold's book. I fancy I have seen them. I do not say anything as to the microscope, since I find a power of fifty talked of, whereas I found a power of twelve difficult to manage. It seems to me, then, that as a matter of demonstration we have brought it down to this—

that we have seen the septic matter, we have touched it, and smelled it; I have mentioned experiments in regard to the composition of it; and we now can have no difficulty in believing that some septic stuff will accumulate in the interior of the uterus and get into the circulation, as it did in the case of the peritoneum. Now we come to the difficulty about the fingers; because I said that if I attended a woman in her confinement with my fingers in that state, I had no doubt she would have septicæmia; and I really have no doubt of it. You remember that we had some painful statements from a gentleman in the country who seemed to have had his fingers in that condition, and who lost case after case, and was obliged to give up his practice. I know it is difficult for most of us to comprehend how it is that the mere approximation of a finger should set going this curious septic thing. Now, every old woman will tell you that if she puts a piece of fetid meat in the cupboard, though it does not touch the rest, all will be turned in the morning. The other day, when passing a butcher's shop in a large district, I found him hard at work with all his men. Having these perplexing questions in my mind, I walked in to hear what sort of disinfectant he used, and he said, "I use no disinfectant; I wash everything with soap and water every night, hooks, cleavers, knives, and everything, then I admit the meat; if I did not, it would all be turned towards the morning." I do not myself profess to understand or explain how it is that the approximation of bad meat to good will turn the good bad, but so it is; and we can apply that fact, though I have no explanation of it, to show how contact with a fetid finger would lead to septicæmia in a woman. Then we come to the question of pyæmia and bacteria. Now, the question of bacteria has occupied the minds of leading members of our profession during six hours, at three meetings, in a sister institution, where they all contradicted one another, and arrived at no conclusion, but made shipwreck of the whole affair. Nevertheless, we have got to entertain it. Why did Mr. Wells tell us of pyæmia? What is pyæmia? A woman after her confinement has a pain in the upper part of the thigh, and there is a little swelling; you think there must be an abscess; you open it, and you let out a pint of matter. In a week's time there is a similar swelling in the calf of the leg; you open that, and there is half a pint of matter; and then she does well. Another woman with septic symptoms dies suddenly with clots in the heart, and numerous abscesses in the lung. Another has not only clots in the lung, but has pus in the kidneys, a breaking down of the spleen, and concretions on the valves of the heart. Now, Cruveilhier long ago, injected into the medullary cavities of dogs, quicksilver, and they died with all the symptoms of septicæmia; then he found numerous abscesses in the body, and in the centre of each a small globule of mercury. I mention these facts in relation to the question of pyæmia. I should like to know which you call pyæmia and which you do not. In the case of a woman with an abscess in the calf of her leg, you would call it pyæmia; but, if you have any septicæmia with it, you would call it septicæmia; yet the source of the pus is the same. I am inclined to dismiss pyæmia, as I would puerperal fever, entirely from the catalogue; and I believe that Mr. Callender, whom we heard the other night, has the same feeling. He seemed to me to hesitate very much as to the term pyæmia.

Dr. Braxton Hicks: I have never said that there is distinct scarlet fever producing puerperal fever. If he looks at my paper, he will find it stated that it might permit a condition which we call puerperal fever to come on; and, as a clinical fact, I have no doubt of that.

Dr. Savage: It seemed to me that Dr. Hicks and Dr. Barnes had an idea that there was some connexion between the two, or between some form of scarlet fever and some form of puerperal fever. I say again, it would not be real scarlet fever, because we have had testimony that you can have scarlet fever in very severe form, and the woman will do well; therefore, I could not imagine that regular scarlet fever was meant.

Dr. Barnes: I also wish to disclaim the interpretation put upon my words, and I refer the Society to what I have written on the subject.

Dr. W. Williams: In answer to Mr. Wells' first question, I can only say that in my experience I have never met with a case of so-called puerperal fever existing as a disease *per se*. I have seen many cases of disease described as puerperal fever, with all the characteristics, which I have been invariably able to trace to a cause easily recognisable, and capable, in most cases, of being recognised early enough for removal; and, as a matter of course, I do not believe that the disease is due to any special morbid poison. In answer to the second question, I am also decidedly of opinion that puerperal fever cannot be referred to any special disease, although the existing cause of puerperal disease may arise during the progress of any one of the diseases alluded to, and many others—that is, should they happen to be accompanied by any gangrenous or suppurating wound. Women are often confined with the diseases mentioned in the same room with them, and derive no injurious effects therefrom. Again, puerperal women exposed to those diseases, and who have not been previously attacked with them, will take them, as other persons, without any special action on the uterine organs. I could relate numerous instances proving both these statements, did time permit. I shall consider the third, fourth, and sixth questions together; the one is so intimately connected, practically, with the others. I have stated what I believe the disease not to be; I will now state what I believe it is. Every case of so-called puerperal fever—I do not mean peritonitis and such-like—is due to septicæmia, to septic contamination of the blood; and its injurious effects are first and most severely recognised in the wearied and bruised uterine organs and surrounding parts. The disease, then, is purely septicæmic. I agree in the main on this head with what fell from Dr. Graily Hewitt, with the exception of his terming the disease pyæmia. It is not pyæmia, and I consider that the calling of it so has led to much of the erroneous doctrines that have been promulgated. For instance, a female, three or four days after her confinement, is taken with what is termed puerperal fever, and rapidly sinks in a few hours. It is said she has died of pyæmia. A post-mortem examination is made, and no pus is found, only a quantity of bloody sanious serum, with a peculiarly sickening and offensive odour. This is poisonous matter. If the patient had not been prepared, as it were, by the powerful doses of septic poison in her system, and had possessed sufficient strength and vitality to form pus, she would have had a far better chance of recovery. I look on the formation of pus as a healthy effort of nature to surround and isolate the irritating poison. In fact, I do not believe that pus—laudable pus, as it used to be called,—whether in or out of the circulation, ever killed anyone: it is only injurious when it becomes putrid. I believe that putrid animal matter acts injuriously on the puerperal female in two ways, and that the symptoms vary both in intensity and character. In both instances the septic poison enters the system, but in a different form; and as in the one case the poison is much more concentrated than in the other, so its effects are more overpowering and rapid. In the case of most intensity, the poison enters the system in a state of solution: in the more chronic cases, it enters as vapour. In the first case there is a breach of surface, generally in the vagina; in the other there is no breach of surface. Where there is a breach of surface, the septic poison comes immediately in contact with the fresh wound, and a dose sufficient to knock the patient down at once is taken into the circulation; in the other case, a mass of putrid matter—it may be decomposing blood—is pent up in the uterus or vagina, and penetrates the mucous membranes and deeper tissues more slowly; in fact, it is a case of continuous poisoning. This form frequently terminates in puerperal mania. There is, then, no such disease as puerperal fever; it is nothing more nor less than septicæmia, and is always due to the presence of putrid animal matter. Now, this putrefaction may be caused in three ways: by retention of portions of the placenta or blood-clots long enough for them to undergo decomposition; by the bruising and sloughing of vaginal mucous membrane; and, thirdly, where the septic poison is conveyed to the discharges of the patient, and by its presence sets up rapid putrefaction in the lochia—so rapid that, when once the fermentation is set up, the whole of the lochia appears to become putrid at once, like the action of yeast, or wort, or dough. The first is to be prevented by not leaving any portion of the placenta or of blood-clot (as far as practicable) in the uterus or vagina. It must not be overlooked that certain conditions of the atmosphere also tend very materially to promote this putrefactive fermentation. This has been described by Sir J. Paget, who has pointed out that at times the wounds of patients, not only in hospitals, but outside, take on an unhealthy character and become gangrenous. Of course, should any portion of placenta or blood-clot be present, your first care will be to remove them and wash out the vagina, and, when necessary, the cavity of the uterus, with some antiseptic fluid. You must not be satisfied with telling the nurse to do it, you must see her do it, or (as I generally do) do it yourself the first time. The

treatment of the second form, when you have a slough, is the same—to syringe out frequently with some antiseptic fluid. To prevent the third cause, every care must be taken to prevent any septic or putrid poison from coming in contact with the lochia. I have not time to point out how this may be best attained; neither is it necessary, as you have already heard all that can be said on the subject, as to isolation, ventilation, and the like. No method, however, has been pointed out, or even alluded to, in the course of the discussion by which the septic poison could be got rid of should it have attached itself in any way to the body or dress of the accoucheur or nurse. We have more than one substance—one in particular—that will not tolerate the presence of putrid animal matter or septic poison: this drug is iodine, which, as soon as it is brought in contact with septic matter, is converted into two harmless substances—acid and carbon. Let any one who has been in attendance on any case, whether a parturient female or any other, where there is any putrid emanation, wash his hands in water into which he has poured tincture of iodine, and I will answer for it he has no septic matter under his finger-nails. Again, if he fancy that his clothes, hair, and skin are saturated with it, let him go into the water-closet (I mention that as the smallest room in the house), place a few scales of iodine on a plate and put a spirit-lamp under it, and he will soon find himself surrounded by a violet vapour, which will fall upon him in a shower of minute scales, from which he has only to protect his eyes. If he then carry with him any of the puerperal poison, my whole theory of the disease must be wrong. One thing I can assert, that in my own practice I have never had a case of fatal puerperal septicæmia since I have used iodine as an antiseptic, now more than twenty years ago. Iodine is equally efficacious in warding off septicæmia in other surgical diseases. I have injected solutions of septic poison under the skin of guinea-pigs, and produced death by septicæmia. I have also injected some of the same solutions, into which I had dropped a few drops of the tincture of iodine, without producing any ill effects. It is needless to observe that the prevention and the cure of this disease go hand in hand together. Should any septic poison be present in the puerperal woman, wash her out again and again with solution of iodine until the solution comes back the same colour as it was thrown up. The temperature of the patient will probably be 103° or 104°, and it will go down in a very short time to 98°. This I have witnessed since the present discussion began. The fifth question is as to bacteria—a delusion and a snare. It is possible that the septic poison may be conveyed by them as by any other substance floating in the air that is called harmless: that is all the harm they can do, as I take it; they live on this putrid matter as mites and maggots on cheese, or vibrios on decayed potatoes during an epidemic of potato-disease; in fact, I am inclined to think that they are present for the purpose of removing the poison, not generating it.

Dr. Playfair: If there is one fact to be gathered from this discussion, I think it is how remarkably little reliable knowledge we have about the subject on which we are talking. It seems to me that that is a lesson really of the greatest importance; because I cannot but fancy that a great part of the almost inextricable confusion that surrounds the whole matter has arisen from the non-recognition of that fact, from the circumstance that systematically writers upon the subject have thought it necessary to give a complete and fully rounded history of puerperal fever, without recognising, as I hope they will do after this discussion, that we are only at the threshold of the inquiry, and that we have to build up all our knowledge by unprejudiced and patient clinical investigation. After saying this, I shall not err in the same way by talking too dogmatically in the few observations I have to make, and I will confine myself as much as possible to one question only which Mr. Wells has brought before us, and which has been talked of a great deal to-night—that is, the relation of the specific zymotic diseases to the so-called puerperal fever, a relation which, to my mind, is, in spite of what has been said about it, one of the most obscure subjects and most difficult to reconcile with theory (and which cannot be got rid of by simply denying it) of any question connected with puerperal fever. In the first place, my belief about puerperal fever is very much what I understand to be that of several other speakers. I do not believe that there is any specific condition justifying the name of puerperal fever; nor do I believe that there is any special miasm arising from the puerperal patient capable of being conveyed to another patient; nor do I think that there is any evidence whatever to show that there has been an epidemic of puerperal fever in the strict sense of that word, although we all know how fatally endemic it has been in our large lying-in hospitals. In the second place, I believe that the theory which considers so-called puerperal fever to be practically the same disease as surgical septicæmia or pyæmia, or whatever we choose to call it, is the one which is most consonant with the facts of the case; that it arises from the contact of septic matter, with lesions of continuity in the generative track, such as exist in every parturient woman; that there are channels of diffusion over the lymphatics, or possibly the veins; and that there are after that, just as there is in surgical pyæmia, general and local results of great consequence, rendered in the puerperal patient particularly intense and virulent, on account of the particular condition existing after delivery which was so graphically described at the first meeting by Dr. Richardson. But, sir, the moment that that theory is stated, I think a great number of difficulties and objections naturally present themselves; and amongst these, I know none more difficult to resolve than that connected with zymotic disease. It has long been a recognised axiom amongst British obstetricians of the highest eminence, and I think I may venture to include Dr. Farre amongst them after what has fallen from him to day, that the puerperal patient to whom the poison of some specific zymotic disease, such as scarlet fever, is brought, may be attacked with an intense form of the disease, which does not show the specific characters of the disease that produced the contagion, and which is practically undistinguishable from the ordinary puerperal fever. I know that that view has been strongly controverted. It has been controverted by Dr. Savage, in his somewhat caustic remarks. It was controverted at the last meeting by my friend Dr. Brunton, who brought forward a great many practical facts of great value, as are all the facts that he brings before us; but I think that Dr. Brunton fell into the common error—he argued from negative observations. I believe that no number of negative observations can outweigh even one single positive fact carefully observed. Dr. Bruuton's argument reminds me of those fortunate gentlemen that I occasionally hear of from patients, who tell me, "Dr. So-and-So has attended a thousand or fifteen hundred, or two thousand, cases of labour, and has never lost a patient." Now, I do not doubt the fact, and I congratulate the gentleman on his good fortune; but I must say that that fact does not to my mind vitiate the returns of the Registrar-General, or make me disbelieve the puerperal mortality throughout the whole of Great Britain and Ireland. So I think the facts in regard to these zymotic diseases are really beyond question. There is no one of the diseases about which strong evidence could not be brought forward. With regard to erysipelas, the fact is scarcely questioned at all. We all know how erysipelas is interchangeable in lying-in hospitals with puerperal fever; we had, as you will remember, at King's College Hospital, frequent opportunities of observing that at the time that we had a lying-in ward there. Then, with regard to scarlet fever, about which Dr. Savage has particularly spoken, I need only refer to Dr. Braxton Hicks's most valuable paper. There are, in that paper, no less than seventeen examples, if I remember rightly, of women who had a disease which presented no symptoms of scarlet fever, and which was clearly due to the contagium of scarlet fever. We all know that there is not, perhaps, in the room a more careful observer than Dr. Hicks; and any man who can read that paper over without a preconceived judgment, and who does not agree with it, has a mind which I believe to be not open to conviction. Then there is diphtheria; we do not see so many cases of diphtheria, so that we cannot judge of it; but I may remind you that the most braud-new theory of puerperal fever, that of Dr. Martin, is that puerperal fever and diphtheria are the same thing. I saw, within the last few months, a case remarkably illustrative of the influence of diphtheria in producing a disease which I was unable to distinguish from puerperal septicæmia. A newly married couple at Notting-hill had gone into a new house shortly before the confinement of the lady. The house was in a most unhygienic condition: an untrapped drain opening into the bedroom; an untrapped pipe from the drain, and a gully under the window giving off offensive smells. The patient had an attack of intense septicæmia, from which she barely recovered with her life; and the husband at the same time was laid up with a well-marked acute attack of diphtheria, the patient presenting no symptoms of diphtheria, and the husband nearly dying. Who could rationally disbelieve that

those two diseases were produced by the same septic poison? I do not think there could be any doubt about it. The arguments on the other hand are unquestionably of considerable force. There is one that Dr. Savage dwelt upon—namely, that patients have these diseases in the puerperal state typically developed and running a favourable course. I am well aware of that. There are many examples of that kind on record; and that is just one of the great puzzles which I hope time will explain to us, but which we cannot explain satisfactorily now. My own idea about that is (and I merely suggest it as an idea—further clinical investigation of the matter may prove it to be correct or not) that in the one case possibly the contagious poison was brought immediately into contact with solutions of continuity in the generative track, and therefore produced an intense form of septicæmia; and in the other case the poison may have been absorbed by the more ordinary channels. I think that is a sufficiently reasonable hypothesis, but one which, of course, we cannot prove. Then there is another argument, also of some consequence; that is to say, that if puerperal fever be pyæmia, and if the poison of zymotic diseases can produce a condition which is not to be distinguished from pyæmia under certain circumstances, should it not be the case that, after surgical operations, these zymotic poisons should act in the same way. The whole subject of surgical pyæmia, especially the contagious qualities of it, has been so little worked at, that I do not think any surgeons would be justified in saying that zymotic poisons would not act in that way. I should like to know what Mr. Wells would say upon that point; and I hope that, when he comes to his reply, he will be able to spare a word or two with regard to it. But, knowing as I do the great care that Mr. Wells pays to his ovariotomy cases, I should be surprised to learn that he would be happy if he heard that someone was assisting him in ovariotomy who had been just handling either a scarlet fever or a diphtheritic case, whatever views he might form as to septicæmia. I have but a minute or two to refer to that burning question, the conduct of the practitioner in cases of this kind, which is one of the most important questions connected with this subject. It is practically impossible, whatever we may think, to give up attending together zymotic disease and fever; nor, indeed, do I think that it is at all necessary. I am quite at one with what Dr. Matthews Duncan has said in the letter that has been read here: that, if proper antiseptic precautions be taken, any risk from this source might be eliminated, whether we use iodine or any other disinfectants that we like. I have no doubt that danger from this source might be obviated; but, at the same time, I think it quite consistent with common good sense that, instead of blindly shutting our eyes to facts, however unpalatable these facts may be—and no one considers them more unpalatable than I do,—we should look them fully in the face. I believe the risk is not from the facts themselves, so much as from ignoring the facts and refusing to take the proper precautions which these facts would naturally suggest.

Dr. Tilt: I am in the unfortunate position of a man who, having put down a few notes, finds himself forestalled by the observations of those who have spoken before him. I rise, also, under a feeling of some diffidence, inasmuch as I am afraid that I come within the malediction of the last speaker as a man not open to conviction. On the first night of the discussion, Dr. Braxton Hicks attributed puerperal fever to zymotic influence in three-fourths of his cases. I was most interested with his paper; it certainly is a most valuable one. But, then, I found that he put down as cases of puerperal fever owing to scarlet fever all those cases that he could trace as having been brought anyhow in connexion with scarlet fever; and whereas the paper contains twenty cases in which puerperal fever was said to have been caused by scarlet fever in which there was a rash, which we should all admit, there were fifteen cases in which there was no rash. That seems to me a very large proportion of exceptional cases; and I should say that in all probability many of those cases were cases of puerperal fever arising from other causes, certainly not from zymotic influence. If the zymotic influence is to have such an extraordinary effect in the production of puerperal fever, scarcely a puerperal woman could escape in the densely populated parts of a metropolis like London, where zymotic influences—call them scarlet fever, measles, typhoid fever, or anything else—are crossing and recrossing themselves with a frequency with which we medical men are fully acquainted. I am not alone in opposing this, which I call an extravagant view of the power of zymotic influence in the production of puerperal fever, for Dr. Robertson, of Glasgow, who is at the head of a Maternity Hospital, immediately after the discussion wrote to say that he did not at all participate in the opinion expressed. Several gentlemen who spoke at the last meeting controverted the opinion, and several general practitioners from the country protested against it. So that I think, allowing full power to zymotic influence in the aggravation or production of puerperal fever, the theory was pushed a great deal too far on the first night of this discussion. With regard to the germ theory of puerperal fever, I will say just two words. I think the Pathological Society has been kind enough to settle the question for us up to the present time. With reference to bacteria as a post-mortem phenomenon, it is quite an exceptional case. While Heiberg at Christiania was relating in an interesting paper that he had found an enormous quantity of bacteria in the lymphatics of those who died during an epidemic of puerperal fever, other practitioners in Paris were making similar minute microscopical examinations in various hospitals, and found no trace of bacteria. It is one of those exceptional facts that you meet with in all puerperal epidemics; sometimes one condition will be found and sometimes another, sometimes pus in the veins, sometimes pus in the lymphatics, sometimes a brown, sanious fluid in the lymphatics similar to what is found in the wound; and I think, if too much importance has been attached to zymotic influence as a cause of puerperal fever, too little has been attached in this discussion to what I should call the autogenesis of puerperal fever until it was so strongly and ably advocated by Dr. Wynn Williams. I think if a woman is sometimes poisoned by others, she most frequently poisons herself; and I do not see how you can find a better arrangement for poisoning a human body than you would find in the womb if once you admit that the womb contains a fetid fluid. You have a large bag, a spongy bag, partly bruised, sometimes torn; you have lymphatics abundant, lymphatics enlarged by the gravid process; you have lymphatics whose duty it is to absorb more speedily than at any other time; they are bent upon absorption. If you have a putrid fluid, I was going to say it must be absorbed, and, if it be absorbed, it goes into the lymphatics, and, if it go into the lymphatics, we must admit now that it goes into the perineum, because it is clearly made out that the lymphatics open into the perineum. Here, then, you have not only the lymphatics, but you have the perineum liable to be inflamed; and, being inflamed, and inflamed early, from the fourth or the sixth day, that is what has been observed. Peritonitis has been grouped with cellulitis and other things as sequelæ, but it ought to be considered as something more than that; or, if it be a sequela at all, it is exceedingly near the beginning of the disease, and is quite sufficient to produce fever. I have shown the ichor of the fetid lochia passing from the lymphatics into the blood—blood which is in a peculiar state. Then, this poison may pass into the lymphatics without inflaming them as others do—syphilitic poisons do so. There are numerous cases in which a woman has died of puerperal fever, in whom nothing has been found but a sanious brown fetid fluid similar to what is found in the womb. In other cases they may be, of course, inflamed. With regard to zymotic influence, no practitioner can deny its importance, and it acts in this way. We know that all zymotic diseases—take scarlatina, for instance—cause the secretions of the human body to tend towards decomposition. When a puerperal woman is submitted to the influence of scarlet fever, scarlet fever renders fetid secretions which would not otherwise be so; so, if they are already rendered fetid by a portion of placenta, or blood-clot, or membrane of the womb, it renders them doubly fetid, it renders the poison more virulent, and that sufficiently explains the importance of the case. Now, after the practical applications of the theory that Dr. Wynn Williams and myself more particularly advocate, it seems to me that, talking of sporadic cases of puerperal fever, the prevention of puerperal fever will depend to a very great extent upon the belief that a doctor may have in the autogenesis of puerperal fever. If medical men will be on the look out for fetid lochia, I believe they will find them a great deal more frequently than they do. I believe that medical men in this room will bear me out that they have not unfrequently been struck with the fact, that some medical men and, still more, some nurses are not gifted with the sense of smell. When we are ushered into a room to consult about a puerperal case, we are often struck with the offensiveness of the atmosphere, which has not struck them. Then it strikes me that if anything seem wrong, medical men should not trust to the testimony of the nurse, as we too often do, and as I myself

have too often done; we should examine and ascertain with our own fingers whether the lochia be fetid or not. If they are, I think we ought not to be contented with uterine injections, but ought to resort to intra-uterine injections. I was talking, a few weeks ago, to Professor Stoltz, formerly of Strasburg, whom I met at the President's house, and he was saying that, for fourteen years, he had been in the habit of making intra-uterine injections when the lochia were putrid, and with the best results. There is concurrent testimony in favour of their value, not only amongst ourselves in this country, but in foreign countries; and not only that: there are many instances of the sudden utility of antiseptic intra-uterine injections; I mean the sudden abatement of the worst symptoms of puerperal fever, when the womb was washed out twice a day with disinfecting fluid. I know that there are objections made to intra-uterine injections. An interesting pamphlet, which may have been sent to you as well as to me, has been published by an American doctor in Pennsylvania, who states that these injections are unnecessary, because no fetid lochia can occur. He says, if you let the patient use the usual utensil, and let it be emptied four times a day, that will be sufficient to prevent fetid lochia. That is an interesting fact, which would require to be confirmed by our own experience. Then, there are two more important objections: one is, that the nozzle of the instrument that we should use would be itself a medium of infection. Of course, if it were carelessly used and improperly cleansed, one could understand it; but we all use powerful means of disinfection. If the nozzle were steeped in a strong solution, I cannot understand how that objection would hold ground. The assertion is contrary to our European experience. Then there is another objection: the fear that the fluid injected should pass through the fallopian tubes into the peritoneum. I can only say that strong alcoholic solutions of carbolic acid, of tincture of iodine, have been during the past few years injected hundreds of times in the Paris hospitals, and I ascertained the other day from a friend of mine that they did not know of any case in which that had occurred.

Dr. Braxton Hicks: I wish to say that my paper has been misinterpreted. My paper was a communication with regard to cases of puerperal disease, not specially stating any particular point, but taking all the surroundings of the patients; and out of those eighty-nine cases that I mentioned, I found that nearly half were associated with scarlet fever; some of them undoubtedly are associated with scarlatina; erysipelas, diphtheria, mental emotions, did the same thing. I stated that erysipelas in lying-in hospitals was most common, perhaps more common than scarlatina. I left it as a clinical point not yet cleared up to explain why and how this came about. That it is associated with the production of what we are accustomed to call puerperal fever, I think there can be no doubt.

The discussion was again adjourned.

MEDICAL NEWS.

King and Queen's College of Physicians in Ireland.—At the usual monthly examination meetings of the College, held on Tuesday, Wednesday, and Thursday, June 8, 9, and 10, the licence to practise Medicine was granted to:—

Cutler, Peter Aloysius.
Johnston, Arthur Alma.
Lee, William Alexander.
Masters, Sidney Herbert.

The licence to practise Midwifery was granted to:—

Cutler, Peter Aloysius.
Johnston, Arthur Alma.
Lee, William Alexander.
Masters, Sidney Herbert.
Ryan, William.

Apothecaries' Hall. — The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, June 10:—

Clinton, Samuel Aubrey, Chislehurst.
Gibson, Charles, Tynemouth.
Lightoller, Harry Martin, Chorley.
Pletts, John Mepham, Thornton, Ryde, Isle of Wight.
Prowse, William Byas, Wallingford, Berks.
Spark, John, Lee-green, S.E.
Spooner, Frederic Henry, Plymouth.

The following gentlemen also on the same day passed their primary professional examination:—

Dowdiog, Alexander W. Woodman, London Hospital.
Griffiths, Gilbert Saunders, Middlesex Hospital.
Parker, Arthur Frederick, Bristol Hospital.
Price, Arthur, St. Thomas's Hospital.
Steele, Henry Frederic, St. Bartholomew's Hospital.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that place.

Gowan, Charles, M.D., C.M., L.R.C.S. Edin.—Medical Superintendent of the Toronto Lunatic Asylum, Canada, *vice* J. Workman, M.D., resigned.

Hughes, William L., M.R.C.S. Eng., L.S.A.—Junior Resident Medical Officer at the London Hospital.

Lee, Robert J., M.A., M.D., M.R.C.P.—Visiting Medical Officer to the London Temperance Hospital, 112, Gower-street, W.C.

Morgan, George, M.R.C.S. Eng., L.R.C.P. Edin., L.M., L.S.A.—Resident Accoucheur at the London Hospital, *vice* H. T. Shapley, resigned.

Smith, Roland D., M.R.C.S. Eng., L.S.A.—Extra Junior Resident Medical Officer at the London Hospital, *vice* W. L. Hughes.

Thornton, W. Pugin, M.R.C.S. Eng., L.S.A.—Surgeon to the Hospital for Diseases of the Throat, Golden-square.

BIRTHS.

Dunlop.—On June 13, at 50, David-place, Jersey, the wife of Andrew Dunlop, M.D., of a son.

Keele.—On June 15, at 81, St. Paul's-road, Highbury, the wife of George Thomas Keele, M.R.C.S. Eng., L.S.A., of a son.

MARRIAGES.

Davies—Cox.—On June 10, at Holy Trinity Church, Birmingham, Clement Henry Davies, M.A., son of John Birt Davies, F.R.C.P., Coroner for Birmingham, to Katharine, youngest daughter of the late Thomas Cox, Esq., J.P., of Birmingham.

Harris—Keal.—On June 15, at All Saints, Oakham, the Rev. H. Harris, Vicar of Horbling, Lincolnshire, to Emma, daughter of the late W. T. Keal, M.D.

Skerritt—Heelas.—On June 2, at St. Paul's Church, Wokingham, Edward Markham Skerritt, B.A., B.S., M.D. Lond., of Leicester Villas, Clifton, to Mary Dora, eldest daughter of John Heelas, jun., of Woodlands, Wokingham.

DEATHS.

Cobbold, Frederick Forbes, second son of T. Spencer Cobbold, M.D., F.R.S., of London, at Whittingham, near Preston, on June 12, aged 14.

De la Porte, W., late of Steiglitz, of blood-poisoning, caused by a puncture of the thumb on sewing up a body (case of peritonitis) after a post-mortem examination, on February 27, aged 59.

Masfen, Anna Maria, widow of John Masfen, M.R.C.S., at Stafford, on June 14, aged 78.

Ridge, Joseph, M.D., F.R.C.P., third son of the late Samuel Ridge, Esq., at 39, Dorset-square, N.W., on June 11.

Steel, William, M.D., at Forfar, on June 10, in his 79th year.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

Bootle Borough Hospital, Liverpool.—House-Surgeon. Candidates must be duly qualified and unmarried. Applications, with testimonials, to T. P. Danson, Esq., Honorary Secretary, on or before July 3.

Bristol General Hospital.—Physician's Assistant. Candidates must possess a registered qualification. Applications, with testimonials, to Henry Fox, Esq., R.N., Secretary, on or before June 24.

Hospital for Consumption and Diseases of the Chest, Brompton.—Resident Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, on or before June 23.

Kent and Canterbury Hospital, Canterbury.—Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Secretary, before June 18. Also a vacancy for House-Surgeon and Dispenser. Candidates must be duly qualified and registered. Applications, with testimonials, to the Secretary, on or before June 25.

Metropolitan Free Hospital, Devonshire-square, E.—Assistant House-Surgeon. Applications to the Committee of Management.

Portsea Island Union.—Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to Mr. T. P. Mills, Clerk of the Union, 34, Lion-terrace, Portsea, before July 7.

Royal Free Hospital, Gray's Inn-road.—Surgeon. Candidates must be F.R.C.S. Eng. Applications, with testimonials, to the Secretary, on or before June 28.

Royal Surrey County Hospital, Guildford.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Assistant-Secretary, on or before July 31.

St. George's Hospital Medical School.—Teacher of Physiological Chemistry. Applications to Dr. Wadham, at the Hospital.

Worcester County and City Lunatic Asylum.—Second Assistant Medical Officer. Candidates must be duly qualified and registered and unmarried. Applications, with testimonials, to Dr. Sherlock, at the Asylum, Powick, near Worcester, on or before June 30.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Chorlton Union.—The office of Assistant Resident Medical Officer at the Workhouse is vacant; salary £120 per annum.

Leighton Buzzard Union.—Mr. Charles Etheridge has resigned the Upper District; area 4750; population 553; salary £20 per annum.

Lexden and Winstree Union.—Mr. H. D. Palmer has resigned the Eighth District; area 11,640; population 3422; salary £65 per annum.

Marlborough Union.—Mr. Francis J. Ryder has resigned the Second District; area 14,822; population 2150; salary £80 per annum.

APPOINTMENTS.

North Bierley Union.—Joseph Jackson, L.R.C.P. Edin., L.R.C.S. Edin., to the Workhouse.

Penistone Union.—Alfred M. Watson, M.D. Edin., M.R.C.S. Eng., to the Penistone District and the Workhouse.

Redruth Union.—George Michell, M.R.C.S. Eng., L.S.A., to the Gwennap District.

Stow Union.—Harry Dove, M.R.C.S. Eng., L.S.A., to the First District and the Workhouse.

Ulverstone Union.—Wm. L. Penny, M.B. Camb., M.R.C.S. Eng., to the Colton District.

Wantage Union.—Edward A. Tyler, M.R.C.S. Eng., L.S.A., to the Ilsley District.

Wycombe Union.—Fredk. H. Turner, M.R.C.S. Eng., L.S.A., to the Chipping Wycombe District.

A WING is to be added to the Medical Establishment and Infirmary at the Royal Arsenal, Woolwich. Hitherto the accommodation has been most inadequate. The enlargement now being carried out has been long needed.

SURGEON-MAJOR SAMUEL ROWE, C.M.G., who distinguished himself in the late campaign against the Ashantees, has been appointed Lieutenant-Governor of the West African settlements, and sails for Sierra Leone on the 19th inst.

CASE OF SUCCESSFUL TRANSFUSION.—M. Féréol, Physician to the Maison Municipale de Santé, relates in the *Union Médicale* for June 8 and 10 a case of extreme anæmia kept up by repeatedly recurring post-puerperal uterine hæmorrhage, in which transfusion proved quite successful, the report of the case extending to May 20, and the operation having been performed on April 14.

HEALTH OF THE METROPOLIS.—The deaths in the metropolis last week were 1335, which number was below the average by 20. The annual death-rate from all causes, which in the two previous weeks had been 19·6 and 20·0 per 1000, was last week 20·2. The fatalities from scarlet fever exhibited a considerable increase, the number being 70. In the Asylums District Fever and Small-pox Hospitals at Homerton and Stockwell, on the 12th inst., 44 patients were under treatment for fever, 136 for scarlet fever, and 13 for small-pox.

PROFESSOR DITTEL ON INTRODUCING THE WHOLE HAND INTO THE RECTUM.—At a meeting of the Vienna Medical Society, at which a paper was read advocating this practice as a good one for examining the condition of the bladder from behind, Prof. Dittel warned the members that this procedure of Simon's, which has of late been much practised, is attended with considerable danger, as not only laceration of nerves and vessels may take place, but, when narrow, the rectum itself may be ruptured—an instance of which he alluded to. When the sphincter is in a normal state, the procedure is a very troublesome and painful one for the practitioner, who feels as if his hand were surrounded by an Esmarch tube, it seeming as if frozen and useless. To enter the rectum in this way great force is required, and it is a violent procedure which can only be justified in some cases in which all other measures fail.—*Wiener Zeitung*, May 11.

ROYAL COLLEGE OF SURGEONS.—The following are the names of the eligible Fellows who are candidates for seats in the Council of this College at the ensuing election on Thursday, July 1 next, at two o'clock p.m., viz.:—1. Prescott Gardner Hewett, F.R.S., Chesterfield-street, of St. George's Hospital: 2. Henry Spencer Smith, Queen Anne-street, of St. Mary's Hospital; 3. John Birkett, Green-street, of Guy's Hospital;—retiring from the Council in rotation, but offering themselves for re-election. 4. John Cooper Forster, Upper Grosvenor-street, of Guy's Hospital, nominated by—Edward Cock, Dean-street South; Edward Lund, Manchester; J. W. Hulke, Old Burlington-street; T. Holmes, Great Cumberland-street; William S. Savory, Brook-street; John Croft, Brook-street. 5. Edward Law Hussey, Oxford, of the Radcliffe Infirmary, nominated by—J. Ludford White, Oxford; George May, Reading; Frederick J. Butler, Winchester; Walter R. H. Barker, Wantage; Edward R. Owen, Oxford; Thomas Sympson, Lincoln. 6. Alfred Smee, F.R.S., Finsbury-circus, nominated by—Edward Cock, Dean-street South; William Bowman, Clifford-street; Jonathan Hutchinson, Finsbury-circus; John Wiblin, Southampton; John S. Bartrum, Bath; John Horsfall, Leeds.

CEREBRAL RHEUMATISM.—Dr. Bouchut, in a communication to the Académie des Sciences, observes that the displacement of acute articular rheumatism, termed cerebral rheumatism or rheumatic meningitis, is a very grave affection, induced by a considerable venous stasis in the membranes of the brain, and an opaline infiltration of the pia mater, caused by numerous leucocytes. The ophthalmoscope exhibits a serous infiltration of the papilla and neighbouring parts of the retina, and a dilatation of the veins of the retina, representing similar alterations in the pia mater and brain. The affection is accompanied by more or less violent delirium, followed by coma and asphyxia, which sometimes comes on very rapidly, so that death may ensue in a few hours. In three cases of this kind a cure was effected by taking from three to six grammes of chloral, either at once, or in two doses soon after each other.—*Gaz. des Hôp.*, June 8.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

W. G. W.—Apply to the India Office.

Albert Beverley.—You will find the information that you require in the numbers of this journal for the month of October.

A Subscriber.—*Monthly Journal of Medical Science*, December, 1850, p. 494.

A Rejected Candidate.—The period is *twelve* months for the Fellowship and *six* for the Membership of the College. A distinguished literary man said to a fellow-sufferer with yourself at the last examination, who sought to place "F.R.C.S." after his name, "Fortunam Restituit, Cor Stabile,"—a pleasing saying elegantly expressed.

A Surgeon-Major.—A friend of the late Mr. Guthrie's purchased all the remaining stock of engravings of that gentleman. Write to Mr. Stone, of the College of Surgeons, from whom you will obtain the desired information.

Dr. Campbell.—A well-known writer says that, in a medical point of view, urtication or stinging with nettles is a practice not sufficiently appreciated; that in a case of obstinate lethargy in a young man he was perfectly cured by Corvisart by repeated urtication of the whole body.

E. R.—It is an Italian saying,—"*Vino di mezza, oglio di sopra, e miele di sotto*" (Of wine the middle, of oil the top, of honey the bottom).

H. M., University College.—Various opinions are entertained respecting the reptile that inflicted the fatal sting on Cleopatra. Lucan seems to have described this serpent in the following lines:—

"Hic, quæ prima caput movit de pulvere tabes
Aspida somniferum tumida cervice levârit"

The painting of Cleopatra exhibited at your *conversazione* was certainly very fine.

L.R.C.P. Lond.—The statues to be placed in front of the College are at present intended to be those of Linacre, Harvey, and Sydenham. No better artist could be found for the immortal discoverer of the circulation of the blood than Mr. Henry Weekes, R.A., so well known by his busts and statues of Hunter and of Harvey.

A Fellow.—Messrs. Hilton and Birkett are Surgeons to Guy's Hospital, as is also the new candidate for a seat in the Council, Mr. Forster. The provincial representatives on the Council are Messrs. G. M. Humphry, of Cambridge; George Southam, of Manchester; and Alfred Baker, of Birmingham. Mr. Hussey, of Oxford, is one of the six selected candidates.

Cuvier, Bayswater.—The office that Professor Owen so ably fills at the British Museum is that of Superintendent of Natural History, with a salary of £800 per annum, the Librarian receiving £1200.

Dr. Harris.—Sir James Paget, Bart., is the senior Vice-President of the College, and will of course be elected President in July next. Should Messrs. Hewett and Spencer Smith be re-elected, they will fill respectively the offices of senior and junior Vice-Presidents.

Amicus.—Béclard defined life as "organisation in action."

G. G., Essex.—1. Yes. 2. The state of the surgical art in the fourteenth century is given by a French writer, Guy de Chauliac, in a System of Surgery which he published in 1363. "The practitioners in surgery," he says, "are divided into five sects. The first follow Roger and Roland and the four masters, and apply poultices to all wounds and abscesses; the second follow Brunus and Theodoric, and in the same cases use wine only; the third follow Salicето and Lanfranc, and treat wounds with ointments and soft plasters; the fourth are chiefly Germans, who attend the armies, and promiscuously use charms, potions, oil, and wood; the fifth are old women and ignorant people, who have recourse to the saints in all cases."

Jabez.—Professor Chas. Giles Bride Daubeny, M.D., practised for some years at Oxford, but, relinquishing his profession in 1829, he devoted himself to physical sciences, and to chemistry and botany especially. He died at Oxford, December 13, 1868, aged seventy-three.

P. P.—Sir James Coxe, M.D., one of the Commissioners of the General Board of Lunacy for Scotland, was knighted on August 11, 1863.

W. V., Selop.—The Royal Medical and Chirurgical Society of London was instituted in 1805, and incorporated in 1834.

COMMUNICATIONS have been received from—

The Registrar of Apothecaries' Hall, London; Professor Huxley, Edinburgh; Dr. J. Hughlings-Jackson, London; Mr. J. Chatto, London; Dr. Edis, London; Dr. John Lewtas, Liverpool; The Honorary Secretary of the Quekett Microscopical Club; Dr. J. W. Moore, Dublin; Dr. Donett Stone, London; Messrs. Mottershead and Co., Manchester; Dr. Lyall, Lennoxtown; Mr. H. Watts, Thatcham; Mr. J. Collie Smith, Aberdeen; Messrs. Bankread, Hill, and Co., London; Mr. Croxton, London; Dr. Edgar Sheppard, Colney Hatch; W. O. W.; Dr. Handfield Jones, London; The Secretary of the Statistical Society of London; Our Birmingham Correspondent; Dr. Greenhill, Hastings; Mr. W. L. Hughes, London; Dr. C. Gowan, Powick; The Secretary of the London Hospital; Messrs. Kirkley and Co., Sunderland; The Secretary of the Association for the Oral Instruction of the Deaf and Dumb; The Registrar-General, Edinburgh; The Secretary of the London Temperance Hospital; Mr. C. T. Cullingworth, Manchester; Mr. J. K. Thornton, London; Dr. Spares, London; Dr. Gavin Milroy, London; Mr. A. Beverley, Edinburgh; His Grace the Duke of Sutherland; The Dean of St. Mary's Hospital Medical School; Dr. Edwards Crisp, London.

BOOKS AND PAMPHLETS RECEIVED—

Davy's New Inventions in Surgical Mechanism—Lee's Goulstonian Lectures on Puerperal Fever—Bakewell on some Common Causes of Pulmonary Consumption—Sixth Report on Operation of the Contagious Diseases Acts—Grabham's Remarks on the Origin, Varieties, and Terminations of Idiocy.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—National Food and Fuel Reformer—Philadelphia Medical Times—Pharmaceutical Journal—Centralblatt für die Medicinischen Wissenschaften—La France Médicale—Iron—Wiener Medizinische Wochenschrift—Journal des Sages-Femmes—New York Medical Record—Boston Journal of Chemistry—New York Medical Journal—The Australian Medical and Surgical Review—Chicago Medical Journal—Canada Medical and Surgical Journal—Melbourne Medical Record—Irish Hospital Gazette.

APPOINTMENTS FOR THE WEEK.

June 19. *Saturday* (*this day*).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

21. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

22. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

Anthropological Institute, 8 p.m. Meeting.

23. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

24. *Thursday.*

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.

25. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

Quekett Microscopical Club, 8 p.m. Mr. B. T. Lowne, "On the Histology of the Eye." (Second lecture.)

VITAL STATISTICS OF LONDON.

Week ending Saturday, June 12.

BIRTHS.

Births of Boys, 1104; Girls, 1082; Total, 2186.
Average of 10 corresponding years 1865-74, 2036·3.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	714	621	1335
Average of the ten years 1865-74	651·3	614·9	1266·2
Average corrected to increased population	...	...	1355
Deaths of people aged 80 and upwards	...	...	40

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	3	12	2	8	...	1	...	4
North	751729	2	5	15	2	11	1	6	1	6
Central ...	334369	...	2	7	...	5	...	2	...	1
East	639111	...	7	12	1	17	2	3	2	8
South	967692	...	7	24	5	23	1	3	1	12
Total	3251260	2	24	70	10	64	4	15	4	31

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·700 in.
Mean temperature	58·9°
Highest point of thermometer	79·0°
Lowest point of thermometer	47·1°
Mean dew-point temperature	49·5°
General direction of wind	W.S.W.
Whole amount of rain in the week	1·37 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, June 12, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1875.)	Births Registered during the week ending June 12.	Deaths Registered during the week ending June 12.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3445160	45·7	2186	1335	79·0	47·1	58·9	14·94	1·37	3·48
Portsmouth ...	122632	27·3	72	36	...	...	...	...	...	...
Norwich	82842	11·1	62	36	74·5	45·5	58·7	14·83	0·33	0·81
Bristol	196186	44·1	108	74	73·0	47·3	56·0	13·33	1·28	3·25
Wolverhampton ...	71718	21·1	50	30	77·3	45·3	57·2	14·00	1·10	2·79
Birmingham ...	366325	43·6	257	165	73·2	43·2	56·6	13·67	0·84	2·13
Leicester	109830	34·3	72	24	75·2	44·2	58·0	14·44	1·15	2·92
Nottingham ...	92251	46·2	53	29	75·2	45·1	58·7	14·83	0·56	1·42
Liverpool	516063	99·1	370	244	67·0	46·3	54·3	12·39	0·85	2·16
Manchester ...	356626	83·1	277	200	...	...	...	...	...	...
Salford	135720	26·3	114	66	69·4	44·9	55·1	12·84	1·59	4·04
Oldham	87437	18·7	59	36	...	...	...	...	...	...
Bradford	168305	23·3	129	61	70·0	47·4	56·1	13·39	0·58	1·47
Leeds	285118	13·2	206	116	72·0	46·0	57·3	14·06	0·63	1·60
Sheffield	267881	13·6	193	105	78·0	45·0	57·0	13·89	0·54	1·37
Hull	133932	36·8	108	65	76·0	45·0	57·5	14·17	0·29	0·74
Sunderland ...	106342	32·2	78	49	74·0	44·0	56·9	13·83	0·35	0·89
Newcastle-on-Tyne	137665	25·6	92	58	66·0	43·0	54·1	12·28	0·60	1·52
Edinburgh	211626	50·5	144	108	...	...	...	...	...	...
Glasgow	534564	88·6	376	285	63·8	44·5	53·5	11·95	0·65	1·65
Dublin	314666	31·3	182	119	72·4	41·5	56·9	13·83	1·13	2·87
Total of 21 Towns in United Kingdm	7742889	37·0	5188	3241	79·0	41·5	56·6	13·67	0·81	2·06

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·70 in. The highest was 30·02 in. on Tuesday morning, and the lowest 29·45 in. on Friday morning.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

MEETING
OF THE
GENERAL MEDICAL COUNCIL.

HELD AT THEIR HOUSE, OXFORD-STREET, W.

FIRST DAY.—THURSDAY, JUNE 17.

THE first meeting of the present session was held at the new offices of the Council, 315, Oxford-street, on Thursday, June 17, at two o'clock.

The first business of the day was the reception of Dr. Rolleston, the new representative of the University of Oxford, who was introduced by Dr. Sharpey.

The PRESIDENT, according to custom, delivered an inaugural address. (A *verbatim* report of Dr. Acland's address appeared in this journal last week.)

Dr. ANDREW WOOD proposed that this eloquent *résumé* of the position of the medical profession should be printed on the minutes.

The motion was seconded by Dr. BENNETT, and unanimously adopted.

After some formal business,

Dr. ANDREW WOOD moved that a correspondence between the Executive Committee of the Council and the Registrar-General, the Home Office, and the Local Government Board be entered on the minutes.

The resolution was seconded by Dr. BENNETT, and carried *nem. con.*

Tables showing the results of the examinations of the licensing bodies and returns from the Medical Department of the Army were then presented to the Council, and ordered to be printed on the minutes for consideration during the present session.

Table showing Results of Professional Examinations for Degrees, Diplomas, and Licences granted in 1874 *by the Bodies in Schedule (A) of the Medical Act.*

Licensing Bodies.	Degrees and Diplomas.	No. of Examinations to be passed.	First Examination.		Second Examination.		Final Examination.	
			No. rejected.	No. passed.	No. rejected.	No. passed.	No. rejected.	No. passed.
Royal College of Physicians of London	Licence	2	...	1	...	...	14	85
	Membership	3	...	...	...	1	3	21
Royal College of Surgeons of England	Membership	2	229	462	...	...	129	319
	Licence in Midwifery	1	...	...	...	...	...	...
	Fellowship	2	65	43	...	...	19	10
Society of Apothecaries of London	Licence	2	36	151	...	...	15	190
University of Oxford	M.B.	2	1(a)	8	...	...	...	1
	M.D.	Essay	...	...	...	...	...	...
University of Cambridge	M.B.	3	4	30	7	15	...	13(b)
	M.D.	1	...	...	...	...	...	3
	M.C.	1	...	...	...	...	...	...
University of Durham	L.M.	2	...	2	...	...	...	2
	M.B.	1	...	...	...	...	...	2
	M.D.	Essay	...	...	...	...	...	1
	M.C.	2	...	2	...	...	...	...
			Preliminary	Scientific.	1st M.B.	1st M.B.	2nd M.B.	2nd M.B.
University of London	M.B.	3	63	93	17(c)	37(d)	6	19
	M.D.	1	...	...	...	...	5	14
	B.S.	1	...	...	...	...	...	5
	M.S.	1	...	...	...	...	...	...
Royal College of Physicians of Edinburgh	Licence	2	2	16	...	...	42	129
Royal College of Surgeons of Edinburgh	Licence	2	11	15	...	...	13	37
Faculty of Physicians and Surgeons, Glasgow	Licence	2	33	35	...	...	10	15
Royal College of Physicians and Royal College of Surgeons of Edinburgh	Licence in Medicine and Surgery	2	38	50	...	...	44	84
Royal College of Physicians of Edinburgh and Faculty of Physicians and Surgeons of Glasgow	Licence in Medicine and Surgery	2	2	4	...	...	16	23
University of Aberdeen	M.B.	...	...	...	...	...	...	...
	M.D.	By promotion	...	...	...	...	...	26
	M.B. and M.C.	3	15	60	20	65	9	54(e)
University of Edinburgh	M.B. and M.C.	3	77	137	36	90	14	88(f)
	M.D.	Thesis	...	...	...	...	3	20(g)
University of Glasgow	M.B. and M.C.	3	53	60	25	41	10	47(h)
	M.D.	2	...	1	...	...	3	1(i)
	M.D.	Thesis	...	...	...	...	...	17
University of St. Andrews	M.B.	3	1	...	...	...	...	...
	M.D.	1	...	...	...	...	...	10
	M.C.	...	...	...	...	...	...	...
King and Queen's College of Physicians in Ireland	Licence in Medicine	2	...	1	...	...	15	90
	Licence in Midwifery	1	...	...	...	...	16	52
Royal College of Surgeons in Ireland	Licence	3	66	112	23	91	23	91
	Licence in Midwifery	1	...	...	...	...	1	36
	Fellowship	3	1	52	1	52	1	52
Apothecaries' Hall, Dublin	Licence	2	9	23	...	...	3	27
							Deg. M.B.	Deg. M.B.
University of Dublin	M.B.	2	*Vide* foot-note(k)		...	...	4	49
	M.C.	3	...	...	...	...	2	18
	M.D.	Thesis	...	...	...	...	...	...
Queen's University in Ireland	M.D.	3	45(l)	62	37(l)	85	20(l)	44
	M.C.	1	...	...	...	...	27(l)	30

(a) Two withdrew.

(b) This is not, strictly speaking, the *final* examination. Each candidate has subsequently to write an original essay and pass an oral examination when he "Keeps his Act."

(c) Of these, 4 were among the candidates who proposed to go through the examination with the exclusion of Physiology, and 2 were among those who, having previously passed the examination with the exclusion of Physiology, presented themselves to be examined in Physiology only.

(d) Of these, 8 availed themselves of the option of reserving their examination in Physiology for a future year, and 10 who had previously exercised the same option passed in Physiology only.

(e) Of these, 48 took M.B. and C.M., 2 M.B. alone, and 2 did not graduate; 1 took M.D. and C.M.; 1 took M.D. only.

(f) Of these, 77 took M.B. and C.M., 8 M.B. alone, and 3 did not graduate.

(g) There were 23 candidates for the degree of M.D. Of these, 20 passed and 3 were remitted in consequence of their Thesis having been insufficient.

(h) Of these, 39 took M.B. and C.M., and 8 M.B. alone.

(i) Took C.M. also.

(k) Half M.B. Examinations:—Anatomy (Descriptive), of 59 candidates, 7 were rejected, and 52 passed; Chemistry, of 82 candidates, 23 were rejected, and 59 passed; Botany, of 70 candidates, 32 were rejected, and 38 passed; Materia Medica, of 70 candidates, 18 were rejected, and 52 passed; Physics, of 60 candidates, 3 were rejected, and 57 passed.

(l) Four others withdrew.

Statement of the Degrees, Diplomas, and Licences of the Candidates for Commissions in the Medical Department of the Army, who, on August 10, 1874, *presented themselves for Examination, showing the number that passed, and did not pass, distinguishing the Qualifications, both Medical and Surgical, under the several Licensing Bodies.*

Names of Licensing Bodies.	Qualifications. Number of qualifications. Total.	Number passed.	Number failed.	Deficient in Anatomy.	Surgery.	Medicine.
Royal Coll. of Surgeons, Ireland	8	7	1	...	1	...
K. and Q. Coll. of Physicians, Ireland ...	9	9	...	...	...	...
Queen's University of Ireland	5	5	...	...	...	...
Royal Coll. of Surgeons, London	4	4	...	...	...	...
University of Edinburgh...	2	2	...	...	...	...
Royal Coll. of Surgeons, Edinburgh	5	5	...	...	...	1
Ditto Physicians, Edinburgh ...	8	7	1	...	...	...
Society of Apothecaries, London	1	1	...	...	...	...
Sir P. Dun's Maternity Hospital, Dublin ...	1	1	...	...	...	...
Faculty of Physicians and Surgeons, Glasgow	1	1	...	...	...	...
Queen Charlotte's Lying-in Hospital... ...	1	1	...	...	...	...
Maternity Hospital, Edinburgh	1	1	...	...	...	...
Rotunda Hospital, Dublin	1	1	...	...	...	...
Queen's University of Ireland ... ...M.Ch.	2	2	...	...	...	...
Ditto ditto ... ...M.D.	3	3	...	...	...	...
University of Edinburgh... ... ...M.B.	4	4	...	...	...	...
Ditto Dublin ... ...M.B.	3	3	...	...	...	...
Ditto ditto ... ...M.Ch.	1	1	...	...	...	...
Ditto Edinburgh ... ...M.Ch.	4	4	...	...	...	...
Ditto Aberdeen ... ...M.B.	1	1	...	...	..	...
Ditto ditto ... ...M.Ch.	1	1	...	..	...	...
Total	66	64	2	...	1	1

Remarks.—Total number of candidates, 23; succeeded in obtaining appointments, 17; succeeded in examination, but not in obtaining appointments, there being only seventeen vacancies, 5; rejected, 1.

Army Medical Department, 6, Whitehall-yard, August, 1874.

The Registrar read the opinion of Mr. Chas. Bowen respecting the mode of making entries in the Medical Register under the Medical Act, 1858; and upon the motion of Mr. Macnamara, seconded by Dr. A. Smith, it was ordered to be entered on the minutes.

The Registrar then read a communication from Mr. Bass-Smith, which was in effect a renewal of former applications to be readmitted upon the Register; together with the advice of the Solicitor to the Council, stating that it would be the duty of the Council to refuse such application, a course which was accordingly adopted upon his presentation for registration. This was followed by a formal petition to the Council, and advice of the Solicitor thereon that the Council should give no directions with regard to the matter.

Dr. Andrew Wood moved, and Sir Dominic Corrigan seconded, this resolution—"That the General Medical Council approves the course adopted by the Registrar in declining to restore the name of Mr. Smith to the Register."

Sir William Gull said the point of Mr. Bass-Smith's petition was, Is there no *locus penitentiæ* for a man who has once been struck off the Register? This question must arise again and again; and their Solicitor's advice was simply to "shelve" it in the present case. He would like to know more of the merits of the case before adopting the resolution.

Dr. Bennett said each case must rest on its own merits; in each they would have to rely upon the advice of their Solicitor; and there was no reason to depart from that principle in the present case. It was impossible to lay down any general rule.

Sir Dominic Corrigan concurred in this view.

Dr. Storrar doubted whether the Council possessed the power of restoration to the Register.

Dr. Andrew Wood said undoubtedly this power existed, and had been exercised by the Council; but the truth was, this was a very, very bad case,—it had occupied the attention of the Council for a whole day in investigation. And while he agreed with Sir William Gull, that it would be very hard if there were no *locus penitentiæ*, still this was not a case in which the clemency of the Council could be rightfully exercised.

The original motion was then slightly modified, and passed *nem. con.*

The Registrar read certificates showing that two registered persons, James Meehan, M.D., and Michael M. Sheedy, had been convicted at Limerick Assizes of a conspiracy to defraud a New York life-office; and, under the advice of the Solicitor, a resolution ordering their names to be removed from the Register was passed unanimously.

The President then read a letter from Mr. George K. Rickards, counsel to the Speaker, written under the direction of the Statute and Law Revision Committee, together with a schedule of proposed partial repeals of the Medical Acts which were submitted to the Medical Council. The whole of the suggested repeals went purely to the cutting out of technically useless and lapsed enactments, which did not in any way affect or alter the existing Acts as regards their effect, with the exception of one enactment, the rescision of which would have the effect of disqualifying medical students who commenced their studies at an earlier period than 1859 from completing them and obtaining their diplomas. With regard to this,

Dr. Corrigan, and Messrs. Turner, Quain, and Macnamara said they had known many instances of students dropping their studies for a considerable period, and afterwards desiring to qualify themselves; and a resolution, referring the matter to a committee, who were authorised to call in the assistance of the Solicitor, was, after some discussion, adopted.

Dr. Andrew Wood then moved—"That a committee be appointed to consider the recommendations which have been issued from time to time with regard to education and examination by the General Medical Council, to inquire into their practical working, and to report as to the expediency of modifying or amending them."

The resolution was seconded by Mr. Quain, and carried *nem. dis.*

The next business on the programme raised the question of

THE REGISTRATION OF WOMEN WITH FOREIGN DEGREES.

The following letter, written by the direction of the Lord President of the Privy Council, by Mr. Simon, asking the opinion of the General Medical Council with respect to Mr. Cowper-Temple's Bill "to enable women to register the degree of Doctor in Medicine in foreign universities," and asking generally for advice respecting the object proposed by the Bill, was read:—

"Medical Department, Privy Council Office, June 8, 1875.

"Sir,—I am directed by the Lord President to request that, at the meeting now shortly to be held of the General Medical Council, you will have the goodness to bring under the consideration of that body the Bill which has been introduced in the House of Commons by Mr. Cowper-Temple 'to amend the Medical Act, 1858, so far as relates to the registration of women who have taken the degree of doctor of medicine in a foreign university,' and that you will move the Medical Council to favour his Grace with their observations upon it.

"It appears to the Lord President that Mr. Cowper-Temple's Bill, though very limited in its direct scope, can hardly fail to raise in Parliament the general question whether women ought to be able to look to medical practice, or certain branches of it, as open to them equally with men as a profession and means of livelihood. And I am to say that, as Government may have to express an opinion on this general question, with regard, on the one hand, to women who desire to obtain legal status as medical practitioners in this country, and, on the other hand, to the examination rules, or conditions, which prevent them from accomplishing their wish, his Grace would be glad that the observations with which the Medical Council may favour him should not be restricted to the particular proposal of Mr. Cowper-Temple's Bill, but should discuss, as fully as the Medical Council may see fit, the object to which that proposal would contribute.

"I am, Sir, your obedient servant,

"Dr. Acland, F.R.S., Oxford. (Signed) John Simon."

Mr. Turner said the question raised by this letter was such a wide one, that if the discussion of it were entered upon without due consideration, it would occupy the whole session. He therefore suggested the appointment of a large committee to consider the matter and put it into shape for discussion by the Council.

Dr. Andrew Wood seconded the motion, and after some discussion it was carried, and the following committee was appointed:—Mr. Turner (chairman), Sir William Gull, Sir Dominic Corrigan, Mr. Quain, Dr. Humphry, Dr. Wood, and Professor Rolleston.

The Registrar then read a letter of application from Miss Ellen M. Greenstreet, that a licence which she had obtained from the King and Queen's College of Physicians in Ireland might be registered as a licence in midwifery; together with documents relative thereto furnished by the King and Queen's College of Physicians.

Dr. Andrew Wood moved that they should be sent to the Solicitor for his advice, with a suggestion that he should take the opinion of counsel upon it if necessary.

After some formal business, the remarks on the reports of the Visitors of the Examinations of the Licensing Bodies which were visited in last year were submitted to the Council, and taken as read—viz., the Society of Apothecaries, London; the Royal College of Physicians of Edinburgh; the Royal

College of Surgeons of Edinburgh; the Faculty of Physicians and Surgeons, Glasgow; the University of Glasgow; the Royal College of Surgeons in Ireland; the Queen's University in Ireland.

It was moved by Dr. Andrew Wood, and seconded by Dr. Apjohn—"That the remarks of the Licensing Bodies on the reports of the Visitors of the Examinations be taken into consideration *seriatim*."

Dr. Parkes moved, and Mr. Quain seconded, the following amendment:—"That a committee be appointed, to whom shall be referred all the Reports of Visitations of Examinations and the remarks of the Licensing Bodies upon them, and that this committee shall draw up for the meeting of Council in 1876 a short digest of the whole, which may serve as a record of the visitations made by the Council in 1873, 1874, and 1875."

When, the hour of six having arrived, the debate was adjourned.

The correspondence referred to by Dr. Andrew Wood at the commencement of this day's proceedings consisted of—(*a*.) A letter from the Registrar-General, dated October, 1874, submitting a form of certificate of death under the new statute which came into force on January 1 last, and asking for suggestions likely to render it more useful to science and more acceptable to the medical profession. (*b*.) A reply of the President thereto, suggesting certain verbal alterations and arrangements for the convenience of the profession. (*c*.) A further letter from the President, calling attention to a suggestion of the Registrar-General that the General Medical Council should undertake to prosecute for offences under the Act, and pointing out that the matter having been considered in the year 1859, the resolution come to on the subject was—"That it is legally no part of the functions of the Council, according to the Medical Act, to institute proceedings at large for offences against the Act," and "That the funds at the disposal of the Council were quite inadequate for the purpose." (*d*.) A letter from the President to the President of the Local Government Board, urging the amendment of Article 178 of the General Consolidated Orders, which prescribed that certificates should be received only from Members of the Royal College of Surgeons of England, so as to include all registered practitioners, in accordance with the general policy of the Medical Act of 1858.

Second Day.—Friday, June 18.

adjourned debate.

The adjourned consideration of Dr. Andrew Wood's motion took the form of a discussion as to whether the subject was ripe for consideration at the present time, in which Dr. Andrew Wood, Sir Dominic Corrigan, Dr. Quain, Mr. Macnamara, Dr. A. Smith, Dr. Bennett, Dr. Parkes, and Dr. Humphry took part; and ultimately, in deference to the general feeling of the Council, Dr. Andrew Wood consented to withdraw the motion.

Dr. Parkes then moved—"That a committee be appointed to consider the Reports of the Visitations which have been submitted to the Council and sent down to the Licensing Bodies, and of the remarks of the Licensing Bodies upon them; and to draw up a report for the present meeting of the Council."

The motion was seconded by Dr. Quain, and agreed to; and the following committee was appointed:—Dr. Parkes (chairman), Mr. Quain, Dr. Apjohn, Dr. Humphry, Mr. Bradford, Dr. Begbie, Dr. Quain, and Dr. Rolleston.

The consideration of the returns from the Medical Department of the Army, received from the Director-General, showing the degrees, diplomas, and licences of the candidates for commissions in the Medical Department of her Majesty's Army, who had presented themselves for examination, was postponed with the consent of the Council.

The Secretary then read the opinion of the Solicitor upon the complaint of Dr. Mackern against Mr. Fant, for allowing a brass plate with his name to be affixed to a house occupied by a Mr. Carr, under which that person (who was unqualified) practised as a surgeon; and also for allowing a similar plate to appear on the door of a house in Derby (where Fant practised), occupied by a Mr. Gisbourne, an unqualified person. Mr. Fant stated that those persons were his assistants; but, upon being written to by the Solicitor, had, in order to avoid any conflict with the Council and his professional brethren, removed the objectionable plates; and the Solicitor advised that, under these circumstances, it would be inexpedient for the Council to take action against Mr. Fant under the 29th section of the Medical Act.

It was accordingly agreed, on the motion of Dr. Storrar, seconded by Dr. Thompson, "That the course recommended by the Solicitor to the Council be adopted."

reports of visitors on examinations.

There being no less than five separate notices of motion on the programme upon this subject, the Council, at the instance of Dr. Andrew Wood (Dr. Bennett seconding), resolved itself into a committee of the whole Council for the consideration of the Reports of Visitations of Examinations, which were taken as read; and it having been moved by Mr. Turner, and seconded by Dr. Fleming, that a copy of the report upon the University of Oxford be forwarded to the University for their consideration and remarks,

Dr. Rolleston said, though no doubt what the Council had to address themselves to upon these reports were general, and not special considerations, two wide principles seemed to be raised as to the special examinations required of the candidates. Weight should no doubt be given to comparative anatomy, but it would be seen from the list of agenda that the examination included the performance by the candidates of actual dissection. The first requirement in the agenda was "naked eye examinations," and then "in one or two instances the candidates were directed to expose parts not already dissected" of the portions exhibited to them for examination. He was forcibly reminded, in reading the report, of the passage in Martinus Scriblerus—"O gods! annihilate but space and time, and make two lovers happy"—(laughter),—because the greatest demands upon both would have to be made by each candidate in making dissections which must require two or three hours for their performance; and, indeed, he thought no efforts that could possibly be made by the candidates would ever get them over the difficulty, even supposing the bodies could be obtained. In Ireland, it was said, they did contrive to do it—(laughter),—and it was perfectly certain, if it could be done in Ireland, no difficulty would be found here; but as many as 200 pupils, he was told, had actually had separate parts provided for them to dissect. That added something, no doubt, to the glories of the sister island—(laughter),—but in England it was to be feared it would be found exceedingly difficult. No doubt if a candidate could show, as seemed to be required from the report, that he could manipulate microscopic instruments, cut thin sections, and shift a microscope slide over the one-hundredth or one-thousandth part of an inch, *à fortiori* he could operate on one-tenth of an inch; but he did not consider that at all necessary in order to prove a man's capacity—in fact, he himself could tell directly whether a man was a microscopist or not by the way his fingers moved. It was certainly stated that though candidates had been required to follow out a nerve or vessel, no regular dissection of a special region was required. He would point out upon what followed that if the principle were laid down that every candidate was to be competent to make preparations fit for museums, that was a totally different object from that contemplated by the examinations. That object was not to procure men competent, if necessary, to examine the examiners, or to show whether the candidate was fit to make preparations for inspection or use in museums, but to see whether a man could follow out a nerve or an artery, and if that could be done it was sufficient. Then it certainly did not appear that the visitors had paid adequate attention in the matter of comparative anatomy to the instructions which had been given them by the Council. That was a great and large subject; and he did not quite understand, in view of the statement that specimens of the tænia medio-canellata and tænia echinococcus in their cystic and cestoid forms were shown, and the identification of the skulls of venomous and non-venomous snakes required, what was meant by the questions being limited to elementary facts. A man who is a member of a university has an irrefragable right to have the trade-mark put upon him if he shows that it is safe to entrust to him human life. He had no desire to lower the medical profession, but these examinations ought not to be conducted on extremely scientific principles, and a candidate should be given just such work to do in dissection as would be necessary for him to perform in actual practice—*i.e.*, to find his way in'o the structures. With regard to the specimens mentioned amongst the questions in comparative anatomy, he would venture to surmise that there might be some members round the table who would fail to recognise the specimens which he had already named—(laughter),—indeed, they were very rare specimens. One observation upon this subject was that comparative anatomy was much more strongly represented in

the Council than it should be in a general assembly of the medical profession; and he would ask any one of them whether they thought it right to examine medical students upon these things. They would, he thought, be taking considerable responsibility upon themselves if they were to examine, say Professor Turner himself, upon the preparation of the sloths—(laughter),—and they should think twice before adding such questions as those to the examinations. It was not wise to give more weight than necessary to comparative anatomy, beyond its direct bearing on the practice of medicine.

Mr. TURNER said it would certainly be a great waste of time and labour to subject every candidate to the performance of a dissection, unless there was some doubt in the mind of the examiner as to the amount of practical knowledge possessed by the candidate, in which case the examiner would scarcely properly be fulfilling his duty did he not do so. Examiners should be allowed a discretion in matters of that kind, not only as regarded Oxford University, but in examinations in general. The Council had considered the subject of comparative anatomy very carefully last year, and that branch of the examinations should no doubt be properly carried out. For instance, zoology had to be studied as the basis of comparative anatomy, but to expect from medical students more than a general acquaintance with the wide subject of zoology, and perhaps a special acquaintance with those points in comparative anatomy which bore more immediately on medical practice, was quite unnecessary. All they need ask was the candidate's knowledge of general principles and of the special application of those principles to their own profession.

Dr. THOMSON thought that to insist upon dissection in all cases would be to render examinations extremely cumbersome and almost impossible to be got through. An experienced examiner would at once detect by various slight indications in oral examination whether a candidate was a practical man or not. Speaking for himself, without going further into the matter, he could tell by the way a man handled a scalpel or a pair of forceps whether he could dissect. Considering the state of agitation most candidates are in at such a time, to demand dissection then and there from a man was hardly fair. He, however, agreed with Professor Turner that it should always be in the power of the examiner to call upon the candidate to use the knife where there might be the least suspicion of a want of practical knowledge. Then it was quite out of the question to demand anything like an extended knowledge of the enormous subject of comparative anatomy, though a very useful scientific knowledge, sufficient for a foundation, could be obtained; and it was much more reasonable to ascertain the knowledge of candidates upon some special points than to go into a wide range of subjects. For it was not the range of knowledge possessed by the candidate that should be most considered, but far more his manner of taking facts and reasoning upon them so as to show whether he has a true scientific knowledge of his subject. It would, therefore, be inexpedient for the Council to lay down any general rules, further than that the candidate should be required to show that he has a sufficient practical knowledge.

Dr. HUMPHRY did not consider that the observations of the visitors were at all a reflection upon the University of Oxford: the report was a simple statement of facts, and not a comment upon deficiencies. The statement that the questions in comparative anatomy were limited to elementary facts might quite mean that the visitors did not consider it a good practice. He could not let the remarks which had fallen from the three eminent anatomists who had spoken on the subject of dissection being required at examinations pass without comment, for it was surely necessary that students should exhibit to the examiners that they had themselves been in the habit of dissecting. He would allude upon this point to the excellence of the anatomical examination of the Queen's University, Ireland, than which nothing could be more admirable. He had seen sixty-seven candidates at one of those examinations, most of whom were required to dissect a portion of the body, and after all it did not require so very large a number of bodies for that purpose, inasmuch as they might be dismembered, and a part given to each of the students. So impressed was he with the value of this practice, that upon returning to Cambridge (and this was one of the valuable points in connexion with visitations) he had urged on the examiners there the importance of doing likewise, and it had been carried out there ever since, each candidate for the second examination at Cambridge being now required to dissect some part of the body, in addition to the other subjects of examination. It was beyond doubt a very important matter, but whether it was to be regarded by the Council as a *sine quâ non* in examinations was another thing, and he was not prepared now to advocate their making it indispensable, as he could quite conceive difficulties would arise. In conclusion, he would urge that a discretion upon the subject would certainly be an advantageous feature in examinations, though it might not always be possible that it should be actually performed.

Dr. STORRAR thought it would be wrong for the Council to be carried away by the discussion so far as to say that practical self-inquiry for the student was not an indispensable matter. From what he had seen during a visit to the Durham University, in company with Dr. Sharpey, nine years ago, where the candidates were exercised in dissection, he should deeply regret if the Council were to create an impression outside that they consider this department of medical examinations in the least degree unnecessary.

Dr. ANDREW WOOD, speaking from a practical, and not at all from a scientific point of view, would be sorry if the Council were to issue recommendations which could not be carried out, and he had no hesitation in saying that if they were to issue a recommendation (which would be equivalent to a rule) that every candidate for a licence, degree, or diploma should dissect, they would issue a recommendation which could not be observed. As Inspector of Anatomy for Scotland, he felt sure the recommendation could never be fulfilled, for Professor Turner's class at Edinburgh alone consisted of 400 students, of whom a large number went up for examination every year. That, however, was no reason why dissection, when necessary, should not be had recourse to; and the students, knowing they might be called upon at their examination to use the knife, would pay more attention to dissection.

Dr. BENNETT, as one of the visitors whose report was being subjected to criticism, remarked that any report which was absolutely colourless, and which was not given without a considerable degree of honesty and outspokenness, would be of comparatively little value. It had not been their intention to cast any slur upon the University examinations at all, and certainly, with regard to the subject of comparative anatomy, it never entered into the minds of himself or his colleague to suppose that they were speaking derogatorily of the examination in comparative anatomy, or doing more than suggesting what was most proper in the examination of medical students. Without going into minutiæ, they had simply expressed their opinion that the examination in comparative anatomy was a sufficiently good one to enable the candidates to come out of their examinations satisfactorily as medical men. After alluding to the excellence of the examinations at the Queen's University, Ireland, with regard to dissection, the speaker concluded by saying that he felt very strongly that any such report as this would be really worthless unless it possessed a certain amount of point which might render it open to criticism.

The CHAIRMAN thought there should be no reticence on the part of the visitors in stating their opinions quite frankly; otherwise their reports would be valueless; and he put to the meeting the following resolution:—

Moved by Mr. TURNER, seconded by Dr. FLEMING, and carried —"That a copy of the Report of the Visitors of the Examinations of the University of Oxford be forwarded to that University for their consideration and remarks."

The Report of the Visitors upon the Cambridge University Examination was next discussed.

Dr. HUMPHRY said there had of late years been considerable alteration and improvement at Cambridge in the mode of conducting the medical examinations, and that they were now in the habit of appointing examiners who had not been educated at the Universities; and

A resolution similar to the last was passed, that a copy of the report be forwarded to the University.

The consideration of the reports with regard to the Dublin and Durham Universities was adjourned.

Mr. TURNER, as representative of the University of Aberdeen—the report upon which was the next to be considered,—upon the question whether students would be more satisfactorily examined by their teacher or a stranger, said the same principle applied to that as to choosing a wife. (Laughter.) As the man who married a lady with whom he was well acquainted stood a better chance of getting a good

wife than if he picked up someone in a ball-room, so an examiner stood the best chance of finding out what was in a student if he had taught him and had watched his career. The examining bodies of the three Scotch Universities, Edinburgh, Glasgow, and Aberdeen, had now become synods, comprising a non-professorial as well as the professorial element.

After a few remarks from Sir WILLIAM GULL, who thought they must have something more accurate than Professor Turner's method of choosing a wife—(laughter); from Dr. ROLLESTON, who considered that a snare was always placed in the way of any man who should examine his own pupils without a colleague to act as a check upon him: from Dr. STORRAR, who thought that eminent teachers made the best examiners; from Dr. ANDREW WOOD, who said that the general feeling of the country demanded that the system in use in the Scotch universities should be generally adopted, and independent examiners called in; and from Mr. QUAIN, who pointed out that the subject had been dealt with forty years ago in a report sent in to Sir Robert Peel, the then Minister of the Home Department,

Sir DOMINIC CORRIGAN said that as the Council seemed to have resolved itself into a kind of mutual admiration society, the representative of each body speaking in self-laudation, he saw no reason why he should be debarred from the satisfaction of reminding the Council that for many years before it came into existence the body he represented had carried the principle now so generally advocated into effect, and had provided an additional safeguard against "cramming," by providing that no examiner should act for more than two years, it being found that "grinders," with an unerring instinct, were in a year or two able to discover the groove in which the examiners' minds ran, and to prepare their pupils accordingly. (Laughter.)

Dr. HUMPHRY thought it very important that the co-examiners should have an equal share in the examinations.

Dr. FLEMING said that in the University of Glasgow the non-professorial examiners had always had a full share in examining the candidates; and

A resolution, similar to the two preceding ones, was moved by Dr. BENNETT, seconded by Dr. QUAIN, and passed, relative to the University of Aberdeen.

The consideration of the next report on the University of Edinburgh was then adjourned on the motion of Mr. TURNER.

THIRD DAY.—SATURDAY, JUNE 19.

ADJOURNED DEBATE.

The Council continued the discussion in Committee of the Reports on the Visitors of Examinations.

Mr. TURNER, on behalf of the University of Edinburgh, in replying to some criticisms upon the mode of conducting their examinations, pointed out that the teaching element was a very valuable ingredient in the examination of pupils, and that it existed at Oxford, Cambridge, and Durham.

Dr. ANDREW WOOD said the examination in midwifery appeared to have been conducted entirely by Professor Simpson.

Dr. HUMPHRY said the additional examiner was present, but took no part in the examination.

Dr. ANDREW WOOD said that was not the intention of the Council, which was that the co-examiners should have an equal voice with the professors.

Dr. ROLLESTON said the plan pursued at Oxford was perhaps the best calculated to combine the advantage of continuity of traditional teaching with the independence of view secured by visitorial examiners—viz., that the Regius Professor of Medicine occupies the position of *ex officio* supervisor of examinations. But while there was a great deal of good in securing this traditional continuity, there was the constant danger, which was experienced both in this country and on the Continent, by the sale of *libelli*, containing all the questions which the *ex officio* examiner had put in the past, from which the students were able to "cram" themselves. This danger was to some extent capable of being met by giving the power to any single examiner of withholding his certificate. There should be no autocracy in the hands of the *ex officio* examiner. At the same time he would remind Professor Turner that, even supposing Oxford, Cambridge, and Durham had gone wrong in this matter, there was no reason why Edinburgh should follow them. (Laughter.)

Dr. HUMPHRY said that in the instance pointed out the examination took place without the co-examiner taking any part in it—the questions being put exclusively by the professor. He thought it desirable that the University of Edinburgh should see that its directions were strictly carried out in this respect. While strongly in favour of independent examinations, he was fully aware of the value of the teaching element, which was the only protection against an evil that sometimes took place,—the rejection of really good men, from some slip or mishap in their examination. Nothing was more discouraging to a school, and nothing was more to be deplored; and yet experience showed that nothing but the presence of the teaching element could guard against it.

Dr. ANDREW WOOD's motion, which was seconded by Dr. BENNETT—"That a copy of the report be forwarded to the University of Edinburgh for their consideration and remarks," —was agreed to.

THE UNIVERSITY OF ST. ANDREWS.

After a few words from Dr. ALLEN THOMSON,

Sir DOMINIC CORRIGAN, in a humorous speech, protested against continuing the existence of the University of St. Andrews as a body for conferring degrees in medicine, when he found it stated in the report on its visitation that its principal subjects of examination for medical degrees appeared to be the history of the reign of the Stuarts and the anatomy of the invertebrata. (Laughter.) It further appeared that there was no infirmary, no chemical laboratory, and, finally, no medical students. (Much laughter.)

Dr. FLEMING protested against the tone of Sir Dominic's remarks, it being well known that St. Andrews stood in an exceptional position with regard to granting degrees, power being reserved to confer the degree of M.D. each year upon ten men over the age of forty, who should in the opinion of the University, from their position in the profession and qualifications, be fitting objects of such a distinction.

Dr. SHARPEY having stated that it appeared to be scarcely worth the while of the Council to visit the examination of a body who only had the power of conferring ten degrees in a year,

Dr. HUMPHRY, as one of the visitors, defended the University of St. Andrews, and said that notwithstanding all that had been said, it was a medical school in which an *annus medicus* could be kept. It appeared to him and his colleagues that a body having such exceptional powers might be made very useful in its way, because there were always men in the profession who had been unable in their youth to obtain those distinctions to which their learning and their position in the profession entitled them; and it was a good thing that those should have the opportunity of connecting themselves with an old and interesting University. It appeared, however, to them (the visitors) that the mode in which that privilege was now exercised by the University was not exactly calculated to benefit the profession at large, inasmuch as it was simply to accept testimonials of such persons as applied; and those having accumulated in a list, the opportunity of being examined came to the candidates in rotation. If a little more care were exercised in the selection of candidates—without entering into the question of whether examination is the proper test,—it appeared to the visitors that the University of St. Andrews might be the means of conferring a great benefit upon the profession. At the present time it did not do so, but was rather exercising a mischievous effect in giving to certain men distinctions which were not warranted by their position or attainments. It was not quite correct to say that there was no chemical laboratory, because there was a Professor's laboratory, although there was no such convenience for the students.

Sir DOMINIC CORRIGAN read a passage from the report stating that there was no infirmary, no dissecting-room, no chemical laboratory, and finally no medical students. (Laughter.) How, then, was the *annus medicus* to be kept?

Mr. TURNER said that, however curious the visitors' statement that this was a medical school in which an *annus medicus* could be kept might sound, in face of the facts alluded to in their report, it was perfectly true, and he would explain how it was done.

Sir DOMINIC CORRIGAN: You need not trouble yourself. It would be of no use to us in Ireland. (Laughter.)

Mr. TURNER: There is an admirable course of lectures on chemistry and natural history.

Sir DOMINIC CORRIGAN: To whom?

Mr. TURNER: To the students.

Sir Dominic Corrigan: The report states there are none. (Loud laughter.)

Mr. Turner said that he could even get over that difficulty, and proceeded to explain that students at the University of St. Andrews training for a degree in arts, and attending a course of lectures on chemistry and physiology, might claim to have passed through an *annus medicus*. He was in favour of continuing the present power of granting degrees, but thought that the examination, and especially the clinical part of it, ought to be carried out with the greatest strictness.

Dr. Bennett said that a man who wanted a degree ought not to be afraid of the thorough examination to which Professor Turner had just referred; and thought that the present system was not calculated to benefit the profession at large.

A resolution moved by Dr. Thomson, and seconded by Dr. Bennett, directing the attention of the University of St. Andrews to the remarks of the visitors, was unanimously agreed to.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

Dr. Bennett, the representative of the College, referred to the remarks of the visitors upon the clinical examination, which were as follow:—"On the forenoon of Thursday, April 15, we attended the clinical examination of nine candidates by one examiner in the medical wards of St. Mary's Hospital. Each of the candidates was placed, at the same time, at the bedside of a patient, with directions to examine the case, and to report upon it in writing, including history, present symptoms, and diagnosis. In a side room were placed microscopes and also specimens of the urine of the selected patients. At the expiry of about twenty minutes the examiner read one of the written reports, put some oral questions on the case, and asked the candidate to describe one or two specimens of urine under the microscope. As far as we could make out, this appeared to be the general plan of the examination. When the nature of the case was entirely mistaken, some assistance was given, and the candidate was allowed some time to improve his diagnosis; or another case was substituted. The few questions put to the candidates at the bedside usually arose directly out of the case or were suggested by the view the candidate took of it; they related exclusively to pathology and diagnosis. We failed to hear any reference made to prognosis or treatment, though most of the cases appeared well fitted to elicit such questions. We must add that considerable hurry and confusion prevailed during this examination, which lasted about two hours and a half. Remarks: This clinical examination was on the whole unsatisfactory. The cases selected were, indeed, sufficiently varied and characteristic, and nothing could exceed the zeal of the examiner and his desire to make the examination complete. But, notwithstanding this, we are compelled to state that in our opinion this examination was an inadequate test of the practical attainments and knowledge of the candidates. In the first place, the work was too much for one man. To conduct the examination of such a number of candidates within a limited time, in a methodical and thorough manner, two examiners at least are absolutely necessary. The result of one man attempting to do the whole work of examining so many candidates at once, was a certain amount of disorder and confusion, and an unequal incidence of the examination, some being hurried over to enable the examiner to get at the others, who meanwhile were waiting. We submit also that, as a matter of justice to all parties, the responsible duty of practically testing a candidate at the bedside should not be entrusted to one individual, however impartial and unbiased his judgment may be. In the second place, it occurred to us that the examiner aimed too much in the direction of testing the candidate's fitness to take a case, and too little in the way of testing his practical acquaintance with disease. No doubt different views may be taken of the best mode of conducting a clinical examination, but it is hardly open to question that the object of such an examination is to ascertain at the bedside whether the candidate has gained such an acquaintance with disease as to enable him to discover the nature of a case with reasonable rapidity, and apply to it the resources of medicine. Of such a practical knowledge, mere facility or neatness in case-taking is an inadequate test. As the result of the oral questioning of the examiner was not recorded at the time, we did not see that he had any data on which to form his judgment except the written reports by the candidates; and these, as criteria of practical knowledge, we considered insufficient." This deficiency arose out of an accident, and he (Dr. Bennett) had no doubt it would be remedied in future.

Sir William Gull said he could not allow this case to pass without some remarks as a Fellow of the College. That nine candidates should be hurried over by one man in a clinical examination, and that the representative of the College of Physicians should say that that was an accidental thing, was a matter which was calculated to create considerable surprise; because it was no explanation and no defence. No such accident should be allowed to occur in such a body as the College of Physicians. He confessed he was not prepared for such a state of things, and he looked upon deficiency in such a branch of medical study as a very serious matter; because these men were going to practise medicine, and the very thing upon which they ought to be most exhaustively examined was the thing which was done most carelessly. It was the duty of the Council to put in their protest against this, and to state that they were strongly impressed with the defective condition of the examinations conducted by the College of Physicians for their licentiates.

Dr. Andrew Wood said it was not creditable in the headquarters of medical science in London to see a clinical examination conducted in the way here described. Dr. Bennett's defence was that it was accidental. Were nine men to be introduced into the profession by an accident? (Applause.) He considered that clinical examination was of the most essential importance, and upon investigation he could not accept the explanation that the thing occurred by accident, because the same thing occurred at St. George's Hospital, of one examiner being set to examine a number of students. Another excuse which Dr. Bennett appeared to make was that it was a matter of expense. If that were so, it was the duty of a body like the College of Physicians of London to charge such a fee for their degree as would enable them to examine efficiently.

Dr. Rolleston called attention to the recommendation of the General Medical Council, requiring that two examiners should always be present during the examinations. This was a perfectly sound principle, both morally and medically, and one which ought not to be departed from.

Sir Dominic Corrigan was not surprised at what had happened in London, because he recollected a similar "accident" happening in the North. (Loud laughter.) Visitors of the Council went down to Scotland, and found an examination being conducted in a similarly defective manner, when the excuse was—and it was presented by his friend on his left (laughter)—that the examiners had gone out "grousing." (Loud laughter.) The cases were exactly parallel, and he would not like to be harder on the one than on the other.

Dr. Bennett was surprised at the tone taken by Sir William Gull, who must be aware by experience that this was not the usual mode of conducting clinical examinations by the College of Physicians. The case was quite exceptional.

Sir William Gull said he was induced to move the resolution—"That special consideration be requested to be given to such part as refers to the clinical examination for the licentiates, and to the deficiencies in the department of medical jurisprudence,"—in consequence of the high position which ought to be taken up by a body like the College of Physicians. If these things were done in the green tree, what would be done in the dry? (Applause.)

Dr. Fleming said he was very sorry to hear of a clinical examination being conducted in the way described—nine gentlemen running about the wards, and an examiner running after them. (Laughter.) At the same time, the gentleman who had acted as examiner was, as he could testify, one eminently qualified for the office.

The Chairman having put the motion, Dr. Storrar, Mr. Macnamara, Mr. Quain, and Dr. Thomson begged Sir William Gull to withdraw his rider, which really amounted to a vote of censure on the College of Physicians.

Sir Dominic Corrigan, on the other hand, supported it, on the ground that it was in accordance with precedent.

Dr. Bennett said it was entirely unnecessary, because, as Sir William Gull well knew, at the first meeting of the College what had taken place at the Council table would be fully reported to the governing body. He thought it was very unbecoming to make such a remark as that made by Sir William Gull, that the College of Physicians might not have full knowledge imparted to them of the criticisms made upon their examinations, because he (Dr. Bennett) would consider himself unfit to sit as their representative at the Council if he omitted to carry its recommendations to the body he had the honour to represent.

Sir WILLIAM GULL said that Dr. Bennett had been in the past singularly inefficient in his duty towards the Council, because, whereas he knew it was the inflexible rule of the Council that two examiners should be present, he had not moved his College sufficiently to get the abuse corrected without the interference of the Council.

Dr. BENNETT: What right has Sir William Gull to say that I have been deficient in my duty, when he knows perfectly well that the matter has been called to the attention of the College?

Dr. ROLLESTON hoped that this question would not be discussed upon personal grounds. He felt bound to vote with Sir William Gull, because with what justice could they as a Council ask other bodies in Scotland and Ireland to set their houses in order if they were not prepared to do the same by an important and influential body like the College of Physicians of London? (Applause.) He hoped Sir William Gull would stand to his guns.

Dr. ANDREW WOOD supported the resolution.

Mr. MACNAMARA was surprised at the inconsistency of Sir William Gull, who seemed to have assumed the character of Rhadamanthus in the Council; because when he called his attention to a similar point in the report of the University of St. Andrews, he had passed over the thing *sub silentio*.

Sir WILLIAM GULL explained that that was because he was in the room part of the time, and did not notice it.

Dr. QUAIN suggested that the Council should wait until next year, in order to see if the suggestions of its Visitors were carried out before passing what amounted to a vote of censure.

Dr. STOKES said that the most important function of the Council was to see that its recommendations were carried out.

The PRESIDENT then put the motion of Sir William Gull, which was carried by 11 to 10.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Mr. QUAIN said there were two subjects referred to as defective—one, that of there being no examination in chemistry; and the other, that physiology was not sufficiently examined upon. As to the first, it must be borne in mind that the College of Surgeons recommends all its candidates to undergo an examination in chemistry before they begin their medical studies. It was put amongst the optional subjects with mechanics, which they might pass at other examinations, and if they passed in chemistry, they were not asked to do so afterwards when their professional studies began. The other subject was of more importance—viz., the criticism as to assigning only two questions in physiology and the insufficiency of the oral examination on the same subject. It was not, however, quite correct to say that one of those questions only need be answered. Candidates must answer four out of six questions, including one of the first two; but answers to less than six questions were not received before four o'clock, thus discouraging as much as possible any tendency to answer one question only in physiology, because no man could go on with his examination who did not answer four of the six questions before four o'clock; and the examination ends at half-past four. The report set out the questions in physiology—"Describe the coagulation of the blood, and state what is the constitution physically and chemically of the component parts into which it is resolved when coagulated. Describe the distribution of the pneumogastric nerve in the thorax, and state what are its functions in regard to the thoracic viscera." Well, if a gentleman answered those two questions fairly, they would not form a bad test of his physiological knowledge, short as they appeared to be. The visitors, however, directed attention to another matter as regards anatomical examination. They said: "Under the present mode we do not think that any candidate is likely to pass without possessing an adequate, and in most cases an intimate, knowledge of anatomy. In regard to physiology the case is different. In the written examination two questions are set on this subject, of which one must be answered. At the oral examination a few questions on physiology were put to some candidates, while many others were not examined on it all. The examiners did not appear to consider it an essential part of their duty to test the knowledge of every candidate on this subject. This we consider to be an unsatisfactory state of matters." He agreed with the reporter that it was unsatisfactory, and he had communicated with the President, who replied that they were preparing to adopt a method which would bring out physiological knowledge more fully. Another objection was with reference to materia medica, in which subject the College never had examined for the reason already stated—that students were expected to go elsewhere and get a licence in medicine. For those who could not do so, however, there was a method of examination by two of the leading physicians in London, Drs. Peacock and Wilkes from St. Thomas's and Guy's Hospitals, who always gave, in their papers, questions as to drugs and their therapeutical effects. In conclusion, Mr. Quain said he had no doubt that the recommendations of the visitors would be attended to by the body he represented, but it must be remembered that at the present time in every well-conducted elementary school there was a chemical laboratory and chemical teaching, and thus the boys were prepared for passing a fair examination in chemistry before they began their medical studies; and that was what the College of Surgeons endeavoured to encourage.

Sir WILLIAM GULL could not see that Mr. Quain had met the case made out against the College of Surgeons. His defence was that boys were taught chemistry, and that it was expected the students would bring up some medical knowledge from other sources. But it must not be forgotten that the College in their programme require knowledge upon these subjects, and profess to examine upon them.

Mr. QUAIN: They bring certificates that they have studied those subjects.

Sir WILLIAM GULL asked if the certificates were worth the paper they were written upon in the eyes of any examining body. Teaching bodies should not put these things in their programme unless they themselves certified that the men possessed the knowledge in the only efficient way in which it could be ascertained—viz., by properly conducted examinations.

Dr. STORRAR was inclined to think that the case in defence of the College of Surgeons would have been stronger if Mr. Quain had simply said—"The College undertakes to test the knowledge of anatomy and surgery, and nothing further." He did not mean to say that the examinations which took place on other subjects were worthless, but the evil was that a man was able to say he had passed the College of Surgeons in subjects upon which it was admitted the College of Surgeons were not in a position to make any real test of knowledge. As to preliminary education in natural science, the Council had long since recommended that study by students before commencing their medical course. It was a practice which was now growing slowly; and in some of the grammar schools there were very fair schools of natural science at the present time; but he was not aware that any of them proceeded in their teaching beyond the metallic elements. Thus, although a schoolboy may have studied chemistry enough to have some ideas upon elementary chemistry and of some of the processes of chemical reasoning, yet for pharmaceutical purposes their knowledge would be insufficient. Upon the whole, however, he thought a great deal of this criticism might have been spared, because he was one of those sanguine ones who still looked forward to the institution of conjoint examinations. He looked round with positive certainty that he would see a smile upon Sir Dominic Corrigan's face at this suggestion, and sure enough there it was. (Laughter.)

The hour of four having arrived, the debate was adjourned.

FOURTH DAY.—MONDAY, JUNE 21.

At the sitting of the Council the following document was read:—

"Local Government Board, Whitehall, S.W., June 11, 1875.

"I am directed by the Local Government Board to forward to you the accompanying copy of a general order which they have issued, amending the provisions contained in the orders in force in unions and separate parishes, with respect to the qualification of the medical practitioner by whom a certificate is required to be given to entitle a district medical officer to a fee for amputation, performed in the case of any pauper.

"The regulation hitherto in force required that the certificate in any such case should be that of some member of the Royal College of Surgeons of London, or of some fellow or licentiate of the Royal College of Physicians of London. Having regard, however, to the Medical Act, 1858, which was passed long subsequent to the general orders containing the regulation referred to, the Board are of opinion that the restriction imposed should be removed, and that the qualification should be extended in accordance with the principle of that Act. Hence, the order now issued substitutes for the proviso on the subject in the previous general and other orders, one which makes the qualification the same as that prescribed with reference to the appointment of medical officers by the orders in force in that behalf.

"The copies of the order intended for the district medical officers will be sent to the clerk to the guardians, in each case, for distribution amongst those officers. "I am, Sir, your obedient servant,

"To the Clerk to the Guardians. H. FLEMING, Secretary."

To the Guardians of the Poor of the several unions and separate parishes in England and Wales; to the District Medical Officers of the said unions and separate parishes respectively; and to all others whom it may concern:

Whereas, by certain articles contained in certain general and other orders addressed by the Poor-law Commissioners, the Poor-law Board,

and the Local Government Board respectively, to the guardians of the poor of the several unions and separate parishes in England and Wales, provisions are made for payment to district medical officers of special remuneration for certain operations, including amputation, subject to the following proviso:—"Provided that, except in cases of sudden accident immediately threatening life, no medical officer shall be entitled to receive such remuneration for any amputation unless he shall have obtained, at his own cost, the advice of some member of the Royal College of Surgeons of London, or some fellow or licentiate of the Royal College of Physicians of London, before performing such amputation, and unless he shall also produce to the guardians a certificate from such member of the Royal College of Surgeons, or such fellow or licentiate, stating that, in his opinion, it was right and proper that such amputation should be then performed;" and whereas in certain unions and separate parishes the operation of the articles of the said several orders comprising the provisions for the special remuneration of district medical officers as aforesaid, has been wholly or in part suspended until further order in that behalf; and whereas it is expedient that the proviso above recited should be rescinded, and another proviso substituted in its stead:

Now therefore, we, the Local Government Board, in pursuance of the powers given by the statutes in that behalf, hereby order as follows:—

Article I.—The above-recited proviso in the said several orders shall, from and after the date at which this order shall come into operation, be rescinded.

Article II.—From and after the same date the following proviso shall be substituted in place of the proviso so rescinded:—"Provided that, except in cases of sudden accident immediately threatening life, no medical officer shall be entitled to receive such remuneration for any amputation unless, before performing it, he shall have obtained, at his own cost, the advice of some person who shall be registered under the Medical Act of 1858, and shall be qualified by law to practise both medicine and surgery in England and Wales, such qualification being established by the production to the board of guardians of a diploma, certificate of a degree, licence, or other instrument, granted or issued by competent legal authority in Great Britain or Ireland, testifying to the medical or surgical, or medical and surgical, qualification or qualifications of such person, and unless he shall produce to the guardians a certificate from such person as aforesaid, stating that, in his opinion, it was right and proper that such amputation should be then performed.

Article III.—In any union or separate parish where the operation of the articles of the said several orders comprising the provisions for the special remuneration of district medical officers has been suspended with respect to amputations, the operation of the proviso substituted by this order shall also be suspended to the same extent until further order is made in that behalf.

Article IV.—In this order the term "separate parish" means a parish or place which is under a separate board of guardians. The word "union" includes any union or parishes incorporated or united for the relief or maintenance of the poor under any Act of Parliament. The word "guardians" includes any governors, directors, managers, acting guardians, vestrymen, or other officers appointed or entitled to act in the distribution or ordering of relief to the poor from the poor-rates under any Act of Parliament.

Given under the seal of office of the Local Government Board, this tenth day of June, in the year one thousand eight hundred and seventy-five.

J. Sclater-Booth, President.
Clare Savell Read, Secretary.

This order was published in the *London Gazette* of Friday, June 11, 1875, on which day the same came into operation.

It was then moved by Dr. Storrar, seconded by Dr. Andrew Wood, and agreed to—"That the communication from the Local Government Board be entered on the minutes."

Royal College of Surgeons: Adjourned Debate.

Dr. Storrar continued the discussion upon the visitations of the examinations of the Royal College of Surgeons. He was pleased to see the College upon the whole taking such an onward course. In former years he had spoken rather hardly of them. They were a powerful body for good or evil in relation to medical education, and he earnestly hoped that the good spirit which had sprung up in the young men of the College would make it one of the advanced bodies of education in the kingdom.

Sir William Gull inquired what was the precise nature of the clinical examination of the Royal College of Surgeons. As at present advised, he understood that the patients were brought to the College instead of the students being taken to the hospital. Would it not be better to take them to some hospital where there were numerous surgical cases, and let them be shown an accident case or a compound fracture, and be asked how they would deal with that? Now, of course this could not be done in the lecture hall of the College of Surgeons. There was also another question to which he would like an answer—namely, why there was no proper examination in chemistry at a time when the whole course of surgery was being modified by chemistry, so that it was almost as important for a surgeon to know chemistry as to know anatomy?

Mr. Quain replied that a student who came to the Royal College of Surgeons was told that he must get a qualification in medicine elsewhere, so that there was no such thing as a person qualifying by the diploma of the Royal College of Surgeons only. As to the question put by Sir William Gull with reference to surgery, it must be borne in mind that the real surgery of this country—that surgery of which Sir William Gull did not know the meaning—(laughter),—is in the hands of the Fellows of the College of Surgeons. There were two diplomas, one of which did not allude to the other. The fellowship examination was an entirely different one from that of a membership; it was more comprehensive, and it went *de novo* over the subjects upon which the member was examined. Moreover, a person need not be a member of the College of Surgeons to become a fellow. The real surgery of the country was in their hands; they were examined clinically in the hospital, and much more extensively in the other subjects, and they required two years more study than were required for members. With regard to the examinations in chemistry and materia medica, he had already replied that these qualifications were expected to be taken either at the College of Physicians or the Society of Apothecaries. It was found by experience that it was better for young men to divide their studies in that way than to be studying so many subjects at the same time. At the same time, if a student was unable from pecuniary or other reasons to go to another corporation to get the chemical and physiological diploma, they were in the habit of submitting him to examination by two physicians, whose fiat enabled him to take a qualification entitling him to fill certain positions in which a diploma in these branches was a *sine quâ non*.

After some remarks by Mr. Macnamara and Professor Thomson,

Dr. Humphry alluded to the statement of Mr. Quain that the surgery of the United Kingdom was in the hands of the Fellows of the College of Surgeons.

Mr. Quain: I beg your pardon; I never said anything about the United Kingdom.

Dr. Humphry: I meant to say of England. (Laughter.) Well, the fact being that eleven gentlemen had passed the fellowship in the last twelve months, it would appear that only that number were competent to practise in the higher branches of surgery. But he was informed that not only is the surgery of England not in the hands of Fellows of the Royal College, but that there is a difficulty at the present time in filling up even the higher appointments in London with Fellows, the reason being that the regulations for the fellowship of the Royal College of Surgeons in England are such that the great mass of the surgeons in England are precluded from being candidates for that examination. This was a very serious defect, and he was glad to have an opportunity of mentioning it in the Council, because he hoped that alterations would be made in those regulations to which he had referred, which would admit members of the College of Surgeons fairly, freely, and fully to examinations for the fellowship, and that they should not be precluded, as they now are, by regulations which it was impossible for them to comply with. He agreed with Sir William Gull that the clinical examination should be more real and thorough.

Sir William Gull was surprised that any member of the College of Surgeons should recoil from his duty in supporting the resolution which he proposed—that the examinations of the College of Surgeons for its members should include clinical examination. He had been called the Rhadamanthus of the Council—a charge which rather reflected upon the other members; but considering his position in the College of Physicians, he thought it was hard that he should be driven to move this resolution, which he thought would come with a better grace from some member of the College of Surgeons. He must add, that he was astonished to hear that members of the College of Surgeons were not considered fit to perform the higher operations of surgery. Why, the highest operations in surgery were sometimes necessary to be performed on the spot, admitting of no delay whatever, and he was bound to say that in many cases to which he had been called in the country, he had been astonished at the skill that had been shown in some of the most obscure phases of surgery where men had been called upon to act at the moment. He was bound to persist in the resolution which he had foreshadowed, although he knew that the College of Surgeons was an influential body, and anyone who did not consider it perfect incurred a sort of odium; but in this matter, far from being perfect, it was absolutely deficient. Again, touching upon the subject of the surgery of the country being in the hands of the Fellows, he ventured to say that the fellowship of the College of Surgeons should not depend upon the mere cunning of hand or practical qualities of a man, but more upon the higher qualities of science upon which depended to a great extent the future development of the profession. Members of the College should be equally well qualified with its Fellows for all the emergencies of life,

and therefore he felt it to be the duty of the Council to recommend the institution of clinical examination in surgery. It was done in Edinburgh, where each candidate had a case assigned to him, and was put into a ward so as to form an opinion upon it, and was required to write a history and diagnosis of it, recommending the proper treatment to be adopted, etc. The hon. baronet concluded with some further criticisms upon the examination in medicine of the Royal College of Surgeons, which he stigmatised as a sham.

Dr. Parkes, as one of the visitors, defended the system of examination, which was good so far as it went, although, no doubt, examination at the bedside was better.

Dr. Andrew Wood said that since the system of clinical examinations had been introduced at Edinburgh the students had been more attentive to hospital practice. The would be no difficulty in adopting it in London, and he was disposed to support Sir William Gull's recommendation, not only with reference to the clinical examination, but also with reference to chemistry, because he could not understand how any man could be a good surgeon who had not a fair knowledge of chemistry and materia medica.

Dr. Rolleston said in connexion with this subject he felt he would be adding one to the many wrongs of Ireland if he did not point out that the Royal College of Surgeons in Ireland would bear favourable comparison with the English body in the matters in question. On turning to the examinations of the body, he found three cases of pure surgery: the fourth, however, classed under that head was a case of hysteria, which he supposed had been confounded by the visitors with the surgical cases.

Dr. Aquilla Smith reminded the learned professor that there were several cases in the books in which hysteria and surgery were intimately connected, notably one cited by Sir Benjamin Brodie, where an amputation of the leg had taken place under a hysterical delusion that there was disease of the knee-joint.

Dr. Rolleston's answer to this was that it used to be said that it required a surgical operation to get a joke into a Scotchman's head. He was not aware that the same remark applied to another division of the United Kingdom. (Laughter.) In all seriousness, however, he felt bound to support the resolution suggested by Sir William Gull; and he felt that it was not in accordance with the recommendations of the Council that one body should give its *imprimatur* to examinations by another body in the way suggested as an apology for the deficiency complained of in the College of Surgeons.

The usual resolution forwarding the Reports of the Visitors to the College for consideration and remarks having been put from the chair,

Sir William Gull moved—"That attention be drawn to the incompleteness of the physiological part of the examinations, and deficiency of the clinical examinations for the membership; also to the total want of any examination in chemistry and materia medica, though these subjects are in the curriculum."

Mr. Quain resented such a resolution as this as casting a stigma upon the representative of the body against whom it was directed; because it was as much as to say that he would not perform his duty in representing the views expressed by the Council unless a formal resolution were passed. (Cries of "No, no.") So he understood it. Would any member explain to him what his (Mr. Quain's) duty was to the Board?

Sir William Gull, in answer to the question, would tell him what his duty was not. It was not to defend any deficiencies in the College of Surgeons, or to endeavour to make the Council satisfied that they were doing their work well when they were doing it ill. He was sent here to represent the interests of the public, and the advance of surgical study in every way; and in answer to the inquiry what his duty was, he would say, to vote for the present motion. (Laughter.)

Dr. Aquilla Smith agreed that the recommendation would have much more effect coming from the Council as a body than as the mere statement of any representative.

Drs. Parkes and Sharpey said they had voted for the like motion in respect of the College of Physicians on Saturday; but they felt bound in the present instance to oppose it, because they felt that it was uncalled for.

Mr. Begbie, Dr. Thomson, and Dr. Humphry spoke on the same side, and Sir William Gull's motion having been put, was lost by a narrow majority.

KING AND QUEEN'S COLLEGE IN IRELAND.

The following resolution was moved by Dr. Bennett, seconded by Dr. Aquilla Smith, and passed without discussion:—"That a copy of the Report of the Visitors of the Examinations of the King and Queen's College of Physicians in Ireland be forwarded to the College for their consideration and remarks."

APOTHECARIES' HALL, DUBLIN.

Dr. Leet, as representative of the Apothecaries' Hall, was glad to find that the mode of conducting examinations on a large number of subjects met not only with the approval, but the commendation of the visitors. He would therefore confine himself to those departments as to which some reflection had been made on account of an alleged deficiency. At pp. 154-5 of their report the visitors said—"At 2.30 there was an oral examination in practical anatomy and physiology. In the former subject the questions were elementary, but practical. We observed that the examination was confined altogether to osteology, questions not being asked in reference to the relative anatomy of the arteries, their branches and distribution, the surgical spaces, or the course or distribution of any of the nerves. As far as it went, however, the examination was satisfactory, and the answers of the majority of the candidates very fair." Personally, he was unable to agree with the criticisms of the visitors, but at the same time, if the Council should be of opinion that these examinations should be more extended, he would undertake to say that its advice would be followed by the body which he had the honour to represent. With regard to physiology the visitors said—"At the second table there were two microscopes, and the candidates were required by Dr. Moore to recognise various objects, such as, for example, sections of bone, muscle, pulmonary tissue, etc. Various questions bearing on these specimens were given, and the answering, on the whole, was satisfactory. For this portion of the examination ten minutes only for each candidate were allowed, which we think was insufficient." This also would be amended if the Council was of opinion that it was deficient with regard to the clinical examination. The visitors reported that—"On April 15 we went to the Peter-street Dispensary to be present at the clinical examination. We found that two cases had been set aside for the purposes of the examination. One was that of an infant that had recently been vaccinated, and had on its arm a well-formed vaccine pustule. The candidates were required to recognise the nature of the pustule, and were asked nothing further about it. The second was a cardiac case of some obscurity, and in the diagnosis of which, we think, even an experienced physician would have been slow in forming a decided opinion. We were informed that usually the candidates were brought also to the Cork-street Fever Hospital and examined there, but on this occasion the examiner did not adopt that course. The candidates were, however, brought to a neighbouring house, where there was a young man labouring under delirium tremens. The candidates were required to recognise the disease, but no questions were asked as to the usual symptoms, prognosis, differential diagnosis, or treatment." It was a remarkable fact that the visitors would have actually passed those gentlemen who had been rejected, although they found fault with the mode of examination. However, in all these matters he would consider it his business and pleasure to forward to the authorities any suggestions of the Council for the improvement of their examinations.

Dr. Andrew Wood said the examinations generally seemed to have been very well conducted, and it would almost appear from the report that if those gentlemen had had the opportunity afforded them, they would have been able to answer such questions as would have insured their success.

Sir Dominic Corrigan said he could explain why the clinical examination was imperfect, but whether the Apothecaries' Hall could remedy the evil was another matter. Their body of examiners consists of thirteen, according to Churchill's "Medical Directory," and the appointment of an examiner is a competitive one. Nothing seemed fairer than that; but it was to be regretted that the visitors had not alluded to the manner in which those appointments were made. He had said they were competitive, and so they were, because when there was a vacancy, the *modus operandi* was this. An advertisement like the following was inserted in the newspapers:—"Apothecaries' Hall.—For sale, one share in the Apothecaries' Hall of Ireland. Offers for it will be received by the undersigned to the 31st March inst. This corporation has latterly been paying

dividends at the rate of £20 per share per annum. For particulars, apply to Cornelius Carlton, 12, Eden-quay, Dublin." (Loud laughter.) Now, Eden-quay was a place renowned for auctioneers' shops, general dealers, sellers of tar and tow and various articles of ship-chandlery. (A laugh.) The way in which the competition was carried on was that candidates went down there, and offered such sums as they thought would buy a share in the company, because no man could be examined who was not a shareholder, and his being a shareholder depends upon the amount of money he is willing to offer at these shops at which the shares are necessarily purchased. In those circumstances it was scarcely to be wondered at that the manner in which the clinical examination was conducted was defective, and the examiners hesitated to put questions,—(laughter)—the reason being that among those thirteen examiners not a single one held any qualification whatever—not one had ever been a teacher or physician or surgeon to a hospital. They simply bought their shares at the market price, and then went in and acted as examiners of the various branches of medical and surgical science. (Much laughter.) It was for this reason that he doubted the ability of the Society of Apothecaries to improve its system of examinations.

After some remarks by Dr. Aquilla Smith and Sir Dominic Corrigan,

Sir William Gull said he was surprised that the visitors were so easily satisfied in this case, and certainly in their report they had so mixed up the painful with the ludicrous that he must apologise to the Council for having been guilty of the indecorum of exploding with laughter when he first perused it. The candidates were shown this unfortunate man with delirium tremens, and then they went away. (Laughter.) They were not asked what stage he was in, nor examined in any way, but they simply went away. This was an illustration of the importance of the Council formally expressing their views upon the way in which examinations were conducted. Suppose Dr. Leet, who was universally and without reserve respected and esteemed, should have the misfortune to be drowned in crossing the Channel, unless some resolution were put upon the minutes of the Council their opinion upon this method of conducting clinical examinations would never reach the proper quarter. (Laughter.) Therefore, when the motion for the adoption of the report was before them, he would move the same addition with respect to this resolution as he had with regard to the other bodies.

Dr. Quain said it was unnecessary to single out particular bodies for animadversion simply because they were not perfect. The remarks of the Council would certainly reach the bodies affected by them through the public press, whether their representatives were drowned or not.

Mr. Macnamara agreed with Dr. Quain, and suggested that it was a gross libel on the celebrated Holyhead boats to imagine such a thing possible as the loss of Dr. Leet by shipwreck. It would be quite sufficient in this and the other cases to trust to the recommendations of the Council reaching the proper quarters through the publicity of the press and the reports of the representatives, and then, if in the next session it was found that they had not been attended to, he would be the first not only to second Dr. Gull's resolution, but even to recommend stronger measures.

Sir William Gull, however, insisted on moving his resolution—"Attention is specially desired to the defects in the anatomical and physiological parts of the examination, and also to important deficiencies in the clinical examination."

Dr. Rolleston, in seconding it, said that the whole of the labours of the committee were being thrown away if they were simply to talk without acting.

Sir William Gull said that attention had been drawn by Dr. Quain to the state of the clinical examinations at the Apothecaries' Hall in Dublin, and he would now ask how long it would take to arrange a clinical examination? Certainly not a day, nor even half a day. The fact was, deficiencies existed, and they ought to call in examiners from the outside—men thoroughly acquainted with the subjects. These bodies were trying to keep themselves alive in a partial way, but the time had now arrived for the survival of the fittest. (Laughter.) There was no doubt that the clinical examinations were here as they were in Dublin—a mere sham. (Hear, hear.) The thing ought to be well done, and thorough examinations held, and he felt sure the interests of the medical profession demanded that these clinical examinations should be advanced. (Hear, hear.)

Dr. Andrew Wood thought that if the College at Dublin professed to hold a clinical examination it should be what it professed. There might perhaps be an obstacle to the appointment of proper examiners in the want of funds. That suggestion presented itself seeing that their fee was only half a guinea, and he would strongly recommend them, if necessary, to raise their charge to ten guineas.

The Chairman could not with propriety omit to make one observation on the important discussion which had arisen. When they considered that the subject of conjoint examinations had been before the House of Commons and was now in suspense, and that the Vice-President of the Privy Council was now waiting for information from the Council in answer to a question which had been put by him on the subject some weeks ago, they would hardly be content to patiently read these reports. It certainly could not be considered that they had given an answer to such a question as had been put to them by making the statement that it was of no consequence; that there are bodies unable to make clinical examinations because they could join others who could. It was quite clear that the examination in question was not a well-conducted one in a clinical respect.

The supplementary motion of Sir William Gull was then put to the Council and negatived.

Dr. Rolleston asked if the result was that the Council would send down the reports to the several bodies concerned without comment, and spend no more time in discussing them until they received answers. The fundamental principle of every science was to have all the data upon the subject, and hear everything to be said on both sides before coming to a decision; and, therefore, in order that they might have full information, if the Council did not intend to send down their own notes and comments, at least they should forward to the examining bodies the exceedingly full and trustworthy reports which had been sent in.

Dr. Apjohn objected on account of inaccuracies in the reports, which might be injurious.

Dr. Andrew Wood suggested the adjournment of reports under consideration—those relating to the Universities of Dublin and Durham,—and

Dr. Rolleston proposed to rescind the resolution of the previous Saturday—"That the reports on the licensing bodies be taken into consideration."

Sir William Gull thought it would be the merest waste of the time of members of the Council to attend and discuss the reports for several days, and then find that nothing came of it. It was a matter in which the Council was eminently interested, and at least they should be consistent.

Dr. Andrew Wood did not agree with the hon. baronet that they had been wasting their time. On the contrary, the discussions which had taken place at their board, when reported in the public journals, were calculated to be of the utmost importance. (Hear, hear.) Indeed, the debates of the last two days, to which the hon. baronet's remark applied, were perhaps the most important which had taken place; for it could not be supposed that any of the examining bodies which had been remarked upon would not take into serious consideration what had been said. The great power of public opinion would react upon them, and, sorry as he was that the proposed motions with regard to the deficiencies had not been carried, it must be seen that the discussions would effect much good; and to not only stop, but to go back from what they had done, when only two more reports remained to be considered, would be to act in a spirit of spleen rather than in a spirit of wisdom. He would therefore oppose Dr. Rolleston's motion for rescinding the resolution to take the reports into consideration.

Sir Dominic Corrigan did not think it would be at all desirable, even if it were possible, for the public press to notice all that went on at their board. (Laughter.) It would save time possibly if the reports were taken in a body and sent to the institutions interested, the Council waiting for their replies. Supposing the view they took last year, and had still entertained to within an hour previously, to be correct, they ought still to persist in it.

Dr. Storrar thought Sir Dominic Corrigan was gifted with the most marvellous powers of misapprehension. (Laughter.) The Council had gone on discussing the reports for the last two years, and all further progress in that direction should not now be stayed.

Dr. Rolleston, after a few further remarks, withdrew his motion.

The consideration of the Reports on the Examinations of the Universities of Dublin and Durham was adjourned, and

On the motion of Dr. Andrew Wood, seconded by Dr. Bennett,

The Council resumed.

The Chairman said the two notices of motion which had been given by Dr. Humphry were in reality one. They were —"That the visitations of examinations be continued, so as to effect the visitation of the examinations in part or in whole of some of the licensing bodies in a year, and that the matter be referred to the Executive Committee to consider in what manner that may best be done, and report thereon at the next meeting of the Council. That the selection of the examinations to be visited, and the arrangements for carrying out the visitation, in each case be left to the discretion of the Executive Committee."

Dr. Humphry said that in directing the visitations the Council had done a sufficiently great work to answer the sneering remark that was not unfrequently heard, that the Council had not done what might have been expected. A large amount of information had been collected, the examinations of nineteen licensing bodies of the United Kingdom had been visited and reported upon, and the Council was now cognisant of the mode in which they were conducted, and the public and the profession enabled to form an opinion as to whether effectual steps were taken to insure the entrance of qualified men only into the medical profession. Not only had they seen how far the much-talked-of system of conjoint examination had been carried out, but they had learned that a large number of the examining bodies had modified their examinations in conformity with the reports of the visitations, and that others were contemplating doing the same, so that it was probable that all the examinations would eventually be more or less improved. The work, too, had been done with considerable rapidity. It had been an expensive work to some extent; but when the short time in which it had been carried out, and the number of examinations which had been visited, were considered, it would be found very satisfactory. This good result was attributable, no doubt, to the arrangements made by the Executive Committee, and to the hearty and cordial co-operation with which the visitors not appointed by the Council had joined with their coadjutors. The further remark was to be made that the work could not have been done as it was without the heartiest and fullest co-operation from the licensing bodies themselves,—and they had, in fact, aided the visitors in every possible manner. (Hear, hear.) And they had done so because they fully recognised that the Council had not been actuated by any hostile or censorious spirit, but by the desire of doing their duty towards the profession generally. (Hear, hear.) It would be a great pity if the work were suddenly given up, even for a single year. The visitations should be carried on, but in a more limited manner—limited, for instance, to two or three licensing bodies a year; that, doubtless, would be quite sufficient to maintain the good effect it was necessary to produce. Great assistance would be afforded to the Council in this matter by the appointment of another committee to determine upon the plan upon which the future visitations should take place. He would therefore propose that the general arrangements should be again considered by a committee.

Mr. Macnamara, in seconding the motion, agreed that by means of the visitations a high standard of medical education and examination would be arrived at; if the examination were low, so would be the education, and *vice versâ*.

Dr. Sharpey recommended that the following suggestion be referred to the Executive Committee for their consideration and report:—"That in the case of examinations not visited in any given year, the respective licensing bodies be requested to furnish the Council with returns, showing (*a*) the names of the examiners; (*b*) copies of the written or printed questions, the time allowed for answering them, and the judgment passed on the answers; (*c*) the time devoted to the oral and practical examinations, the plan followed in conducting them, the nature of the specimens, preparations, and other appliances made use of, and the practical exercises the candidates were called on to perform; (*d*) an account of any changes introduced since the date of the last information received by the Council."

Dr. Bennett asked that the opinion of the Council should be taken on Dr. Humphry's motion first; when, if a committee were thereupon appointed, Dr. Sharpey's suggestion could at the same time be taken into consideration.

Dr. Andrew Wood, while agreeing with Dr. Humphry that the Council should not altogether cease from visiting, submitted that they should now have a Sabbatical year with regard to their visitations—(laughter),—and for this reason, that great changes were being made in the mode of holding examinations. He could speak from his own knowledge, as far as Scotland was concerned, that at the present time great improvements were being made in them. On the score of economy, therefore, as also on the rational score of not pushing the bodies too fast, they should cease from visiting for next year, and it would then be time enough for Dr. Humphry to suggest the best manner of visiting. If the Council should be of the opinion, the motion of Dr. Sharpey for the returns he had mentioned would, of course, become futile. Perhaps Dr. Humphry would withdraw his motion, and bring it on at the next session of the Council.

Drs. Bennett and Quain having addressed a few observations in the same sense,

Mr. Quain thought it would be well, at certain times, to confine the visitations to a particular practical subject, say surgery. It had been suggested that the corporation should combine in the whole course of examination; but that the pupils who came from the Universities should be examined at the final examinations only; and they ought not to lose sight of the fact (probably Sir William Gull would not allow them to lose sight of the clinical part of the examinations) that the final test should combine all those things which contribute to the education of a medical man. The Council ought, therefore, in order to bring that out more prominently, to pay attention particularly to the practical subjects. It would be quite right to defer the subject for the present, but when it was taken up again, the examination should be confined, for once, to the practical part of medical education. He would also wish the Council to consider, at another time, the propriety of visiting schools.

The Chairman said the effect of Dr. Humphry's motion would be to avoid the necessity of their dealing with the matter at this meeting of the Council, and to defer it to the next meeting.

The resolution (which had been seconded by Mr. Macnamara) was then passed, as was also the motion of Dr. Sharpey, Dr. Rolleston seconding.

Mr. Macnamara then moved—"That the following motion be referred to the Executive Committee for their consideration and report: That it be a direction to the Executive Committee in their future selection of visitors of examinations, so far as practicable, to arrange it so that visitors shall not be called upon to report upon examinations held in the division of the kingdom in which the visitors themselves may be resident."

This was seconded by Dr. Pyle, and agreed to.

Dr. Storrar thought that the proposal to confine the attention of the visitors to practical subjects would make no alteration in the present condition of things, since all the subjects for examination were practical. The examination of schools would be all very well if they had the power, but their power was limited to the visitations, and the only influence they could have upon the teaching of the country must be through the examinations. If the examinations were conducted properly, the teaching would respond to them so sympathetically that the Council would through them have it in their power to do anything.

Adjourned till to-morrow at two o'clock.

Fifth Day.—Tuesday, June 22.

Dr. Acland in the chair.

ARMY RETURNS.

The Registrar read the return printed by us at page 682 relating to the Army Medical Department examination on August 10, 1874, as also that printed at the end of the report of this day's proceedings.

The returns were ordered to be inserted in the minutes; and the best thanks of the Council were voted to the Director-General for his courtesy in sending them.

Mr. Macnamara moved—"That, in the opinion of this Council, all examinations in anatomy should, so far as practicable, include the performance, by each candidate, of actual dissections; and that all those on surgery should include the performance by each candidate of two or more operations on the dead subject." He said that had it not been for some remarks that fell from some of the members of the Council present on a former occasion, he should have contented himself with simply reading the motion, but he thought the terms of it were such as to commend it to the favourable consideration of all the members of the Council present. The resolution

resolved itself into two heads—the desirability and the practicability of its being carried into effect. He believed that it would be one of the most valuable means that could be adopted for testing the ability of students in anatomy. References have been made to one or two of the reports of the examiners, who were of opinion that the students might give very flippant answers on anatomy, but when brought face to face with the subject they might show that they were completely ignorant of it. He believed that it was more important for the student to be properly grounded in anatomy than in any other branch of the whole range of medical science. The subject of anatomy had now been enforced by the Royal College of Surgeons in Ireland, and he was informed on reliable authority that the attendance in the dissecting-rooms had been greatly increased in consequence. With regard to the practicability of his proposal, he was informed that 120 candidates had been examined in actual dissections at one examination at Queen's University, and similar examinations had been conducted successfully at Trinity College and the Royal College of Surgeons in Ireland. The fact of a candidate being liable to be called upon to dissect at an examination would lead him to pursue the study of the subject at an early period of his career.

Dr. Pyle seconded the motion.

Dr. Rolleston thought that the Council were all at one on the point that a student should be competent to perform practical dissection at his primary examinations, and that he should be liable to show such competence in his final examination. The only difficulty was in the method of securing it. His own form of words would be, "That it is desirable that candidates in examinations on anatomy should understand that they may be called upon to perform actual dissections, and that candidates in examinations on surgery should understand that they may be called upon to perform one or two operations on the dead subject." He thought these were preferable to the words "as far as practicable," used by Mr. Macnamara, although they were by no means so elastic. It was necessary that a dead subject should be at hand for dissection at the examinations. Of course, in a large school there would be a large demand for subjects; but he entirely agreed with Mr. Macnamara that candidates should be made to feel themselves liable to undertake dissection at their examination. At times he had rendered candidates liable to perform such work. He thought a candidate should be obliged to go through a certain kind of constructive, synthetical, and microscopic examination. A man ought to be able to prepare a microscopic specimen. If a man could recognise parts as dissected for him, and put up microscopic specimens for himself, he was competent. He thought that a man who could stand the threefold test of writing a good paper, recognising dissections shown to him, and preparing microscopical specimens, should be regarded as competent.

Dr. Rolleston's amendment was then put and carried as a substantive motion.

Dr. Parkes proposed—"That the Registrar be directed to write to the several licensing bodies, and to inquire what steps have been taken to carry out the 17th, 18th, and 21st recommendations of the Council in section v., page 17 (professional examinatiou) of the 'Recommendations and Opinions of the General Medical Council, 1874.'" The recommendations referred to are as follows:—"17. That the Council recommend that, in the case of certificates presented before admission to the examinations of the several licensing bodies, each should include a statement from the teacher or teachers, that the candidate had satisfactorily attended examinations from time to time held on the subject of study to which the certificate relates.—(Minutes of General Council, July 15, 1874, p. 51.) 18. That it is desirable that, in the examinations on several of the subjects of the curriculum—such, for example, as botany, zoology, chemistry, and materia medica—the area of examinatiou should be limited and defined.—(Minutes of General Council, July 15, 1874, p. 51.) 21. That it is desirable that observation with the microscope should form part of the examinations of candidates for a licence.—(Minutes of General Council, July 16, 1874, p. 60.)"

Dr. Apjohn seconded the motion.

Sir Dominic Corrigan spoke of the difficulties that arose in carrying out examinations. There were many subjects upon which professors did not examine at all.

Mr. Turner asked how the matter was to be carried out? He had on the previous day met a teacher of anatomy in one of the London schools, who complained that no notice had been sent to him of the resolution passed last year relative to the sending in of a statement by the teachers that the students had satisfactorily attended examinations, and that he would never have known of such resolution had it not been reported in the public prints. If the proposed recommendations were to be carried out, the teachers of schools should have due notice sent to them of such recommendations.

The President thought that the subject was one for the Executive Committee. The Council were greatly indebted to the press for the publication of many of their documents, but they were not bound to do so; and he was not aware that any authority existed for transmitting the documents to the press. He thought it should be left to the Executive Committee to make public, as best they could, all the documents that ought to be made public, and that they should take care that all the bodies that ought to see them should see them.

The Registrar called attention to the fact that at a meeting of the Executive Committee on October 22 last it was ordered —"That the recommendations and opinions of the General Medical Council, embodying all the last regulations up to October, 1874, be printed and circulated in proof without correction, and sent to the members of the Executive Committee, and that subsequently, when corrected, they be forwarded to the members of the Medical Council and to the Licensing Bodies,"—and this had been done.

Dr. Sharpey said that, according to the Medical Act, there was no provision for official communication between the Medical Council and the schools. All official communication took place with the licensing bodies. There could be no objection to make known to teachers the wishes of the Council on the question whether it would be regular for the Executive Committee to officially transmit to the medical schools these communications.

Dr. Thomson said that the Council had never made any direct communications to schools; the whole of the communications had been made to licensing bodies, and he could not see that any difficulty could arise, because if any licensing body chose to act in accordance with the recommendations of the Council, they had merely to give out that their examinations included this condition, and all teachers were then made aware of it.

Dr. Wood thought the motion was a very important one. If the recommendations were sent down in that direct and special way, cognisance must be taken of them. In regard to the second recommendation as to the subjects of curriculum and the definition of the area of examination, some of the bodies —his own among the rest—had already taken steps to limit the area in chemistry and in materia medica. The body with which he was connected was preparing a programme for limiting the area of chemistry, and they had issued instructions to their examiners in materia medica not to examine the students on obsolete plants, but to make the examination more practical. In deference to the wishes of the Council in his College, the use of the microscope would be more extended than it had been heretofore.

Dr. Bennett said he could see no objection to Dr. Parkes's motion, but he thought that most of the licensing bodies had really paid attention to the Council's recommendations. The proper course would be to communicate with the licensing bodies, who would give effect to the recommendations in their requirements. Dr. Wood had made an observation as to the limitation of the area of examination; but he (Dr. Bennett) thought that could not be done without drawing a hard-and-fast line.

Mr. Macnamara said that, since the last meeting, in deference to the wishes of the Council, the microscope had been introduced into the Royal College of Surgeons in Ireland, although with some of the professors there had been some difficulty in its introduction.

Dr. Quain spoke of the importance of class examinations.

Dr. Aquilla Smith asked if the seventeenth recommendation could not be rescinded.

The President said that in order to do so notice of motion must be given.

Dr. Rolleston proposed as an amendment that recommendations 18, 19, 20, and 21 should be sent down. Nineteen recommended that two examiners should be present, and 20 recommended that in a common case the examination be conducted wholly or in great part by a lecturer or teacher.

Dr. Aquilla Smith seconded the amendment.

Dr. Parkes explained that he did not include 18 and 19,

because they had been answered in the reports of the visitors; the other three recommendations had not been answered.

Dr. ROLLESTON said his reason for objecting to 17 was, that he thought nothing should effect the examination and the judgment passed by examiners, except what arose during and directly out of it. The Council owed its very existence to a good examination system, which had now been at work for more than seventy years. If a person showed his knowledge, it made no difference how he came by it. The Council had no right to interfere with the methods of teaching, except indirectly by examination. The Council was potent to deal with examinations, but they were not potent to deal with the manner in which knowledge was communicated. He was an advocate for free trade in all things.

Dr. PARKES said he would be glad to compromise with Dr. Rolleston, if he would allow 17 to remain.

Dr. ROLLESTON said he could not retain it.

Sir WILLIAM GULL said he should vote against the existence of a rule which would give weight to the certificates of teachers.

Dr. STORRAR said that last year he spoke very strongly against 18. He was not now prepared to support the resolution that any inquiry should be made into the matter. These were questions which he thought should be allowed to be left to the judgment of the examining bodies. There was nothing more injurious than any of these efforts at excessive legislation. In the University of London the area of botany as well as that of zoology and chemistry was defined, but the area of materia medica was not defined, and it ought not to be defined. He could not conceive anything more preposterous than that the Council should prescribe a limitation of the materia medica when they dictated what that materia medica should be. A vast deal must be left to the common sense of the examining bodies.

Dr. WOOD thought that if Dr. Storrar were more acquainted with the machinery of the examination, or if he had been an examiner himself, he would know very well that there was a *raison d'être* for this. The fact was that the students were very much overloaded with subjects for examination, and anyone comparing chemistry as it now is with what it was twenty years ago would know what would happen if the area of examination was not limited. It was well known that a great deal of stress had been laid by examiners and lecturers on various parts of materia medica which were very troublesome to candidates. The great object should be to draw the student's attention to whatever parts of materia medica were the most valuable. If the area was limited in the way proposed, the student could be examined more stringently than if the whole area was left open. He therefore thought that the Council had not gone wrong in indicating something in that direction, and in the examinations in his own place the benefit of it had already been found. More accurate and specific knowledge was obtained, and nothing was excluded that was considered essential. He thought that it would be getting rid of the resolution of the Council by a side-wind to refuse to send down 17, which should not be put in a different category from the other recommendations. One of the reasons for introducing this motion was that they were horrified to see the immense number of rejections that were constantly going on. Before his own body, the number of rejections was about one to three of those that were examined. There the fault lay with the teaching, and it occurred to them that teachers should go into an examination of their students periodically. It was discreditable to the medical profession that it should be shown by tables and results year after year that such a very large number of those who went up for examination were "plucked." It used to be that a "plucked" man was considered a pariah among the other students; now they were quite indifferent about it.

Dr. HUMPHRY believed that too much stress was laid by the Council on the final examination. It had been said that it did not matter where the knowledge came from; but that was not the real foundation on which to build, because, whatever the examination might be, in a very short time the student could prepare for it, and there would be a system of cramming resorted to. He thought that the one great work of the Council was not so much to supervise and direct its attention to examinations as to direct its attention, as far as it could, to the method of teaching. The great desideratum was not so much examination as good teaching. Where there was good teaching there would be found good men. He did not so much say that where there was a good final examination there would be good men; that was quite another point. He held that the great element in teaching was the repeated examination of men from time to time, and not to rely upon the final examination. A good teacher was one who would take care that his men were there, and who would give them instruction according to the condition in which he found them. The simple attendance on lectures might be a mere farce, but the attendance on examinations and the certificates on examinations passed from time to time satisfactorily could not be a farce. The real great object in bringing forward this resolution was to induce the teachers in the several schools to act upon this recommendation, and to carry out that which he verily believed to be the real system of teaching.

Dr. QUAIN said that, seeing that the recommendations had been deliberately adopted by the Council, a discussion as to their propriety was out of place.

Dr. ARJOHN said that periodical examinations were held by the professors at Trinity College with great advantage. He was afraid, if the area of certain subjects was limited, that it would favour mediocrity and discourage high attainments.

Dr. THOMSON was of opinion that by sending down the proposed recommendations the Council would diminish the weight of the other recommendations, about which no inquiry had been made.

Dr. SHARPEY thought that if the recommendations were transmitted to the licensing bodies it would be the means of eliciting some useful information.

Dr. AQUILLA SMITH seconded Dr. Rolleston's amendment.

Sir DOMINIC CORRIGAN was of opinion that all the recommendations should be sent down. The Council had deliberately adopted the recommendations, and their propriety should not then be discussed; neither was it desirable then to reopen the question as to the relative merits of education and examination. He entirely concurred with Sir W. Gull in the view he had taken that thorough examination was what was wanted, and that certificates of examination were worth very little. He dissented from the views of Dr. Humphry. All they had to do was to ascertain whether the candidates were acquainted with the subjects on which they were examined; and it was no affair of the Council's as to where the information was obtained.

Dr. PARKES said he would be ready to adopt the suggestion of Sir Dominic Corrigan.

Sir WILLIAM GULL proposed as a second amendment—"That a letter be addressed by the Registrar to the several examining bodies, to inquire if they have any observations to offer to the Council on their recommendations respecting professional examinations, and to inquire how far they have been able to carry into practice such recommendations."

Dr. STORRAR seconded the amendment, which was agreed to, the other proposals being previously withdrawn by the consent of the Council.

CASE OF MR. R. V. KELLY.

A statement, together with copies of documents and correspondence, was read from Mr. R. Vandeleur Kelly, Licentiate of the College of Physicians and the College of Surgeons, Edinburgh, in which he complained of the conduct of the President of the College of Surgeons in Ireland in permitting Dr. G. Stokes, a Fellow of that College, and who, together with himself, was a candidate for certain medical appointments in Ireland, to take a copy of a record of the College, which was certified by the President, and which showed that he (Mr. Kelly) had been rejected at an examination instituted by that body, and which record was made use of to his disadvantage by his rival candidate.

Mr. MACNAMARA, in reply to Dr. Wood, explained that Mr Kelly asked for an examination of the College of Surgeons, because the licence of that body was necessary in order to enable him to fill the office for which he was a candidate.

It was moved by Sir WILLIAM GULL, seconded by Dr. QUAIN, and agreed to—"That the receipt of Mr. R. Vandeleur Kelly's papers be acknowledged, and that he be informed that the Council do not consider his case to be one for their consideration."

STATE MEDICINE.

The following letter from the representative in the Medical Council of the University of Oxford, respecting examination in State medicine, referred by the Executive Committee to the General Council (Minutes Ex. Committee for April 15, 1875, p. 70, sec. iv.), was read:—

"Anatomical Department, Museum, Oxford, February 9, 1875.

"Sir,—I have been requested, as the representative of the University in

the Medical Council, to lay the following resolutions before the Medical Council:—

"*Extract from Report of Committee on Medical Education of the Hebdomadal Council of the University of Oxford.*

"'That it is expedient to provide or to assist in providing an examination in the subject called State Medicine or sanitary science. That it is thought best that such a qualification should not be granted severally by different licensing bodies, but, like the qualification for general practice, should depend on an examination authorised by all, or as many as possible, of the licensing bodies acting conjointly.'

"*Resolution of the Hebdomadal Council thereupon.*

"'That the medical representatives of the University be authorised to inform the Medical Committee of Reference, and the Medical Council, that the Council has adopted the recommendations of the Committee, and is prepared to recommend corresponding action to the University when the proper time arrives.'

"I am, Sir, yours faithfully,

"George Rolleston,

"Representative of the University of Oxford in the Medical Council.

"To the President of the Medical Council."

Moved by Dr. Rolleston, seconded by Dr. Quain, and agreed to—"That it be received and entered on the minutes."

MISS GREENSTREET'S CASE.

A letter was read from the Solicitor of the Council, in which he expressed an opinion that Miss Greenstreet, whose case had been previously brought before the notice of the Council, was not entitled to register the licence in midwifery which she had obtained from the King and Queen's College in Ireland.

It was moved by Dr. A. Smith, seconded by Dr. Thomson, and agreed to—"That the Medical Council, acting under legal advice, decline to register Miss Greenstreet."

FINANCE.

The following report of the Finance Committee was read:—

"The Finance Committee report that the income of the Council, during the year 1874, has been £6004 6s. 2d., a sum which exceeded the income of the year 1873 by £666 5s. 7d. The expenditure of the Council during the same period has been £6882 16s. 9d., a sum which exceeded the expenditure of 1873 by £1757 12s. 8d. It will be seen from the annexed table that the expenditure of the year 1874 has exceeded the income of the year by the sum of £878 10s. 7d. The table shows the expenditure of the General Council during the years 1873 and 1874 under each head of expenditure, and also the increase and decrease under each item during the year 1874 as compared with 1873. It will be seen that the increase of expenditure during the year in certain items is £1336 1s. 2d. Of this sum £688 18s. 6d. has been spent in reprinting the "Pharmacopœia" and additions, an outlay which is in course of reimbursement. A second large item of expenditure is for house expenses, incident to coming into possession of the new premises. On the other hand, the table shows a decrease in certain items of expenditure to the amount of £262 7s., leaving a net increase of expenditure by the General Council, during the year 1874, as compared with 1873, of £1073 14s. 2d. In former reports approximate estimates of the income and expenditure for the year ensuing were given. Little advantage has resulted from this practice, and, as much uncertainty must for the present exist as to the expenditure in connexion with the new offices and premises, it has been thought undesirable to present an estimate for the next year. The Committee report that, in accordance with the resolution of the Executive Committee (January 21, 1875), the accounts of the General Council were submitted for audit to Messrs. Quilter and Ball, professional auditors, and were found correct.

"June 21, 1875." "Richard Quain, M.D., Chairman.

Income and Expenditure of the General and Branch Councils during the Years 1873-74.

	Income for the Year 1873.			*Income for the Year* 1874.		
Fees received by—	£ s. d.	£ s. d.		£ s. d.	£ s. d.	
Branch Council for England	2613 0 0			2735 15 0		
" " Scotland	863 5 0			840 10 0		
" " Ireland	772 15 0			955 15 0		
		4249 0 0			4532 0 0	
Dividends received by—						
Branch Council for England	709 11 3			742 3 9		
" " Scotland	68 13 10			68 18 9		
" " Ireland	74 5 6			74 11 9		
		852 10 7			885 14 3	
Sale of Registers	12 12 6			13 2 6		
Sale of Pharmacopœias ...	223 17 6			573 9 5		
Penalties	—			—		
		236 10 0			586 11 11	
		£5338 0 7			£6004 6 2	

	Expenditure for the Year 1873.			*Expenditure for the Year* 1874.		
Expenses of—	£ s. d.	£ s. d.		£ s. d.	£ s. d.	
General Council	... ...	3945 14 6		... ...	5019 8 8	
Branch Council for England	573 9 5			1186 5 6(a)		
" " Scotland	272 0 9			293 7 1		
" " Ireland	333 18 5			383 15 6		
		1179 8 7			1863 8 1	
Total expenditure		5125 3 1	Total expenditure		6882 16 9	
Do. income		5338 0 7	Do. income		6004 6 2	
Balance in favour of income		£212 17 6	Deficiency		£878 10 7	

(a) Including £478 4s., being two-thirds of house expenses.

It was moved by Dr. Rolleston, seconded by Mr. Bradford, and agreed to—"That the report of the Finance Committee be adopted."

It was then moved by Mr. Turner, seconded by Dr. Aquilla Smith, and agreed to—"That it be referred to the Executive Committee to employ an expert for the preparation of a general index of the first ten volumes of the 'Minutes' of the General Medical Council, to be printed before the meetings of Council in 1876."

The Council then adjourned.

Statement of the Degrees, Diplomas, and Licences of the Candidates for Commissions in the Medical Department of the Army, who, on February 15, 1875, *presented themselves for Examination, showing the number that passed, and did not pass, distinguishing the Qualifications, both Medical and Surgical, under the several Licensing Bodies.*

Names of Licensing Bodies.	Qualifications. Number of qualifications. Total.	Number passed.	Number failed.	Deficient in Anatomy.	Surgery.	Medicine.
Royal Coll. of Physicians, Edinburgh ...	2	1	1	...	...	1
Ditto Surgeons, Edinburgh	3	2	1	...	1	...
K. and Q. Coll. of Physicians	1	1	...	...	...	...
Royal Coll. of Surgeons, London	2	2	...	...	...	...
K. and Q. Coll. of Physicians, Ireland ..	2	2	...	...	...	...
Royal Coll. of Surgeons, Ireland	2	2	...	...	...	...
Society of Apothecaries, London	1	1	...	...	...	...
Faculty of Physicians and Surgeons, Glasgow	1	1	...	...	...	...
University of Edinburgh... ... ...M.B.	1	1	...	...	...	...
Ditto ditto ... . M Ch.	1	1	...	...	...	...
University of Dublin ... ...M.B.	2	2	...	...	...	...
Ditto ditto ... ...M.Ch.	2	2	...	...	...	...
Total	20	18	2	...	1	1

Remarks.—Total number of candidates, 11; succeeded in obtaining appointments, 8; succeeded in examination, but not in obtaining appointments, there being only eight vacancies, 2; failed in examination, 1.

Royal College of Surgeons.—On Tuesday last the large number of thirty candidates for the licence in Dental Surgery of this College underwent the written portion of their examination for it, being the first batch who have complied with the full educational curriculum for the distinction. The following were the questions on Dental Anatomy and Physiology—viz.: 1. State the different stages of growth in the development of a canine tooth and a molar tooth, from the commencement of the calcification of the cusp or cusps, to the completion of the faug or fangs. 2. From which of the embryonic oral structures is the enamel developed? What is the form of the enamel prisms? Describe their arrangement on the crown of a molar tooth; and explain the advantages of such an arraugement. 3. What are the soft structures connected with the permanent teeth after their complete development? Enumerate the histological elements which enter into their composition; and state how they are arranged. On Dental Pathology and Surgery: 1. Give examples of reflex disturbance in relation to irritation connected with the teeth during their eruption; and explain fully the pathology of reflex nervous action. 2. Enumerate and briefly describe the several casualties that may arise in tooth extraction. 3. Describe the different modes of treating inflamed and exposed tooth-pulp. Candidates were required to answer at least two out of the three questions, both on Dental Anatomy and Physiology and on Dental Surgery. The examiners are Messrs. Cartwright, F.R.C.S., Ibbetson, F.R.C.S., and Salter, F.R.S. The following were the questions on Anatomy and Physiology—viz.: 1. Give the dissection necessary to display the pterygoid muscles. Describe their attachments and action; and state whence they receive their vascular and nervous supply. 2. Describe the structure, relations, and functions of the soft palate. On Pathology and Surgery: 1. Describe the different methods of excising a portion of the tonsil; and state under what circumstances this operation may be required. 2. Mention the several causes, and describe the symptoms and treatment, of abscess of the antrum. Candidates were required to answer at least one of the two questions, both on Anatomy and Physiology and on Pathology and Surgery. The examiners are Mr. H. Hancock (chairman), the President (Mr. Le Gros Clark, and Mr. W. S. Savory. The oral examination will take place next Tuesday.

ORIGINAL LECTURES.

NOTES ON THE INVERTEBRATA

FOR THE

USE OF STUDENTS OF ZOOLOGY.

BEING AN OUTLINE OF A COURSE OF LECTURES DELIVERED FROM THE CHAIR OF NATURAL HISTORY IN THE UNIVERSITY OF EDINBURGH.

By THOMAS H. HUXLEY, LL.D., Sec. R.S.

(*Continued from page 657.*)

The Nematoidea. — The "thread-worms" have elongated, rounded bodies, usually tapering towards one or both ends; not divided into segments, and devoid of limbs, though they may occasionally be provided with setæ or spines. The outermost layer of the body is a dense chitinous cuticula, usually divisible into several layers. These layers may be fibrillated, the direction of the fibrillation being different in the successive layers. Cilia are found neither on the surface nor in any other part of the body. The mouth is situated at one extremity of the body, the anus at, or near, the other end. The first portion of the alimentary canal is a thick-walled pharynx, lined by a continuation of the chitinous layer of the integument, which may be raised up into ridges or tooth-like prominences. Transverse fibres, apparently of a muscular nature, radiate from this lining of the pharynx through its thick wall, and probably serve to dilate it. A straight and simple tubular alimentary canal, without any distinction into stomach and intestine, extends through the axis of the body, a narrow œsophageal portion usually connecting it with the pharynx.

The endoderm, or wall of the alimentary canal, consists of a single layer of cells disposed in one or many longitudinal series, and lined, both internally and externally, by a cuticular layer. On each side, the intestine is fixed for its whole length to the "lateral area," to be described below. The cuticle, which lines the inner faces of these cells, and circumscribes the digestive cavity, appears on vertical section to be divided into rods, which are possibly merely the intervals of minute vertical pores. Muscular fibres are found only in some cases investing the posterior portion of the intestine.

Beneath the layers of the chitinous cuticle there is the proper integument or ectoderm, internal to which again is a layer of longitudinally-disposed muscles, which may or may not be divided into distinct series of "muscle-cells." Between these and the outer face of the intestine is a spongy or fibrous substance, which must probably be regarded as a kind of connective tissue. The muscles and this tissue taken together constitute the mesoderm.

In the typical Nematoidea, the muscular layer does not form a complete investment of the body, but is interrupted along four equidistant longitudinal lines. One of them is termed dorsal, the opposite ventral, and these are very narrow. The other two are much broader, and are termed the lateral areæ. They present two or more series of conspicuous nuclei, and each is traversed by a canal with well-defined contractile walls and clear contents. Opposite the junction of the œsophageal with the gastric portion of the alimentary canal, each of these lateral canals passes inwards and towards the mid-ventral line, and, joining with its fellow, opens by a pore on the exterior. In some cases, continuations of the lateral canals extend forwards into the head.

A ring of fibres and nerve-cells surrounds the gullet, close to the opening of the water-vascular system, and gives off filaments forwards to the head, and backwards to the muscles and to the lateral area.

In the males of some species, nervous ganglia have been observed in the neighbourhood of the sac of the spicula. Organs of sense are not certainly known to exist, unless the pigmented spots on the nervous ring of some free Nematoids have this character.

The Nematoidea are for the most part diœcious. In the females, the reproductive aperture is usually placed towards the centre of the body; in the males, it is always situated at or near the posterior extremity.

The female apparatus consists of a vagina, with which is connected a single or double elongated tubular organ, which tapers to a point at its blind extremity, and is at once ovarium, oviduct, and uterus. The cæcal end is, in fact, occupied by a nucleated protoplasmic mass. Further on, this mass becomes differentiated into an axile cord of protoplasmic substance—the *rhachis*—and peripheral masses, each containing a nucleus and connected by a stalk with the *rhachis*, which are the developing ova. Still further on, in the oviducal portion of the tube, the ova become free, while in the uterine portion they are impregnated, and acquire a hard, often ornamented, shell.

The testis is, like the ovary, a cæcal tube, in the blind end of which cells are developed, much in the same way as in the ovary, and which become free in that part of the tube which plays the part of a vas deferens. Contrary to what happens in most animals, these spermatozoa retain the character of cells, and even exhibit amœboid movements. The deferential end of the testicular tube opens into a sac close to the anus, from the dorsal wall of which one or two curved chitinous spicula are developed. These are introduced into the vulva of the female when copulation takes place, and appear to distend it, in order to allow of the free passage of the seminal fluid into the vagina, and thence into the uterus. In the female organs the seminal cells undergo further changes, and eventually enter into and become lost in the substance of the ova.

Yelk-division follows impregnation. The oval morula becomes indented on one side, and the embryo, as it grows, folds itself in accordance with this indentation. The central cells of the solid morula are differentiated from the rest to form the endoderm, which thus arises by delamination.

The female reproductive apparatus is, at first, represented by a solid cellular body which lies in the mesoderm—though whether it originally belongs to this or to the ectoderm or endoderm is not clear. The cellular body acquires a tubular form, and, eventually, opens externally by uniting with an inward process of the ectoderm, which gives rise to the vagina.

The young cast their cuticle twice—first, when they leave the egg, and, again, when they acquire their sexual organs.

The Nematoidea have been divided into three principal groups(a)—*Polymyarii*, *Meromyarii*, and *Holomyarii*—characterised by the nature of their muscular system.

In the Polymyarii the muscles of the parietes of the body are divided into many series, each made up of many "muscle cells." In the Meromyarii there are only eight longitudinal series of such muscle cells, two between each lateral area and the dorsal and ventral lines. In the Holomyarii the muscles are not divided into series of muscle cells.

The first two divisions contain only such genera as answer to the general description just given, but in the Holomyarii there are included several aberrant forms. Thus, *Trichocephalus* has no lateral areæ; *Ichthyonema* has no anus; *Mermis* has no anus and a rudimentary alimentary canal, though it possesses the lateral areæ, and the males have spicula. *Gordius* has no lateral areæ, and only the ventral line; the alimentary canal is reduced to a rudiment, without either oral or anal aperture, and the male has no spicula. In both these genera the anterior ends of the embryos are provided with spines which aid them to bore their way into the bodies of the insects on which they are parasitic. In *Sphærularia* the alimentary canal is similarly rudimentary, and Sir John Lubbock discovered that the small male becomes permanently adherent to the female.

Some Nematoidea (*e.g.*, *Leptodera*, *Pelodera*) live in water or damp earth, and are never actually parasitic, but they require abundant nitrogenous food in order to develope their sexual organs, and hence they are found in the sexual state only among putrefying vegetable or animal matters. The asexual worms, which live in moist earth, are at once attracted by nutriment, such as a few drops of milk.(b) Here they multiply with great rapidity as long as the store of food lasts, but when it is exhausted the last hatched young wander away. In the course of their wanderings, the embryos enter into the larval condition, but before doing so they become twice as large as those which attain the larval state in putrefying substances. The embryonic cuticle becomes thickened, and its oral and anal apertures closed, so that it forms a cyst for the larva. The larva, however, is not impeded by this cyst from moving about and continuing its wanderings, but, at length, it passes into a quiescent condition. Its inner substance, at the same time, becomes dark by transmitted light, in consequence of the

(a) Schneider, "Monographie der Nematoden." 1866
(b) *Ibid*, pp. 362-3.

accumulation of small fatty granules; and, if this state of things lasts long, the larva dies. If the larvæ should dry up, the circumstance tends to their preservation. The embryonic cuticle is separated, and forms a protective cyst; and, when moistened, the larvæ resume their vital activity.

Nematoid worms belonging to naturally free genera may enter and become encysted in worms and slugs, but only attain their sexual state when the worm or slug dies, and they are nourished by the products of its putrefaction.

Anguillula scandens, the Nematoid which infests and gives rise to a diseased condition of the ears of wheat, is a true parasite. The young are hatched from the eggs laid by the parent in the infected ear, and there become encysted. When the wheat dies down, the larvæ are set free, and wander on the moist earth, until they meet with young wheat plants, up which they creep, and lodge themselves in the developing ears. Here they acquire the sexual condition, nourishing themselves at the expense of the inflorescence, which becomes modified into a kind of gall.

Most Nematoids found in the alimentary canal of animals are parasitic in the sexual state, but have a longer or shorter period of freedom as larvæ or as eggs. But some, as *Cucullanus elegans*, are parasitic both in the asexual and the sexual condition; inhabiting *Cyclops*, while in the former state, and sundry fresh-water fishes, particularly the Perch, in the latter.

Trichina spiralis acquires its sexual state in the alimentary canal of Man, of the Pig, and other mammals; but the young, set free in the alimentary canal, bore their way through its walls, and enter the fibres of the voluntary muscles, in which they become encysted in the asexual state. If the flesh thus trichinised be eaten, the *Trichinæ* are set free, acquire their sexual state in the alimentary canal, and the thousands of embryos developed immediately bore their way into the extra-alimentary tissues of their host.

The insect parasites, *Gordius* and *Mermis*, are asexual so long as they are parasitic; but, when they have attained their full growth, they leave the body of their host, acquire sexual organs, copulate, and lay eggs, whence embryos proceed, which bore their way into the bodies of insects.

It has been stated that the Nematoidea are for the most part diœcious. Schneider has, however, discovered certain species of the non-parasitic genera, *Leptodera* and *Pelodera*, which always have the external appearance of females, but in the ovarian tubes of which spermatozoa are developed, and impregnation takes place. This was placed beyond doubt by isolating embryos of these Nematoids, and tracing out the development of the spermatozoa, which result from the subdivision of the first cells developed from the rhachis. After a time the development of spermatozoa ceases, and the cells separated from the rhachis become ova, which are impregnated by the already formed spermatozoa. These Nematoidea are probably the most complete and necessary hermaphrodites known in the animal kingdom.

Ascaris nigrovenosa is parasitic in the lungs of Frogs and Toads. It has the characters of a female, and no male has ever been met with, but spermatozoa are developed in the ovaries in the same manner as in the preceding forms.

The eggs of this Ascaris are discharged, and the embryos find their way into the intestines of the Amphibian, in which they are parasitic, and become males and females—smaller than the hermaphrodite form, and otherwise different from it. The embryos of these are developed from the eggs within the body of the mother, the organs of which they destroy until her cuticle forms a mere case for them. These embryos, introduced into the frog's lung, take on the characters of the large hermaphrodite forms. It is not unlikely that the Guinea worm, which infests the integument of Man in hot climates, may answer to the hermaphrodite stage of a similarly dimorphous Nematoid, though its multiplication has hitherto been supposed to take place asexually.

The many points of resemblance between the Nematoidea, the Oligochœta, and the Polychœta have been indicated by Schneider. They differ, however, from these, no less than from the Turbellaria and Rotifera, in possessing only longitudinal parietal muscles. In this respect they agree with *Rhamphogordius* and *Polygordius* (united by Schneider into the group of *Gymnotoma*), which are segmented worms, devoid of setæ, but possessing mesenteries, segmental organs, and pseudhæmal vessels. *Polygordius* has a teletrochous larva, and in its development, as in other respects, it is extraordinarily like a polychœtous Annelid.

(*To be continued.*)

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Medical Times and Gazette.

SATURDAY, JUNE 26, 1875.

GENERAL MEDICAL COUNCIL.

The first meeting of the present session of the Council, under the presidency of Dr. Acland, was held (as we last week informed our readers) on Thursday, the 17th.

The first business was the introduction and formal reception of Dr. Rolleston, the new representative of the University of Oxford; and then the President delivered the able and suggestive address which we were able to publish last week. Some correspondence which was referred to in the President's speech, and to which we alluded last week, was then laid before the Council, and some returns of the results of examinations were received. It will be noticed, in the report we elsewhere publish of the proceedings, that of twenty-three candidates for commissions in the Medical Department of the Army, twenty-two passed the examination, and only one was rejected—a very different result from that which generally followed these examinations a very few years ago. Then a large proportion of the candidates—and it is to be remembered that they are all qualified men—used to be rejected; so that it must be conceded either that the men who are passed into the ranks of the profession by the various licensing bodies are now much better and more fully educated, or that only the best among them compete for medical commissions in the army.

The first business of importance before the Council was the consideration of a letter and petition from Mr. Matthew Bass-Smith, whose name had been erased from the Register, and who prayed to have it restored. A letter was received also from the solicitor to the Council, advising that they should give no directions in the matter. Sir William Gull remarked that the question really before the Council was whether there should not be a *locus pœnitentiæ* for men whose names have been erased; a question which must again and again be raised, while their Solicitor's advice was simply to shelve it. Dr. Bennett observed, however, that it was not possible to lay down any general rule; each case as it came before them must be considered on

its own merits, and in this case there was no reason why they should not act on the advice given by their Solicitor. Dr. Andrew Wood also said that the case had been very lately adjudged by the Council, and did not merit any unusual clemency from them. The Council, concurring in this view, refused the application of the petitioner; and the profession at large will, we imagine, approve their decision.

The Registrar then read a certificate showing that two registered practitioners in Ireland had, in July last year, been tried and convicted on an indictment charging them with having conspired to defraud the New York Life Insurance Company, "by false and fraudulent representations as to the health and habits of persons proposed to be insured"; and a resolution ordering their names to be removed from the Medical Register was passed unanimously.

The next business of any great or general importance was the consideration of a letter written by Mr. Simon, by the direction of the Lord President of the Privy Council, asking the opinion of the Council on Mr. Cowper-Temple's Bill "to amend the Medical Act, 1858, so far as relates to the registration of women who have taken the degree of doctor of medicine in a foreign university"; and further requesting the opinion of the Council on the general question raised by that Bill "with regard, on the one hand, to women who desire to obtain legal status as medical practitioners in this country, and, on the other hand, to the examination rules or conditions which prevent them from accomplishing their wish." Some discussion took place as to the best method of dealing with this letter; and Professor Turner observing that the question raised by it was so wide and important that without care the discussion of it might occupy the whole session, proposed that a committee be appointed to consider the matter, and put it into shape for discussion by the Council. His proposition was very wisely acceded to, and a strong committee, consisting of Professor Turner, Sir William Gull, Sir Dominic Corrigan, Dr. Quain, Professor Humphry, Dr. Wood, and Professor Rolleston, was appointed. The matter is one of great and increasing importance, and both the report of the committee and the action of the Council will be looked for with no little interest. As a female medical school—which we have always insisted upon as a *sine quâ non*—has now been organised, the main question seems to be, How, and how soon, shall any difficulties that may stand in the way of the full recognition of that school, and of the admission of its students to examination for qualifications, be removed? It appears to us that no merely legal or technical difficulties should be allowed to close the entrance into the profession against women duly educated in a female medical school; but we, as a profession, may believe that women are, by their moral and physical "differentiation"—they are fond of that word, we think—from men, especially unfitted for the pursuit and practice of medicine. If so, have not the Government and the public a right to expect from us a clear expression of opinion on that point? It would remain, of course, a question for the Government to consider whether or not women should be protected against themselves in the matter, as they are already guarded by law against some forms of work and overwork.

Miss Ellen M. Greenstreet, who had obtained a licence from the King and Queen's College of Physicians in Ireland, applied to have it registered as a licence in midwifery; and her application, with documents relating to it from the College, was, after some discussion, ordered to be sent to the Solicitor of the Council for his opinion as to whether the licence is entitled to be placed on the Medical Register. This matter came again before the Council on the 22nd inst., when, "acting under legal advice," they declined to register Miss Greenstreet.

The remarks of the Licensing Bodies on the Reports of the Visitors of Examinations, 1874, were then submitted to the Council, and it was proposed that they should be taken into consideration *seriatim*. This was met by an amendment to the effect that the reports and the remarks on them should be referred to a committee, which should draw up a digest of the whole for the meeting of the Council in 1876; and the debate on the subject was continued into the meeting on Friday, when, after some discussion as to whether the matter could be fairly and well taken into consideration so soon as during the present session, a committee was appointed to consider the reports and the remarks of the licensing bodies upon them, and "to draw up a report for the present meeting of the Council."

The opinion of the Solicitor of the Council on a matter of much importance to the profession and the public was then read. A complaint had been made to the Branch Council by Dr. Mackern that a qualified practitioner in Derby allowed a brass plate with his name to appear on the door of a house occupied by a Mr. Carr, an unqualified person, who, under colour of the plate, practised as a surgeon; and that a like plate appeared on the door of a Mr. Gisbourne, likewise an unqualified person. On being written to by the Solicitor of the Council, the practitioner replied that these gentlemen were his assistants, but it was represented to him that this was a wholly unsatisfactory explanation, and after considerable correspondence his solicitor wrote that, while denying any legal offence, he had advised his client, "in order to avoid any conflict with the Council, or even with any of his professional brethren," to remove the plates, and discontinue the connexion with Mr. Carr, and that this had been done. The Solicitor of the Council advised, and the Council agreed, that, under these circumstances, no action should be taken against the offending but reforming practitioner. The conduct complained of here, and under legal "suasion" given up, is, we fear, not very uncommon; so the proceedings in this case may be expected to have important and valuable consequences.

The Council then resolved itself into a committee of the whole Council for the consideration of the Reports of Visitations of Examinations, and the first report taken was that of the visitors on the examinations of the University of Oxford. Considerable discussion took place on the motion that the report be forwarded to the University for their consideration and remarks. Dr. Rolleston criticised at some length the remarks of the visitors, and many members of the Council joined in the discussion, for the details of which we must, however, be content to refer our readers to the report given elsewhere in our pages. One of the main points criticised by Dr. Rollestou was the comment made by the visitors that they thought that in every primary examination in anatomy and physiology the candidate "should be called upon to perform actual dissections, and prove that he is familiar with the use of the scalpel." The learned Linacre Professor said that in reading this "he was forcibly reminded of the passage in Martinus Scriblerus—'O gods! annihilate but space and time to make two lovers happy'—because the greatest demands upon both would have to be made by each candidate in making dissections which must require two or three hours for their performance, and, indeed, he thought no efforts that could possibly be made by the candidates would ever get them over the difficulty, even supposing the bodies could be obtained." In Ireland, he observed, it was said that they did contrive to do it,—and this added something, no doubt, to the glories of the sister island,—but in England it was to be feared it would be found exceedingly difficult; while he thought that if a candidate was required to show that he could follow out a nerve or artery, as had been required, that was sufficient. What ought to be required of a man was to show that it would be safe to entrust to him human life, and, in dissection, a candidate should be given just such work to do as it would be necessary for him to perform in actual practice just to find his way among the structures.

Mr. Turner said it would be a great waste of time and labour to subject every candidate to the performance of a dissection, unless the examiner had a doubt as to the amount of practical knowledge the candidate possessed; but in such case he ought to put him to practical proof.

Dr. Thomson agreed that it would be most cumbersome and almost impossible to insist upon dissection in all cases, and remarked that an experienced examiner could tell by slight indications whether a candidate was a practical man or not; as, for instance, the way in which a man handled a scalpel or a pair of forceps would show whether he could dissect; but he also thought that it should always be in the power of an examiner to call upon a candidate to use the knife when there was reason to suspect a want of practical knowledge.

Dr. Humphry did not think that the remarks of the visitors were at all a reflection upon the University of Oxford. But on the point of the requirement of dissection, he said that he had been so impressed with the value of it in the anatomical examinations of the Queen's University, Ireland, that he had urged the examiners at Cambridge to adopt the practice, and they had done so. At the same time, he was not prepared to advocate its being made indispensable. He held that a dissection performed upon a subject would be an advantageous feature in examinations, though it might not always be possible that it should be actually performed.

Dr. Andrew Wood, speaking from a practical point of view, and as an inspector of anatomy, was of opinion that, were the Council to issue a recommendation that active dissection should form part of the examination of every candidate for a licence, degree, or diploma, it would be a recommendation which could not be observed. But, he remarked, that was no reason why dissection should not be required when necessary, and a knowledge that they might be called upon at their examination to use the knife would induce students to pay more attention to dissection.

Dr. Bennett, one of the visitors, said that there had been no intention to cast any slur upon the examinations at all; but that any report which was absolutely colourless, and which was given without a considerable degree of honesty and outspokenness, would have comparatively little value.

It was then agreed that the report—which, indeed, as a whole, was highly complimentary—should be forwarded to the University for consideration and remark.

A similar resolution was passed with respect to the Report of the Visitors upon the Cambridge University Examinations, Dr. Humphry remarking that there had been much alteration and improvement in the mode of conducting the examinations at Cambridge, and it was not now necessary that the examiners appointed should have been educated at the universities.

It was next resolved that the Report of the Visitors of the Examinations of the University of Aberdeen should be forwarded to that University for their consideration and remarks. But, before this was agreed to, some time was consumed by a conversation on the old, old question whether students would be more satisfactorily examined by their teachers or by strangers. Mr. Turner observed that the same principle applied to that as to the choice of a wife. As a man stood the best chance of getting a good wife who married a lady with whom he was well acquainted, so an examiner stood the best chance of finding out what was in a student if he had taught him and watched his career; and he said that the examining bodies of the three Scotch universities had now become synods, comprising a non-professorial as well as the professorial element. Dr. Rolleston thought a snare was placed in the way of any man who should examine his own pupils without a colleague who might act as a check upon him; and Dr. Andrew Wood expressed the opinion that the general feeling of the country demanded that the system in use in the Scotch universities should be generally adopted, and independent examiners called in. Mr. Quain observed that the matter had been dealt with forty years ago in a report sent in to Sir Robert Peel, then Home Secretary. Sir Dominic Corrigan, whose jealous loyalty to the Queen's University never even nods, observing that the Council seemed to have resolved itself into a sort of mutual admiration society, said that it was only fair to state that the body he represented had, for many years before the Council came into existence, carried into effect the principle now so generally advocated, and had provided an additional safeguard against "cramming," and worsted the "grinders" by providing that no examiner should act for more than two years in succession.

The Report of the Visitors of the Examinations of the University of Edinburgh was ordered to be forwarded for consideration and remarks. After some brief observations from members of the Council on the respective value and importance of the teaching or professorial element, and the independent or non-professorial element in examinations, and on the varying active share given to, or taken by, the special examiners, Professor Humphry remarked—with much justice, we think—that, "though strongly in favour of independant examinations, he was fully aware of the value of the teaching element, which was the only protection against an evil that sometimes took place in the rejection of really good men from some slip or mishap in their examinations. Nothing was more discouraging to a school, and nothing was more to be deplored; and experience showed that nothing but the presence of the teaching element could guard against it."

The Report of the Visitors of the Examinations of St. Andrews University was taken next, and, before the stereotyped motion was agreed to, Sir Dominic Corrigan relieved the tedium of the proceedings by an amusing attack on the University, in which, according to the Report of the Visitors, there is no infirmary, no dissecting-room, no chemical laboratory for students, and, finally, no medical students; though the visitors added that an *annus medicus* could be kept there. The University was defended by Professor Turner, who explained the possibility of an *annus medicus* being kept; and by Professor Humphry, one of the visitors. It appeared to himself and his colleague that a body with the exceptional powers possessed by that University of conferring degrees in medicine on practitioners might be very useful, "because there are always men in the profession who have been unable in youth to take the distinctions to which their learning and their position in the profession entitled them, and it was a good thing that such men should have the opportunity of connecting themselves with an old and interesting University"; but, as was stated in the report, they thought that the manner in which the privilege was exercised was not quite satisfactory. One change suggested by them is that, instead of only ten of the candidates on the list being told to come up for examination for the ten degrees of M.D. to be given each year, a larger number should be admitted, and a selection made upon well-defined grounds of professional distinction and the possession of such superior knowledge as may be indicated by an examination of a higher order.

The Report of the Visitors of the Examinations of the Royal College of Physicians of London excited the first really stirring debate of the session, and in the course of it some rather warm exchanges of remarks took place between Sir William Gull and Dr. Bennett, the representative of the College. The Visitors of the Pass Examination for the Licence reported that on one occasion they attended the clinical examination of nine candidates by one examiner in the medical wards of St. Mary's Hospital; and they observe, among other things, that "the few questions put to each

candidate at the bedside usually arose directly out of the case, or were suggested by the view the candidate took of it; they related exclusively to pathology and diagnosis. We failed to hear any reference made to prognosis or treatment." In their "remarks" the visitors observed that this clinical examination was on the whole unsatisfactory; that to conduct the examination of so many candidates within a limited time, in a methodical and thorough manner, two examiners, at least, are absolutely necessary; that the giving the work to one man only led to some amount of disorder and confusion; and, further, that "the responsible duty of practically testing a candidate at the bedside should not be entrusted to one individual, however impartial and unbiased his judgment may be." And they expressed the opinion that "the examiner aimed too much in the direction of testing the candidate's fitness to take a case, and too little in the way of testing his practical acquaintance with disease," while the object of a clinical examination should be to ascertain at the bedside whether a candidate has gained such an acquaintance with disease as to enable him to discover the nature of a case with reasonable rapidity, and apply to it the resources of medicine. On a second occasion they attended a clinical examination at St. George's Hospital: "The plan did not differ materially from that at St. Mary's Hospital;" and there were only four candidates, and again only one examiner.

It must be admitted that the clinical examinations, especially that at St. Mary's Hospital, were unfortunately such as to invite adverse criticism; and Dr. Bennett's defence, that "the deficiency complained of arose out of an accident," laid him open to Dr. Andrew Wood's question, "Were men, then, to be introduced into the profession by an accident?" Dr. Wood also remarked that "clinical examination was of the most essential importance, and upon investigation he could not accept the explanation that the thing occurred by accident, because the same thing occurred at St. George's Hospital, of one examiner being sent to examine a number of students." Sir William Gull, as a Fellow of the College, could not allow the case to pass without some remarks. That nine candidates should be hurried over by one examiner in a clinical examination, and that the representative of the College should say that it was an accident, was calculated to excite much surprise, for it was no explanation and no defence. No such accident should have been allowed to occur by such a body as the College of Physicians. He had not been prepared for such a state of things, and looked upon it as a very serious matter. Eventually, he proposed that to the motion "That the Report of the Visitors should be sent to the Royal College of Physicians of London for their consideration and remarks" there should be added, "That special consideration be requested to be given to such part as refers to the clinical examination for licentiates, and to the deficiencies in the department of medical jurisprudence." He proposed this in consequence of the high position which ought to be taken up by the Royal College of Physicians. Some members of the Council begged Sir William Gull to withdraw his rider, as it amounted to a vote of censure on the College, but Dr. Rolleston seconded Sir William Gull, as he could not see how they could ask other bodies, in Scotland and Ireland, to set their houses in order if they were not prepared to do the same by such an important and influential body as the Royal College of Physicians of London; and he drew attention to the recommendation of the Council, requiring that two examiners should always be present during the examinations. He hoped Sir William Gull "would stand to his guns." Dr. Quain suggested that the Council should wait till next year, in order to see if the suggestions of its visitors were carried out. But Sir William did stand to his guns; was supported by Sir Dominic Corrigan, Dr. Andrew Wood, and Dr. Stokes; and carried his motion by one vote—eleven voting for and ten against it, while one member and the President declined to vote. We are inclined to think that it would have been better had the Council either called the attention of the examining bodies to defects in their examinations more frequently and generally, or not at all; but we must own that, if it was to be done exceptionally, this was a case that could hardly be overlooked: as Sir William Gull said, "If these things are done in the green tree, what will be done in the dry?"

The Report upon the Examinations (Primary and Pass) for the Membership of the Royal College of Surgeons of England was then taken into consideration. Mr. Quain remarked that two subjects were referred to as defective—one that there was no examination in chemistry, and the other that physiology was not sufficiently examined on; and he at some length defended the College. Chemistry, he said, was placed by the College among the optional subjects which might be passed at other examinations, and candidates were recommended to pass in it before they began their medical studies; and the College accepted certificates that it had been studied. As to the alleged defects in the physiological examination, the defence was, it seems to us, partly that the objections were hardly well founded, and partly that the College was preparing to do better, and would no doubt attend to the recommendations of its visitors. Sir William Gull thought the defence unsatisfactory, and a long discussion, extending into Monday, the fourth day of the session, ensued. It turned chiefly on a defect in the examinations pointed out by Sir William Gull—viz., that there is no real clinical examination of the candidates for the membership, patients being brought to the College instead of the students being taken to the hospital. In reply to this, Mr. Quain made the extraordinary statement that "the real surgery of the country is in the hands of the Fellows of the College," who are examined clinically in hospitals, and are examined more comprehensively and much more extensively in other subjects than are the candidates for the membership. Dr. Humphry remarked on this that not only is the surgery of England not in the hands of the Fellows of the College, but that he was informed "that there is a difficulty at the present time in filling up even the higher appointments in London with Fellows, the reason being that the regulations for the fellowship of the Royal College of Surgeons in England are such that the great mass of surgeons in England are precluded from being candidates for that examination." This was a very serious defect, which he was glad to have an opportunity of mentioning, because he hoped alterations would be made so as to admit members of the College fairly, fully, and freely to the examination for the fellowship. He agreed with Sir William Gull that the clinical examinations should be more real and thorough. Sir William Gull had an easy task in defending the surgery of the members of the College, and in pointing out how surgery of the highest kind is frequently required from them; and when the usual resolution for forwarding the Report of the Visitors to the College for consideration and remarks was put, he moved to add, "That attention be drawn to the incompleteness of the physiological part of the examinations, and the deficiency of the clinical examinations for the membership; also to the total want of any examination in chemistry and materia medica, though those subjects are in the curriculum." He was supported by Dr. Rolleston; but Mr. Quain resented the motion, as implying that he, the representative of the College, would not perform his duty in expressing the views of the Council unless a formal resolution were passed. This calling forth expressions of dissent, he asked, "Would any member tell him what was his duty to the Board?" to which Sir W. Gull replied that he would tell him that his duty was not to defend any deficiencies in the College of Surgeons, or to endeavour to satisfy the Council that they were doing their work well,

when they were doing it ill; and he added, to the amusement of the Council, that in answer to his inquiry what his duty was, he would say, to vote for the present motion. The motion was, however, lost by a narrow majority. Thus, on Saturday the Council agreed to call the attention of the College of Physicians to the imperfections noticeable in their clinical examinations; while on Monday they refused to request the attention of the College of Surgeons to the fact that they had no real clinical examinations for their membership. It may be added here that on Wednesday, when it was proposed "that the resolution of the Council in committee be adopted by the Council," Dr. Allen Thomson moved to except the words "directing the attention of the Royal College of Physicians of London to certain deficiencies in the examinations for their licence"; but this was opposed by Sir William Gull as Fabian policy, and was rejected, the original motion being carried.

It was also decided, on the motion of Dr. Sharpey, to send to the Executive Committee, for their consideration and report, a proposal that the licensing bodies not visited in any given year be requested to furnish the Council with returns as to the names of the examiners, copies of the written or printed questions, and certain other details respecting the examinations; and, on the motion of Mr. Macnamara, a "direction" was also sent to the Executive Committee respecting their future selection of visitors of examinations.

An important communication was received from the Local Government Board, forwarding a copy of a new general order, amending the orders with respect to the qualification of the medical practitioner by whom a certificate is required to be given to entitle a district medical officer to a fee for amputation performed in the case of any pauper, and providing that such certificate may be given "by some person who shall be registered under the Medical Act of 1858, and shall be qualified by law to practise both medicine and surgery in England and Wales." The restriction that the certificate should be given by some Member of the Royal College of Surgeons of England, or by some Fellow or Licentiate of the Royal College of Physicians of London, is thus removed.

On Tuesday, the fifth day, some returns from the Army Medical Department were received. A resolution was passed —"That, in the opinion of the Council, all examinations on anatomy should, so far as practicable, include the performance by each candidate of actual dissections; and that all those on surgery should include the performance by each candidate of two or more operations on the dead subject."

The Report of the Finance Committee was received and adopted. The income of the Council during the year 1874 was £6004, exceeding the income of the previous year by £666. The expenditure of the same year was £878 beyond its increase, and was by £1757 greater than the expenditure in 1873. But of this a large sum, spent in reprinting the Pharmacopœia and Additions, is in course of reimbursement, and a second large item of expenditure was for expenses incident on coming into possession of the new premises of the Council.

On Wednesday, copies of the Reports of the Visitors of the Examinations of the University of Dublin and of the University of Durham were directed to be forwarded to those bodies for consideration and remark. But part of the time of the Council was given up in order to enable several committees to complete their reports.

On Thursday the first business was the consideration of the Report of the Committee on Mr. Simon's letter asking for the opinion of the Council on Mr. Cowper-Temple's Bill. The report was received, but on a motion being made for its adoption, Dr. Storrar moved, as an amendment, "That the duties to which the General Medical Council are appointed are defined by the Medical Acts, and the Council consider that their appointments do not empower them to represent to the Government any authorised opinion on the large social question of the expediency or otherwise of admitting women to practise medicine." After an animated discussion, the amendment was negatived by a large majority.

The Council then adjourned for a short time, and had not reassembled when our report left.

THE WEEK.

TOPICS OF THE DAY.

The Metropolitan Asylums Board have resolved to postpone the consideration of the plans for the reconstruction of the Hospital at Hampstead, in consequence of the motion which has been carried in the House of Commons for the appointment of a Committee to investigate the whole question. The employment of counsel and taking the necessary measures to bring the whole case of the managers before the Parliamentary Committee has been referred to their General Purposes Committee.

One of those extreme acts of inhumanity and cruelty which surprise everyone that they could occur in a civilised country, has just taken place at Luton. The case is more than usually deplorable from the facts it discloses of want of common feeling displayed by one woman to another in that trying hour of nature's sorrow when she requires every kindness and consideration. We fear such cases are not by any means rare, particularly in country districts. We hope that the Luton Guardians will be able to reach the offender. Mr. Gardner, one of the relieving officers of the district, brought before the Guardians, on Monday, the following case. It appears a girl had been in the employment of a farmer residing at Barton. The fact of her pregnancy became known, and she received a month's notice to leave. The day previous to her confinement she was kept at work till midnight; at seven the following morning she gave birth to a child; between four and five hours afterwards her mistress ordered her to leave the house, from which time until half-past one she remained by the roadside. Two of her sisters then came to her and put her into an open cart, and conveyed her to the workhouse. A medical gentleman who gave his consent to her removal stated that he thought she was to be removed in a closed cart to her friends. Mr. Gardner further stated that the mistress of the girl had detained her clothes to pay the medical expenses. The Guardians, considering the case one of great brutality, appointed a committee to investigate it and take such steps as they thought necessary.

An interesting discovery has been made by Dr. J. H. Aveling among the Clarendon Papers, of a letter by Harvey. If the memorandum at the back of Dr. Ward's letter be excepted, this is believed to be the only letter in Harvey's own hand known. It is to be printed in facsimile in the July number of the *Obstetrical Journal*.

Syed Burghash Sin Said, Sultan of Zanzibar, accompanied by some of his nobles, and by Dr. Kirk, Dr. Badger, and Mr. Clement Hill, visited St. Thomas's Hospital on the morning of Wednesday, June 23. His Highness took great interest in all that he saw, and expressed himself as highly gratified by his visit.

It is officially announced that an examination of candidates for ten appointments as Surgeon in her Majesty's Indian Medical Service will be held in London in August next. Information regarding these appointments may be obtained on application at the Military Department, India Office, London.

Dr. T. Henry Green and Dr. J. Mitchell Bruce have been elected Assistant-Physicians to the Hospital for Consumption, Brompton.

THE KNIGHTSBRIDGE BARRACKS.

We are able to state on the best authority that the somewhat sensational reports that have been current regarding the recent outbreak of scarlatina in the Knightsbridge Barracks have been much exaggerated. According to one account the 2nd Life Guards were allowed to march into the barracks in the end of April, replacing the Life Guards Blue, among whom scarlatina had been raging, so that as a matter of course the disease broke out among the new comers. Sargeon-Major Logie sends us a very different account of the two outbreaks. He informs us that for some months while the Blues lay at Knightsbridge scarlatina was raging in the neighbourhood, and that it was not till the month of January that it made its appearance inside the barracks. Five cases suddenly occurred, and one of these, in a child, died under the care of a civilian practitioner. The fathers of the infected children were struck off duty, and submitted to strict quarantine, and by these means the fever disappeared. For upwards of three months previous to the marching out of the Life Guards Blue not a single case of scarlatina or of other febrile disease occurred in the regiment either in barracks or outside.

It was to be expected that advantage would be taken of the occurrence of these outbreaks of fever by some of the inhabitants of Knightsbridge, and others, to renew the cry for the removal of the barracks from their neighbourhood. The deputation that waited upon the Chief Commissioner of Works to urge the Government to undertake the matter were undoubtedly able to adduce some arguments of considerable importance in favour of the request. But the other side of the question must not be forgotten. The facts of the scarlatina outbreaks just related seem to indicate that they are not to be referred either to the position or to the condition of the barracks. The sanitary condition of the place is no doubt far from perfect, but an improvement in this direction does not entail removal of the buildings to another quarter, and the inhabitants of Knightsbridge may be reminded of the answer which Lord Hampton (then Sir John Pakington) once gave to a similar deputation: "Gentlemen, you went to Knightsbridge Barracks—the Barracks did not go to you." The Government, too, may not find themselves in a position to dispense with the presence of a cavalry barracks in the neighbourhood of the Park. The importance of it as a military post is a question for the War Office, and probably a weighty one.

HOSPITAL SUNDAY.

Up to the beginning of the present week the sum received at the Mansion House as the result of the collections for the Hospital Sunday Fund amounted to £20,000, and there are still a considerable number of collections to be paid in. In answer to the Lord Mayor's appeal to those who were prevented by the weather and other causes from attending church on the 13th inst., and thereby contributing to the collections, many personal gifts of small amount are being daily received at the Mansion House. The various amounts would seem to have been forwarded to the Honorary Secretary with much greater promptitude this year; but it seems doubtful whether the grand total will exceed, if it actually reaches, the sums collected in 1873 and 1874. Should such not be the case, it will become abundantly evident that the movement inaugurated in London has not taken root so kindly as it appears to have done in country towns. In 1873 the friends of the Fund apologised for the smallness of the sum collected in the richest city in the world by throwing the blame on the defective organisation hastily got together, yet in 1874 the amount realised was but little in excess of the previous year's efforts. Upon the present occasion it was anticipated that the total sum collected would leave the two former years' results considerably in the background, more especially as increased co-operation had been secured amongst the ministers of all denominations in and around the metropolis, which it was expected would produce substantial additions to the Fund. Looking at the probable balance-sheet of this, the third Hospital Sunday collection in London, it may be assumed that the most continuous and united efforts are not capable of producing more than about £30,000 for the object in question.

DEATHS FROM EXCESSIVE DRINKING IN DUBLIN.

On the evening of Friday, June 18, a disastrous fire broke out in Chamber-street, part of the "Liberties" of Dublin. It originated in a bonded store, wherein were several thousand puncheons of whisky. The spirit took fire and ran in a blazing torrent down several neighbouring streets, setting house after house on fire, until thirty-seven buildings were consumed. Some of the lowest characters in the slums of the city drank to excess of the whisky as it flowed along the street-gutters. The consequence was that in several of the hospitals numerous cases of poisoning by alcohol were under treatment on Saturday. In four instances, at least, a fatal result has occurred, two men having died in the Meath Hospital, one in the Mater Misericordiæ Hospital, and one in the Richmond Hospital.

PLAGUE IN THE EAST.

The *Levant Herald* states that information from Mesopotamia has been received to the effect that the hot weather has dispersed the pestilential miasma and the plague is declining. "This improvement was expected," it says, "as it is a well-known fact that in Egypt and other hot countries pestiferous diseases generally abate, and often altogether disappear, about Midsummer Day."

PARLIAMENTARY.—ARTISANS' DWELLINGS BILL—PHARMACY BILL—CONTAGIOUS DISEASES ACT.

In the House of Lords, on Thursday, June 17,

The Earl of Rosebery, commenting upon the main provisions of the Artisans' Dwellings Bill, complained that the Bill did not deal with agricultural labourers' dwellings, which were admitted to be in many cases in a very disgraceful state. He feared that the practical carrying out of the work would be found both cumbrous and expensive, and that the people who had been unhoused by the pulling down of the rookeries would not be able to find accommodation in the new buildings at the rent which they could afford.

Lord Redesdale moved as an amendment to the 3rd clause—"That if such modification or alteration shall require a larger public expenditure than that sanctioned by the former scheme, or the taking of any property otherwise than by agreement, or shall affect injuriously other property in a manner different from that proposed in the former scheme without the consent of the owner and occupier of any such property, it must be made by a provisional order to be confirmed by Act of Parliament in the manner provided in Section 6 of this Act on the completion of an improvement scheme."

The Lord Chancellor suggested that the amendment should be attached to the end of the clause, as there was no inconsistency between it and the clause in question, which was agreed to, and the Bill passed through the House.

The Metropolitan Police (Surgeon, etc., Superannuation) Bill was read a second time.

In the House of Commons, on Friday, June 18,

Sir M. H. Beach, in moving the second reading of the Pharmacy Bill, said its object was to carry into effect the unanimous recommendation of a committee which carefully inquired into the subject last session. The Pharmaceutical Society of London objected to the 18th clause, which conferred reciprocity on the Irish and English societies with regard to the granting of legal qualifications to chemists; and he intended at the next stage of the Bill to withdraw the clause.

The Bill was read a second time.

On Monday, June 21,

The Medical Acts Amendment Bill (College of Surgeons) was read a third time and passed.

On Wednesday, June 23,

Sir H. Johnstone moved the second reading of a Bill for the repeal of the Contagious Diseases Acts.

Colonel Alexander, in moving the rejection of the Bill, contended that there are strong grounds for the retention of the Acts; and that this was not a party question, but that both parties in the State were responsible for the carrying out of this system of control. He quoted statistics to show that in many instances much benefit had been derived from the practical working of the Acts at seaport and garrison towns, and that venereal disease had considerably diminished in those towns where the Acts were in force. Not only was it necessary to interfere with personal liberty to some extent under the Act, but similar provisions were required for the due administration of the poor-law system, especially as respects those admitted into workhouse infirmaries and hospitals with contagious diseases of all sorts. He considered that voluntary agencies had always been found to fail.

After a protracted debate, the Bill was lost by 308 votes to 126.

MEDICAL NEWS.

APOTHECARIES' HALL. — The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Thursday, June 17:—

Hope, William Anthony, Sunderland.
Hopgood, William Charles, Chipping Norton.
Price, Ebenezer Edmund, Dowlais, Glamorgan.

The following gentlemen also on the same day passed their primary professional examination:—

Clark, John George, London Hospital.
Prideaux, Thomas Engledue Peganus, St. Bartholomew's.

APPOINTMENTS.

*** The Editor will thank gentlemen to forward to the Publishing-office, as early as possible, information as to any new Appointments that place.

LUCEY, WM. CUBITT, M.D., C.M.—Resident Physician to Ben Rhydding Hydropathic Establishment, Wharfdale, Yorkshire.

FRANKLIN, G. C, F.R.C.S. Eng., L.R.C.P. Lond.—Medical Officer to the Leicester Provident Dispensary.

MILITARY APPOINTMENTS.

WAR OFFICE.—MEDICAL DEPARTMENT.—Surgeon Charles Hamilton Harvey, M.D., to be Surgeon-Major, *vice* Philip Eustace Cross, retired on half-pay; Surgeon Alexander Long to be Surgeon-Major, *vice* Thomas Fraser, M.D., retired on half-pay.

BREVET.—Senior Apothecary George Macqueen, Madras Establishment, to have the honorary and local rank of Surgeon on retirement; Apothecary Thomas Quinn, Madras Medical Service, to have the honorary and local rank of Surgeon.

BIRTHS.

LYNCH.—On June 20, at 41, Chepstow-villas, Bayswater, the wife of J. Roche Lynch, L.R.C.P. Lond., of a daughter.

RIGINOS.—On June 16, at Haslar, the wife of W. G. Ridings, Staff Surgeon R.N., of a daughter.

SIMPSON.—On June 21, at Hampstead-lane, Highgate, the wife of G. A. Malcolm Simpson, M.D., C.M., of a daughter.

MARRIAGES.

GRANT—JENKINS.—On June 16, at St. Michael's, Coventry, Frederick Grant, L.R.C.P., of Market Harborough, to Ellen Margaret, only child of Thomas Jenkins, Esq., J.P., of Coventry.

GREGORY—SMITH.—On June 8, at St. George's Church, Campden-hill, Kensington, the Rev. John George Gregory, M.A., of 29, Redcliffe-gardens, South Kensington, minister of Park Chapel, Chelsea, to Marian, only daughter of the late John Smith, M.R.C.S., of Coventry.

JENNER—PAGET.—On June 21, at St. John's Church, Cambridge, William E. Jenner, L.R.C.P. Lond., M.R.C.S. Eng., of London, to Alice, second daughter of E. Paget, Esq., Surgeon, of Walton Hall, Fulbourn, Cambridge.

TROUSDALE—CURIE.—On June 16, at Immanuel Church, Streatham-common, Richard Sawdon Trousdale, of Hambly House School, to Anna Marie Curie, daughter of the late P. F. Curie, M.D., of Hanover-square, London.

DEATHS.

BRENNAN, GEORGE, M.R.C.S. Eng., L.S.A., at 179, Brixton-road, S.W., on June 21, aged 45.

LOOS, WALTER HENRY, only son of James Loos, M.D., M.R.C.P., Principal of the Medical College, Colombo, Ceylon, at his residence, 55, Torriano Avenue, Camden-road, London, N.W., after a short and severe illness, on June 11, aged 25.

VACANCIES.

In the following list the nature of the office vacant, the qualifications required in the Candidate, the person to whom application should be made and the day of election (as far as known) are stated in succession.

BOOTLE BOROUGH HOSPITAL, LIVERPOOL.—House-Surgeon. Candidates must be duly qualified and unmarried. Applications, with testimonials, to T. P. Danson, Esq., Honorary Secretary, on or before July 3.

DENTAL HOSPITAL OF LONDON, LEICESTER-SQUARE.—Assistant Dental Surgeon. Candidates must hold the dental diploma of the Royal College of Surgeons of England. Applications, with testimonials, on or before July 12.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, RATCLIFF CROSS, E.—Resident Medical Officer. Applications, with testimonials, to the Secretary, on or before July 15.

METROPOLITAN FREE HOSPITAL, DEVONSHIRE-SQUARE, E. — Assistant House-Surgeon. Applications to the Committee of Management.

PORTSEA ISLAND UNION.—Medical Officer. Candidates must be duly qualified. Applications, with testimonials, to Mr. T. P. Mills, Clerk of the Union, 34, Lion-terrace, Portsea, before July 7.

ROYAL FREE HOSPITAL, GRAY'S INN-ROAD.—Surgeon. Candidates must be F.R.C.S. Eng. Applications, with testimonials, to the Secretary, on or before June 28.

ROYAL SURREY COUNTY HOSPITAL, GUILDFORD.—House-Surgeon. Candidates must be duly qualified. Applications, with testimonials, to the Assistant-Secretary, on or before July 31.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL.—Teacher of Physiological Chemistry. Applications to Dr. Wadham, at the Hospital.

WORCESTER COUNTY AND CITY LUNATIC ASYLUM.—Second Assistant Medical Officer. Candidates must be duly qualified and registered and unmarried. Applications, with testimonials, to Dr. Sherlock, at the Asylum, Powick, near Worcester, on or before June 30.

UNION AND PAROCHIAL MEDICAL SERVICE.

*** The area of each district is stated in acres. The population is computed according to the census of 1871.

RESIGNATIONS.

Boston Union.—Mr. W. H. Radley has resigned the Boston District; area 5872; population 15,524; salary £55 per annum. Also, the Workhouse; salary £60 per annum.

Wincanton Union.—The Wincanton East District is vacant; area 15,023; population 5126; salary £121 per annum. Also, the Workhouse; salary £40 per annum.

APPOINTMENTS.

Barnstaple Union.—Henry Jackson, M.R.C.S., L.S.A., to the Fourth District.

Shepton Mallet Union.—John E. Macdonald, L.R.C.S. Dub., L.R.C.P. Edin., L.A.H. Dub., to the Fourth District.

AN exhibition is to be held in Belgium next year of all such apparatus, sanitary arrangements, or scientific appliances as are calculated to preserve health or to save life.

THE Kilkenny Board of Guardians have awarded £100 per annum superannuation to Mr. Smithwick Carpenter, on his resigning the office of Medical Officer for the Freshford Dispensary District, from ill-health.

A BAZAAR in aid of the funds of the Royal National Hospital for Consumption, Ventnor, was inaugurated by her Royal Highness the Princess Christian and her Royal Highness the Duchess of Teck, at the Duke of Wellington's Riding School, Knightsbridge, on Wednesday, the 16th. Many valuable works of art and other gifts have been contributed by various distinguished persons.

A VERY satisfactory report of the Savernake Cottage Hospital was presented at the annual meeting of the institution held on Saturday last under the presidency of the Marquis of Ailesbury. Upwards of 150 cases had been received in the Hospital during the past year, besides a large number of out-patients. Of the in-patients received, 76 have been cured, 45 relieved, 7 proved incurable, 2 left at their own request, 6 died, and 14 remain in the Hospital.

MEASLES IN FIJI.—Lieutenant R. Betton Sayce, R.N., has written to the *Times* to correct the impression that the inhabitants of the Fiji Islands caught measles from the officers and crew of the *Dido*. He states that it was not the ship's company that had the complaint, but their passengers from Sydney—the ex-King of Fiji and his sons and suite, who had been infected in that city. The advice of the ship's surgeon and of the English doctors in Fiji seems to have been systematically disregarded by the natives, and to this cause must be referred both the introduction and spread of the disease.

HEALTH OF LONDON.—In the metropolis, last week, 1321 deaths were registered, which exceeded the average number by 71. The annual death-rate from all causes was 20 per 1000. In the groups of districts it was 20 per 1000 in the West, 17 in the North, 23 in the Central, 22 in the East, and 20 in the South. The deaths from the seven principal diseases of the zymotic class included 53 from scarlet fever, being 17 less than the previous week, but 18 in excess of the weekly average number; 53 from whooping-cough, 54 from diarrhœa, and not one from small-pox. The total deaths from diseases of the zymotic class were 221 against 201, 211, and 224 in the three preceding weeks. These fatalities were 29 below the average number. The deaths referred to diseases of the respiratory organs were 194—an excess of 15 on the average number; 96 resulted from bronchitis and 62 from pneumonia.

NOTES, QUERIES, AND REPLIES.

He that questioneth much shall learn much.—*Bacon.*

Jas. B., Hackney.—The first public Turkish bath was opened in London in 1860.

Octavius M.—A general registry office for births and deaths was formed in Dublin by 26 Vict., c. 11, April 20, 1863.

Inquirer, Dundee.—Sir John MacGregor, K.C.B., M.D., assumed the name of MacGregor instead of his patronymic MacAndrew in August, 1863, his family being descended from the MacGregors of Rora, whose name appears to have been changed from prudential motives after the rebellion in Scotland in 1745.

W. sends us the following method of exhibiting cod or castor oil pleasantly:—"Many expedients have I adopted to disguise the nauseous taste of castor oil, cod-liver oil, etc. Last winter I hit upon a plan of giving cod-liver oil which not only rendered it tasteless, but effectually prevented what the Americans term 'unpleasant returns'—viz., by giving it in frothy beer. Fill a glass one-quarter full of beer with a head on it, and pour the oil in the centre, and any moderate quantity may be taken without the patient being aware of its presence. The same holds good with any oily fluid."

Vincent H.—Dr. George Cumming died at Chester, August, 12 1863, aged eighty-one. He was the oldest surviving graduate of the University of Edinburgh, having taken his degree in 1802. He was also very high in seniority on the list of members of the Royal College of Physicians, having passed the examination of that body in 1812. He had for several years been stricken with blindness, but the complaint to which he at last succumbed was paralysis.

COMMUNICATIONS have been received from—

Dr. Wilson, London; Dr. Edis, London; The Registrar of Apothecaries' Hall, London; Mr. C. Heath, London; Mr. J. J. Mayer, London; Mr. Timothy Holmes, London; Apologist; Mr. German Reed, London; Dr. Aveling, London; Mr. R. Young, Hong-Kong; The Registrar-General, Edinburgh; Dr. J. W. Moore, London; Dr. Sparks, London; Mr. J. Chatto, London; Dr. J. Hughlings-Jackson, London; Professor Huxley, Edinburgh; Dr. Henry Thompson, London; Mr. Henry Morris, London; Mr. Philip Foster, Leeds; Dr. Norris, Birmingham.

BOOKS AND PAMPHLETS RECEIVED—

Whitney on the Life and Growth of Language—Annual Report of the Asylum for Idiots—Tripe's Report of the Sanitary State of the Hackney District—First Report of the Select Committee on Immigration and Colonisation.

PERIODICALS AND NEWSPAPERS RECEIVED—

Lancet—British Medical Journal—Medical Press and Circular—Nature—Berliner Klinische Wochenschrift—Centralblatt für Chirurgie—Gazette des Hôpitaux—Gazette Médicale—Gazette Hebdomadaire—Le Progrès Médical—Bulletin de l'Académie de Médecine—National Food and Fuel Reformer—Philadelphia Medical Times—Pharmaceutical Journal—Centralblatt für die Medicinischen Wissenschaften—La France Médicale—Iron—Wiener Medizinische Wochenschrift—Journal des Sages-Femmes—Pictorial World—Revista Sperimentale di Freniatria e di Medicina Legale—Folkestone Free Press—Canada Lancet—Broad Arrow.

APPOINTMENTS FOR THE WEEK.

June 26. Saturday (this day).

Operations at St. Bartholomew's, 1½ p.m.; King's College, 2 p.m.; Charing-cross, 2 p.m.; Royal Free, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. Thomas's, 9½ a.m.

28. *Monday.*

Operations at the Metropolitan Free, 2 p.m.; St. Mark's Hospital for Diseases of the Rectum, 2 p.m.; St. Peter's Hospital for Stone, 3 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

29. *Tuesday.*

Operations at Guy's, 1½ p.m.; Westminster, 2 p.m.; National Orthopædic, Great Portland-street, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; West London, 3 p.m.

30. *Wednesday.*

Operations at University College, 2 p.m.; St. Mary's, 1½ p.m.; Middlesex, 1 p.m.; London, 2 p.m.; St. Bartholomew's, 1½ p.m.; Great Northern, 2 p.m.; St. Thomas's, 1½ p.m.; Samaritan, 2½ p.m.; King's College (by Mr. Wood), 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.

July 1. Thursday.

Operations at St. George's, 1 p.m.; Central London Ophthalmic, 1 p.m.; Royal Orthopædic, 2 p.m.; University College, 2 p.m.; Royal London Ophthalmic, 11 a.m.; Royal Westminster Ophthalmic, 1½ p.m.; Hospital for Diseases of the Throat, 2 p.m.; Hospital for Women, 2 p.m.

2. *Friday.*

Operations at Central London Ophthalmic, 2 p.m.; Royal London Ophthalmic, 11 a.m.; South London Ophthalmic, 2 p.m.; Royal Westminster Ophthalmic, 1½ p.m.; St. George's (ophthalmic operations), 1½ p.m.

VITAL STATISTICS OF LONDON.

Week ending Saturday, June 19.

BIRTHS.

Births of Boys, 1201; Girls, 1117; Total, 2321.
Average of 10 corresponding years 1865-74, 2063·1.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	667	654	1321
Average of the ten years 1865-74	657·3	570·6	1227·9
Average corrected to increased population	...	...	1250
Deaths of people aged 80 and upwards	...	...	36

DEATHS IN SUB-DISTRICTS FROM EPIDEMICS.

	Population, 1871.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric (or Typhoid) Fever.	Simple continued Fever.	Diarrhœa.
West	561359	...	1	15	1	10	...	6	...	12
North	751729	...	5	6	4	8	...	2	...	9
Central ...	334369	...	1	3	...	6	...	1	...	4
East	639111	...	9	10	1	15	...	4	2	14
South	967692	...	11	19	6	14	1	6	...	15
Total	3254260	...	27	53	12	53	1	19	2	54

METEOROLOGY.

From Observations at the Greenwich Observatory.

Mean height of barometer	29·607 in.
Mean temperature	56·9°
Highest point of thermometer	73·9°
Lowest point of thermometer	43·9°
Mean dew-point temperature	48·6°
General direction of wind	S.S.W.
Whole amount of rain in the week	0·43 in.

BIRTHS and DEATHS Registered and METEOROLOGY during the Week ending Saturday, June 19, 1875, in the following large Towns:—

Boroughs, etc. (Municipal boundaries for all except London.)	Estimated Population to middle of the year 1875.*	Persons to an Acre. (1875.)	Births Registered during the week ending June 19.	Deaths Registered during the week ending June 19.	Temperature of Air (Fahr.) Highest during the Week.	Lowest during the Week.	Weekly Mean of Mean Daily Values.	Temp. of Air (Cent.) Weekly Mean of Mean Daily Values.	Rain Fall. In Inches.	In Centimetres.
London	3445160	45·7	2321	1321	73·9	43 9	56·0	13·33	0·43	1·09
Portsmouth ...	122632	27·3	84	31	...	...	...	...	...	...
Norwich	82842	11·1	53	33	72·5	42·0	55·8	13·23	0·80	2·03
Bristol	196186	44·1	145	65	68·4	42·5	53·2	11·78	1·56	3·96
Wolverhampton ...	71718	21·1	49	26	72·0	41 8	51·5	12·50	0·74	1·88
Birmingham ...	366325	43·6	293	150	68·6	34 2	53·0	11·67	0·94	2·39
Leicester	109830	34·3	82	39	69·2	44·0	55·3	12·95	0·80	2·03
Nottingham ...	92251	46·2	64	54	70·2	43·0	53·9	12·17	1·17	2·97
Liverpool	516063	99·1	365	232	66·1	46·2	52·7	11·50	0·63	1·60
Manchester ...	356626	83·1	289	182	...	...	...	...	...	...
Salford	135720	26·3	136	52	70·5	40·0	51·8	11·01	1·03	2·62
Oldham	87437	18·7	76	59	...	...	...	...	...	...
Bradford	168305	23·3	118	70	62·9	45·9	52·5	11·39	0·31	0·86
Leeds	285118	13·2	217	119	61·0	42·0	52·1	11 17	0·49	1·24
Sheffield	267881	13·6	223	111	...	...	...	...	...	...
Hull	133932	36·8	96	75	72·0	44·0	54·7	12·61	0·66	1·68
Sunderland ...	106342	32·2	97	37	74·0	43·0	54·2	12·33	0·88	2·24
Newcastle-on-Tyne	137665	25·6	94	63	63·0	40·0	50·3	10·17	0·58	1·47
Edinburgh	211626	50·5	142	86	68·0	40·0	55·0	12·78	...	...
Glasgow	534561	88·6	447	283	62·5	43·4	53·5	11·95	1·10	2·79
Dublin	314666	31·3	163	127	65·3	38 4	53·5	11·95	1·12	2 84
Total of 21 Towns in United Kingdm	7742889	37·0	5575	3205	74·0	34 2	53·6	12 01	0·83	2·11

At the Royal Observatory, Greenwich, the mean reading of the barometer last week was 29·61 in. The lowest was 29·30 in. on Tuesday afternoon, and the highest 30·00 in. on Saturday morning.

* The figures for the English and Scottish towns are the numbers enumerated in April, 1871, raised to the middle of 1875 by the addition of four years and a quarter's increase, calculated on the rate which prevailed between 1861 and 1871. The population of Dublin is taken as stationary at the number enumerated in April, 1871.

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